

EPC Master Checklist

Table of Contents

Above Ground Piping

Architectural

Architectural - Acoustical Treatment

Architectural - Cabinets and Fixtures

Architectural - Doors and Frames

Architectural - Finish Carpentry

Architectural - Flooring

Architectural - Lath and Plaster

Architectural - Rough Carpentry

Architectural - Scope of Contract

Architectural - Window Walls and Curtain Walls

Architectural Specifications

Architectural Woodwork

Asphalt

Auger Cast Piling

Back charging

Bank Accounts

Batch Plant

Bituminous Concrete Paving

Boiler Shop Inspection

Business Development - Account Management

Business Development - Proposal

Business Development - Prospect Questions

Business Development - Teaming Arrangement

Change Management

Civil

Civil - Caissons

Civil - Culverts and Road Crossing

Civil - Drilled Piping

Civil - Insulation

Civil - Soil Inspection

Civil - Subgrades and Bases

Closeout

Closeout - Project Critique

Communications

Concrete

Constructability

Construction

Construction Equipment

Construction Equipment - Cranes

Construction Equipment - Motorized

Construction Equipment - Overhead Crane

Construction Equipment - Pre-Lift Rigging - Hand Rigging, Including

Air Tugger

Construction Equipment - Pre-Lift Rigging - Mobile Crane

Construction Equipment - Pre-Lift Rigging - Overhead Crane

Construction Equipment - Safety

Contract

Cost Control

Document Control

Earthwork

Electrical

Electrical - Cable

Electrical - Cable Tray

Electrical - Cathodic Protection

Electrical - Conduit

Electrical - Heat Tracing

Electrical - High Voltage Motors and Starters

Electrical - Lighting

Electrical - Low, Medium, Hi Cable

Electrical - Manhole

Electrical - MCC

Electrical - Rack Panel

Electrical - Receptacles

Electrical - UPS and Battery Systems

Elevator

Engineering - CADD Approach

Engineering - Construction Package Release Gate Review

Engineering - Design Criteria

Engineering - Electrical Power

Engineering - Environmental Protection

Engineering - Equipment

Engineering - Equipment - Compressors

Engineering - Equipment - Furnaces and Boilers

Engineering - Equipment - Heat Exchangers

Engineering - Equipment - Pressure and Vacuum Relief

Engineering - Equipment - Pumps

Engineering - Equipment - Reactors

Engineering - Equipment - Vessels

Engineering - Fire Protection

Engineering - Instrumentation

Engineering - Internal Audit

Engineering - Maintenance

Engineering - Management and Policy Issues

Engineering - Operations

Engineering - Personnel Safety

Engineering - Piping and Valves

Engineering - Process - Layout

Engineering - Process Materials and Flowsheet

Engineering - Site Analysis

Equipment

Equipment - Blower and Fan

Equipment - Boilers, Columns and Vessels

Equipment - Centrifugal Pump

Equipment - Compressor

Equipment - Electronic

Equipment - Exchanger

Equipment - Fans

EPC Master Checklist

Equipment - Fired Heaters	Permits
Equipment – Furnace and Boilers	Personnel
Equipment - Gas Detection	Pile Foundations
Equipment - Gear Set	Piling
Equipment - Heat Exchangers	Piping
Equipment - Mixer	Piping - FRP
Equipment - Overhead Crane	Piping - Hygienic
Equipment - Power Transformer	Planning / Scheduling
Equipment - Pressure Vessel	Plot Plan and Equipment Arrangement
Equipment - Process Analyzer	Plumbing
Equipment - Reciprocating Compressor	Procurement
Equipment - Reciprocating Pump	Procurement - Pre Construction Agenda
Equipment - Rotating Equipment Pre-Start	Procurement - Subcontract
Equipment - Skid Mounted Equipment	Procurement - Subcontract Plan
Equipment - Stack	Project Initiation
Equipment - Sundyne Pump	Project Reviews
Equipment - Switch Gear (Above 600 volts)	Protective Coatings
Equipment - Tanks and Vessels	Protective Coatings - Water Proofing, Damp Proofing
Equipment - Towers and Columns	
Equipment - Vertical Can Pump	Quality
Equipment -Turbine	
Estimating	Refractory
	Risk
Finance	Roofing
Fire Protection	
Fireproofing	Safety
	Safety Indicators
Grout	Safety Management Systems Audit
	Safety Pre Planning and Mobilization
Hot Tap	Scope Definition Contract / Support Services
HVAC	Scope Definition – Detail Engineering
	Scope Definition – Scoping
Industrial Relations	Services
Instrumentation	Siding
Insulation	Startup and Commissioning
Insurance	Structural - Pre Fabricated Structural Wood
International	Structural Steel
	Temporary Facilities
Kickoff	
	Underground Utilities
Landscaping	
	Validation
Masonry	
Mechanical Completion	Warehousing
Miscellaneous Steel	Welding
Modular	Welding - Post Weld Heat Treatment

EPC Master Checklist

Above Ground Piping (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchors installed?			<input type="checkbox"/> Yes <input type="checkbox"/> No
Are branches located correctly?			
Are branches reinforced?			
Are drain and flush connections installed?			
Are field supports installed?			
Are flange face preparation, condition, and rating correct?			
Are flange material, type and rating correct?			
Are gaskets the correct type and thickness?			
Are guides installed?			
Are high point vents installed?			
Are Item code numbers correct?			
Are line slopes per drawing?			
Are low point drains installed?			
Are pressure gauge valves installed?			
Are pressure gauges properly oriented?			
Are PSV's tested?			
Are reducer types correct?			
Are reducers located correctly?			
Are sample connections installed?			
Are shoes properly installed and welded?			
Are spring hangers properly installed?			
Are temperature connections properly oriented?			
Are the bolts/studs the correct type, size and length?			
Are the correct control valves installed?			
Are there any gouges, nicks, or surface damage?			
Are valves at meter runs installed?			
Are weep holes in reinforcing pad?			
Do drawings stipulate cold spring or pre-spring?			
Do meters run properly?			
Do you have torque sequence and values documented?			
Does U/G have exposure to contaminants?			
Is bypass installed?			
Is chain wheel installed when required?			
Is extension installed?			
Is flow direction correct?			
Is installation straight and plumb?			
Is installed material correct?			
Is line size correct?			
Is stem oriented properly?			
Is there proper clearance for expansion?			
Is there sufficient supports?			

Architectural (TOC)

Issue	Responsibility/Comments	Date	Complete
Are acceptability tolerances established?			
Are ADA codes verified on drawings and with contractors?			
Are architectural painting systems standardized?			
Are block-out requirements completed? Is electrical bus duct locations part of that evaluation?			
Are building bays standardized where possible?			
Are chemical proof doors/finishes required?			
Are floor coverings approved prior to concrete slab completion?			
Are glass and mullion strips specified? Are they scheduled early to support the schedule?			
Are measures in place to protect roofing from damage by subcontractors?			
Are moisture levels mandatory prior to floor covering placement? If yes, what are they?			
Are recessed areas shown on drawings?			
Are samples of architectural finishes required prior to approval of subcontracts or purchase orders?			
Are special window requirements needed?			
Are the recessed mounted toilet accessories scheduled for early delivery?			
Are there any special installation instructions for specialized architectural finishes?			
Are wall coverings standardized?			
Are wall openings and penetrations shown on bid drawings?			
Are we using interdisciplinary check for quality?			
Can Floor Levels be standardized?			
Do baseline Architectural specifications match existing plant standards where applicable?			
Do design methods allow installation of equipment room walls after placement of large equipment?			
Do lighting plans agree with ceiling layout?			

EPC Master Checklist

Do plumbing fixtures match the rough in plans?			
Do storefront designs include drainage systems? Have they been defined and checked?			
Do the fire doors meet the underwriter's code?			
Do wall coverings require special preparation? Is special preparation in the subcontract?			
Does [Client] have specific paint products/manufacturers?			
Does completion of elevator specification support an early order and delivery of the elevator?			
Does elevation of computer floor adequately allow cable run tie-ends to equipment?			
Does substation floor design support successful roll-in / roll-out of switchgear breakers?			
Does wall thickness correspond to dimension of wall around doorframes?			
Has a coordination review meeting been held regarding detailed door, frames and hardware prior to procuring?			
Has caulking specification been included in applicable subcontractor bid packages			
Has consideration been give to future maintenance requirements during design of structures, especially the fireproofing of rooms and walls?			
Has contractor been given the opportunity to review of the architectural finishes and their installation requirements?			
Has each architectural product been checked for the area they are going to be used and will they work?			
Has only one type of caulk been specified for subcontractors to use?			
Has spacing above ceiling been checked for adequate room, when installing equipment?			
Has the access space that is provided around process equipment for maintenance been verified as adequate?			
Has the epoxy or broadcast-flooring schedule been checked to make certain its completion supports the system turnover schedule?			
Has the project considered using magnetic door seals in lieu of surface mounted adjustable type?			
Has the proper size and placement of access doors been verified?			
Have access doors been minimized in clean and/or process areas?			
Have block out requirements been reviewed for correct location of electrical bus duct.			
Have we had a Code Review?			
How are architectural finishes supervised?			
How are dye lots for paint and carpets handled for matching purposes?			
How are extras and changes handled and approved?			
How are floor drain locations verified?			
How are vendor drawings approved?			
How is millwork handled?			
How will the move in to finished offices and labs be handled?			
Is a "key" plan developed and approved by [Client]?			
Is a hardware schedule developed?			
Is backing on interior walls shown on drawings?			
Is ceramic tile standardized?			
Is code analysis completed and signed off?			
Is flooring contractor required to do the initial cleaning and waxing of floors?			
Is hardware chemical proof?			
Is hardware for doors and fixtures standardized?			
Is layout and detail of roof penetrations shown on the Civil / Architectural drawings?			
Is layout and detail of utility floor penetrations shown on the Civil / Architectural drawings?			
Is layout and detail of wall penetrations shown on the Civil / Architectural drawings?			
Is protection installed per specification to avoid marring and other damage?			
Is quarry tile sealed?			
Is scope interface definition for electrical, instrumentation, piping and mechanical equipment clearly defined in subcontract packages for buildings?			
Is sequence of installation verified to minimize damage during construction of architectural finishes?			
Is siding/roofing a special/long lead item?			
Is soundproofing, such as caulking beads if installed at floors, walls, etc. per specification?			
Is there a complete architectural protection plan developed for each finish?			
Is there a reference for shop drawings?			
Is there a temporary traffic plan drawn? Is it a phased plan? If so is it reflected on schedule?			
Verify that door openings are large enough to inst equipment?			
What architectural items require submittal of samples?			
What are concrete tolerances for floor coverings?			
What are the tolerances of the walls when installed, specifically drywalls?			
What items will require mock-ups?			
What special construction needs to be done to plan for future expansion? Is this defined?			
Who handles, coordinates and orders office furniture move in?			
Who installs grout between block wall and ceramic tile walls?			
Who provides check off, of in wall services prior to installation of drywall or block			



EPC Master Checklist

surfaces?			
Who verifies that floors receiving finish do not receive incompatible curing/sealing compounds?			
Who'll buy and inst exterior signage?			
Who'll buy and inst interior signage? Do we follow the current plant specification?			
Who'll inst the food service equipment?			
Who'll verify interface coordination points between multiple contracts?			
Who's [Client] representative that will verify and approve the wall to flooring intersection between the base and wall finish system, in wall items to be caulked, finished edge conditions and applicable details.			
Who's assigned to follow architectural finishes with high attention level?			
Who's responsible for cleaning of the glass, once installed?			
Who's responsible for drawing checks?			
Who's responsible for drawing checks?			
Will [Client]/construction conditions allow spray painting? What hours is spray painting owed?			
Will wooden doors be pre-finished or finished on site?			
With regard to architectural finishes, such as toilet partitions, doors and hardware, etc. are there any long lead items.			

Architectural - Acoustical Treatment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are acoustical ceilings standardized?			
Are batts installed and secured tightly to adjoining surfaces, cutouts, edges, etc., and spaces are completed filled per specification?			
Are ceiling louvers installed and secured per specification?			
Are ceiling tiles installed and secured?			
Are corrective actions complete?			
Are exposed rivets, etc., painted out, per specification?			
Are fire rated systems installed in accordance with U.L. requirements and with hold-down clips, per specification?			
Are hangers anchored to concrete support systems per specification? Observe that required numbers of twists are provided.			
Are hangers anchored to steel support systems installed per specification?			
Are hangers anchored to wood-support systems installed per specification? Observe the number of twists that are provided.			
Are hangers of proper material, gauge, and spacing per specification? Intermediate hangers are provided because of field conditions, if required			
Are isolators installed in accordance with specifications?			
Are perimeter and edge conditions installed per specification? Joint treatment is consistent.			
Are sound isolation elements above ceiling installed per specification?			
Are suspension systems, components, and accessories installed per specification?			
Have environmental conditions been controlled for ceiling tile?			
If tile is to be sprayed, have we verified that paint material is approved for application and will not affect acoustical tile performance?			
Is access to equipment above ceiling provided per specification?			
Is agency inspection complete?			
Is batting thickness and density requirements identified per specifications?			
Is identification of access provided by use of labels on "T" bars or colored pins or per specification?			
Is layout of suspended system reviewed and understood?			
Is location of hanger assemblies verified?			
Is material installed in accordance with mounting requirements as outline in design specification?			
Is material is of type, thickness, material, pattern and edge condition required?			
Is splay wire connections completed with a minimum of three turns with one inch on run?			
Is suspended insulation secured, tight fitting and sealed per specification?			
Is sway bracing installed where required?			
Is system installed in true alignment, even and level as specified?			
Is wallboard insulation installed and in locations per specification?			
Verify that adhesives and air space are in accordance with specifications?			
Verify that splay wires do not exceed a 45-degree angle from the splay wire resistant plate?			
Verify that splay wires to not attach to or bend around interfering material?			
Verify that the system does not have loading from other equipment, fixtures, or materials not included in design?			
Verify that turnbuckles are provided where required?			
Verify the assembly of hangers to the specification?			
Verify the installation of the main tee and cross members at the required location and spacing and secured properly?			

EPC Master Checklist

Architectural - Cabinets and Fixtures (TOC)

Issue	Responsibility/Comments	Date	Complete
Are certificates or grade stamps provided per specification?			
Are corrective actions complete?			
Are doors properly fitted with uniform clearance on edges?			
Are drawer guides operational smooth and per specification?			
Are internal features provided per specification?			
Are materials suitably protected against damage after installation?			
Are materials suitably stored, if delivered before closing in building?			
Are the holes for sinks and other appliances being cut per specification?			
Are tops provided per specification?			
Are tops that receive other materials, such as linoleum, vinyl, cork, etc. using proper preparation?			
Do materials have adequate temporary bracing, skids, etc., to prevent racking, loosened members, or other defects due to handling?			
Does base and toe space suit adjacent conditions?			
Is agency inspection completed?			
Is blocking provided to receive materials per specification?			
Is cabinetry using the species and finishes that are specified? Visually inspect exposed materials for evenness.			
Is installation of base cabinets suitably shimmed to distribute weight uniformly, suits field conditions and meets requirements?			
Is installation of the floor-set cabinets, over a finished floor or mounted directly on sub floor?			
Is method of attachment as specified?			
Is specified hardware provided?			

Architectural - Doors and Frames (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adequate provisions made to receive hardware required?			
Are corrective actions complete?			
Are fabrication and construction of frames per specification?			
Are fabrication, construction, and workmanship such as smooth edges, joints, finish, and straightness per requirement?			
Are finish and surfaces adequate to receive applied finish?			
Are fire-rated frames labeled and properly identified?			
Are frames installed straight, level, and plumb and adequately braced?			
Are frames installed with special features such as silencer holes, etc where required?			
Are proper type and number of anchors installed? Verify if adequate anchorage is made during installation.			
Are provisions to receive hardware required are adequate?			
Are special lightproof, soundproof, and lead-lined, etc., frames installed per specification?			
Do doors function smoothly and easily, and is hardware adjusted per specification?			
Do doors swing correctly to meet codes for emergency escape including pressurized rooms?			
Do fire-rated doors have labels and proper identification? Wire glass is installed. Fusible-link holders are installed at louvers.			
Has a final examination been made to check size, type design, panel, lights, louvers, and features making certain there are no defects such as dents, buckles, and warps that exceed specifications?			
Have clearances been verified? Are doors hung straight, level, plumb, and meet requirements?			
Is additional reinforcement installed at head, corners, and hardware locations per specification?			
Is additional reinforcement installed for hardware per specification?			
Is agency inspection complete?			
Is documentation done on doors that cannot be properly cleaned?			
Is finish per specification?			
Is frame grouted and/or during installation?			
Is glazing operation acceptable?			
Is sound-deadening treatment installed?			

Architectural - Finish Carpentry (TOC)

Issue	Responsibility/Comments	Date	Complete
Are clearances required for thresholds, carpeting, weather-stripping, etc., on doors per specification?			
Are corrective actions complete?			
Are doors installed with necessary beveling and uniform tolerances per specification for proper operations and good practice?			
Are exterior work, metal installation and accessories installed per specified weather tightness?			
Are fastening types and methods per specification?			

EPC Master Checklist

Are fastenings such as bolts and nails on exterior work installed per specification?			
Are gluing and other means of fastening verified to specifications?			
Are grounds and anchorage provisions per specification?			
Are kerfing and hollow backs installed per specification?			
Are materials delivered to site of grade, species, type and sizes approved or specified and suitably stored? Storage of kiln-dried materials is of particular importance			
Are scribing or scribe strips installed per specification?			
Are splits due to nailing pointed out during installation and corrected?			
Are top and bottom edges of doors sealed, stained, painted, and protected when exposed to exterior?			
Are types of nail heads, set of nails, exposure of nails, pattern of nails, and puttying installed per specification?			
Has material been inspected for warps, splits, graining, finishing, etc?			
Is agency inspection complete?			
Is installation of equipment furnished by others done in accordance with specifications?			
Is installation of setting base to floor per specification? If shoe hold is required, nailing is to base only.			
Is material of length to provide indicated joints, splicing is staggered and avoidance of excessive splicing?			
Is millwork sanded and edges eased per specification?			
Is preservative treatment or back priming performed as required?			
Is workmanship - sawing, fitting, splicing, coping, shouldering, mitering, etc. acceptable?			

Architectural - Flooring (TOC)

Issue	Responsibility/Comments	Date	Complete
Are accessories acceptable?			
Are adhesives or application materials as approved? Observe installation complies with manufacturer's recommendations or as otherwise required?			
Are areas cleaned before installation?			
Are corrective actions complete?			
Are end joints alternated to provide required number of courses between joints?			
Are excess adhesives, materials and stains removed?			
Are fillers, stains, and floor finish materials installed and applied as recommended by manufacturer or per specification?			
Are installation activities complete and acceptable?			
Are interior surfaces such as plaster, concrete, and masonry dry? Obtain moisture meter if required.			
Are joints and seams tight and level?			
Are joints driven up tight and tongue undamaged per specification?			
Are nails or fasteners of type and size approved? Pre-drilling is installed, if required. Nails are diagonally driven.			
Are plenum dividers acceptable?			
Are pre-formed corners and end stops installed correctly?			
Are products free of visible damage from exposure to weather or contact with damp surfaces, and free of damage from transit, delivery, storage and handling?			
Are products installed in accordance with manufacturer's instructions and drawings?			
Are products owed to reach ambient temperature per specification?			
Are products visually acceptable per the requirements of specifications?			
Are provisions for thresholds, breaks and joining to adjacent materials per specification?			
Are slab patching, grinding and correction of defects performed before installation? Areas are dry, hard and non-powdery. Moisture test is performed.			
Are slabs is substrate free of cracks, holes, trowel marks and other defects? Surfaces are primed as required.			
Are sleepers of material required, set and securely anchored over sub-surface per specification? Is ventilation method is effective?			
Are sub floors filled and sanded before installation, using filler as recommended by manufacturer or specified?			
Are support components acceptable?			
Are type, size, thickness, patterns, and color of material as approved?			
Does base comply with approvals concerning size, thickness, cove, color and type and molded exterior, interior and ends?			
Does pre-finished material have joints that are even and within tolerances required?			
Does sanding use methods and materials required which produce a smooth acceptable surface?			
Have we completed final visual inspection subsequent to cleanup?			
If more than one lot of tile is used in one area, is material pre-shuffled to achieve			

EPC Master Checklist

random distribution?			
Is a primer, adhesive, or cement per specification?			
Is agency inspection complete?			
Is cement applied at proper rate and has proper dryness or tackiness?			
Is delivered material of grade, size, type and species specified and properly stored?			
Is direction of the layout and border as specified?			
Is expansion space installed at perimeter of flooring, per specification?			
Is felt paper or underlayment installed per specification?			
Is floor axing and buffing per specification?			
Is floor level and area floor panel surfaces flush?			
Is floor material sorted at proper temperature before installation per specification?			
Is installation temperature maintained per specification?			
Is it verified that on top set base, firm contact is obtained to floor and w?			
Is material verified to meet requirements? Give special attention to warped or twisted material.			
Is minimum length of pieces monitored?			
Is neatness of cutting and fitting acceptable?			
Is pattern, border, field direction, feature, strips, etc., per specification?			
Is proper application of adhesive for base verified?			
Is protection installed per specification? Observe that floors and stair treads are protected from droppings, paint, and traffic. Observe that heavy equipment is lifted, not dragged in place.			
Is rolled material unrolled at least 24 hours before installation?			
Is scuffed, broken or discolored tile replaced? Verify at completion of work and observe looseness, bubbles or substrate defects.			
Is sheet material matching verified during installation? Evenness of color is important.			
Is sub-floor surface securely nailed, level even jointed, cleaned and free of defects that might affect finish flooring?			
Is surface of substrate, if concrete, dry, even, and level at joints, clean and otherwise acceptable?			
Is temporary protective cover installed where required?			
Is underlayment and felt lining installed per specification?			
Is vapor barrier, waterproof membrane, or other treatment installed per specification?			
Is wax application acceptable?			
On wood sub floors, is nailing or fastening adequate using specified? Test for squeaks.			
Verify that areas to receive flooring are closed-in, and adequate temperature is maintained? Monitor for overheating.			
Verify that level joining at flush floor electrical cover plates, cleanouts, etc. is acceptable?			
Verify that sheet flooring is rolled starting from center, to eliminate air bubbles and wrinkles?			
Verify the use of non-rusting nails on trim per specification?			

Architectural – Lath and Plaster (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adjacent spaces and surfaces inspected after plastering operations?			
Are anchors, blocking plates, etc., required for other equipment support and fastening installed per specification?			
Are channel stiffeners installed per specification?			
Are cleanup procedures verified for use during and after work?			
Are connections at corners or adjoining surfaces of different materials per specification?			
Are corner beads, expansion devices, vent screeds, casing, trim and other accessories installed properly?			
Are corrective actions completed and verified?			
Are cut studs for cutouts and openings properly framed?			
Are frames installed for access panels per specification?			
Are grounds and screeds set for a true, level and plane surface and obtain proper depth of plaster?			
Are gypsum lath, rock lath, and plasterboard installed per specification?			
Are hangers of proper type, size and gauge installed and are saddles tied, bolted or clipped per specification?			
Are locations, layout and plumbness verified?			
Are masonry and concrete surfaces directly plastered been roughened, cleaned and dampened? Bonding requirements are met.			

EPC Master Checklist

Are materials galvanized where exposed to exterior and damp conditions and where otherwise required?			
Are setting and curing times per specification?			
Are size, gauge, spacing, and fastening of runner and furring channels verified?			
Are spaces to be plastered are brought to required temperature before installation? Provision is made for regulated ventilation.			
Are special field conditions of fastening and connection verified for accuracy?			
Are studs securely anchored to walls and columns and fastened to securely anchored floor plates?			
Are wood grounds installed per specification?			
Is agency inspection complete?			
Is color of mix approved and adequately covers undercoat?			
Is cording set in expansion screeds, removed at completion of each phase, and completely cleared of buildup at completion?			
Is elevation and layout of furring per specification? Installation provides a true plane surface, plumb or level per specification.			
Is metal lath of type and gauge required for spacing per specification?			
Is plaster mix, proportions and mixing equipment per specification?			
Is proper type of plaster required for various types of areas installed per specification?			
Is stud spacing per specification?			
Is tie wire material and size for connection of channels to runners installed and properly tied?			

Architectural – Rough Carpentry (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bridging, blocking and bracing installed per specification?			
Are clearances and space requirements per specification?			
Are corrective actions complete?			
Are framing members doubled where required?			
Are framing members spaced per specification; plumb, horizontal, parallel and aligned?			
Are furring and grounds per specification?			
Are headers sized correctly, have proper bearing, and are suitably connected?			
Are joists set with crown up, have adequate bearing, and are properly fire cut when bearing in masonry walls?			
Are materials in contact with concrete or masonry or near earth, treated or have suitably grades species of lumber for these conditions?			
Are metal connectors installed, per specification?			
Are nails, bolts, and connectors per specification?			
Are plats lapped and connected, per specification?			
Are surfaces to be painted, treated with proper preservatives?			
Are we spot inspecting for splits, shake, decay, pockets, wane, crook, bow, cup, loose knots or other defects not in compliance with grade?			
Is agency inspection complete?			
Is allowance made for expansion of contraction of lumber, concrete, masonry and steel?			
Is framing aligned, plumb and level?			
Is framing lumber grade-stamped or suitably identified?			
Is it verified that any unscheduled notching, drilling, or cutting of framing members will not impair structural adequacy, nor impair conformance with specifications?			
Is it verified that bolts are tight or retightened before closing up?			
Is kiln-dried, preservative-treated, or fire-resistive lumber identified and installed where required?			
Is lumber suitably stored, stacked and protected?			
Is lumber that is kept in enclosed spaces properly ventilated?			
Is Lumber the proper species, grade, dimensions, and has treatment where required?			
Is moisture content per specification?			
Is plywood sheathing applied as specified? (Grade, dimension, staggering, mailing, blocking, etc.)			
Is preservative treatment per specification? Are affidavits supplied if required?			
Is sealing, especially for acoustical or waterproofing purposes, installed where required?			
Is sheathing paper installed per specification? Make sure to check for any damage.			
Is termite prevention, such as shields or spacing from earth or other treatment installed per specification?			

Architectural – Scope of Contract (TOC)

Issue	Responsibility/Comments	Date	Complete
Does scope include 3D Computer Modeling / Animation?			
Does scope include Accessories?			
Does scope include Artwork?			
Does scope include Building Sections?			
Does scope include CAD/System?			
Does scope include Carpet?			
Does scope include Code Compliance Documents?			

EPC Master Checklist

Does scope include Color Board?			
Does scope include Color Schedules?			
Does scope include Composite Floor Plans?			
Does scope include Conceptual design?			
Does scope include Construction Observation?			
Does scope include Construction?			
Does scope include Demolition?			
Does scope include Design Development and Construction Documentation?			
Does scope include Details?			
Does scope include Door Schedule?			
Does scope include Electrical / communication plans?			
Does scope include Exterior Elevations?			
Does scope include Floor Plans?			
Does scope include Furnishings?			
Does scope include Furniture?			
Does scope include General Information?			
Does scope include Graphics / Signage?			
Does scope include Interior Elevations?			
Does scope include Master Planning / Site Planning?			
Does scope include Miscellaneous Schedules?			
Does scope include Miscellaneous Sections?			
Does scope include Non-Graphic Database?			
Does scope include Panel Plans?			
Does scope include Presentation?			
Does scope include Programming?			
Does scope include Record Drawings?			
Does scope include Reflected Ceiling Plans?			
Does scope include Renderings?			
Does scope include Roof Plans?			
Does scope include Room Finish Schedule?			
Does scope include Schematic Design?			
Does scope include Signage?			
Does scope include Site Plan?			
Does scope include Space Planning?			
Does scope include Window Schedule?			

Architectural – Window Walls and Curtain Walls (TOC)

Issue	Responsibility/Comments	Date	Complete
Are color matches between panels and parts within specified range?			
Are components or pre-assembled panels verified for shipping damage after uncrating?			
Are corrective actions complete?			
Are dissimilar metals and materials isolated; for example, aluminum in contact with other metals and cement surfaces, nylon or polystyrene separators, stainless steel bolts, etc.?			
Are expansion joints installed between units per specification?			
Are protective coatings and/or lacquers installed to proper thickness?			
Are size, shape and thickness of metal extrusions or parts matched to details when available?			
Are sound-deadening materials and/or insulations installed per specification?			
Are the reveals aligned and of consistent size?			
Are weep holes and drainage systems installed and cleaned before and after erection and meet cleanliness requirements?			
Is agency inspection complete?			
Is anchorage to structure secure for transfer of wind load per specification? Check for permanent tightening after alignment.			
Is exterior maintained reasonably clean after erection, especially free from cement materials?			
Is field-applied sealant applied per specification with the proper type and color?			
Is joint sealer installed at shop-assembled joints per specification?			
Is shop-applied sealant installed per specification?			
Is spray fireproofing removed from within curtain wall sections after erection?			
Verify erection tolerances regarding horizontal and vertical alignment and plumbness?			
Verify that final cleaning is performed per specification?			
Verify that gauges, patterns and colors are as approved and match samples?			

Architectural - Specifications (TOC)

Issue	Responsibility/Comments	Date	Complete
Are we having department management reviews?			
Does project require a composite metal siding panels specification?			
Does project require a fire extinguisher cabinet specification?			
Does project require access doors specifications?			
Does project require access-flooring specifications?			
Does project require accordion folding partitions specifications?			

EPC Master Checklist

Does project require acid resistant brick specifications?			
Does project require acoustical ceilings specifications?			
Does project require acoustical metal panel ceilings specifications?			
Does project require acoustical panel ceilings specifications?			
Does project require acoustical wall panels specifications?			
Does project require adhered elastomeric sheet roofing specifications?			
Does project require aluminum entrances and storefronts specifications?			
Does project require aluminum flashing and sheet metal specifications?			
Does project require aluminum louvers specifications?			
Does project require aluminum screen walls specifications?			
Does project require aluminum siding specifications?			
Does project require aluminum storefronts specifications?			
Does project require aluminum strip windows specifications?			
Does project require aluminum windows specifications?			
Does project require architectural precast concrete wall panels specifications?			
Does project require basted elastomeric sheet roofing specifications?			
Does project require Bentonite waterproofing specifications?			
Does project require bituminous membrane waterproofing specifications?			
Does project require blast doors specifications?			
Does project require brick masonry specifications?			
Does project require brick paving specifications?			
Does project require built-up roofing specifications?			
Does project require cabinetry specifications?			
Does project require café doors specifications?			
Does project require carpet cushion specifications?			
Does project require carpet specifications?			
Does project require carpet squares specifications?			
Does project require ceiling recessed motorized projection screens specifications?			
Does project require cement plaster specifications?			
Does project require Cementitious brown coat specifications?			
Does project require Cementitious-coating specifications?			
Does project require Cementitious-waterproofing specifications?			
Does project require ceramic tile specifications?			
Does project require cold formed metal framing specifications?			
Does project require cold storage doors specifications?			
Does project require column supported canopies specifications?			
Does project require compression seals specifications?			
Does project require concrete unit masonry specifications?			
Does project require corrosion resistant topping specifications?			
Does project require darkroom doors specifications?			
Does project require deferred precast concrete wall panels specifications?			
Does project require demolition, alterations, and repairs specifications?			
Does project require detention screens specifications?			
Does project require disinfection and decontamination specifications?			
Does project require dock bumpers specifications?			
Does project require dock levelers?			
Does project require dock seals - adjustable head specifications?			
Does project require door access control systems specifications?			
Does project require draperies specifications?			
Does project require elastomeric liquid flooring specifications?			
Does project require electric freight elevators specifications?			
Does project require electric passenger elevators specifications?			
Does project require entrance grill - recessed specifications?			
Does project require entrance mats specifications?			
Does project require entrances and storefronts specifications?			
Does project require epoxy flooring and base specifications?			
Does project require epoxy terrazzo floor specifications?			
Does project require equipment installation specifications?			
Does project require explosion relief vents specifications?			
Does project require exterior expansion joint covers specifications?			
Does project require exterior steel stud systems specifications?			
Does project require exterior textured coating specifications?			
Does project require eyes specifications?			
Does project require facility cleanup specifications?			
Does project require fiberglass flagpoles specifications?			
Does project require Fiberglass ladders specifications?			
Does project require fiberglass shower compartments specifications?			
Does project require fibrous insulation specifications?			
Does project require field-painting specifications?			
Does project require finish carpentry specifications?			
Does project require finish hardware specifications?			
Does project require fire-stopping specifications?			
Does project require fixed chalkboard and tack board specifications?			
Does project require fixed tack boards specifications?			
Does project require flexible rubber doors specifications?			
Does project require fluid applied elastomeric membrane waterproofing specifications?			



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Does project require foamed in place penetration insulation specifications?			
Does project require folding partitions specifications?			
Does project require food service equipment specifications?			
Does project require four-fold doors specifications?			
Does project require freight elevators specifications?			
Does project require furring and lathing specifications?			
Does project require galvanized flashing and sheet metal specifications?			
Does project require general requirements a/e only specifications?			
Does project require glass and glazing specifications?			
Does project require glazed aluminum curtain wall specifications?			
Does project require glazed canopies specifications?			
Does project require gypsum wallboard systems specifications?			
Does project require hatches specifications?			
Does project require horizontal louver blinds specifications?			
Does project require hydraulic freight elevators specifications?			
Does project require hydraulic passenger elevators specifications?			
Does project require identifying specifications?			
Does project require insect killers - ultraviolet specifications?			
Does project require instruction to bidders forms specifications?			
Does project require interior aluminum window frames specifications?			
Does project require Intumescent-fireproofing specifications?			
Does project require joint sealing specifications?			
Does project require kitchen equipment specifications?			
Does project require laboratory equipment specifications?			
Does project require laminated plastic counter tops specifications?			
Does project require laminated plastic shower dividers specifications?			
Does project require laminated plastic specifications?			
Does project require leveling platforms – hydraulic specifications?			
Does project require liquid applied elastomeric membrane waterproofing specifications?			
Does project require liquid chalk writing surfaces specifications?			
Does project require loading dock lights specifications?			
Does project require lockers specifications?			
Does project require loose fill insulation specifications?			
Does project require marble tile specifications?			
Does project require masonry specifications?			
Does project require mechanically fastened elastomeric sheet roofing specifications?			
Does project require medicine station specifications?			
Does project require membrane waterproofing applied specifications?			
Does project require mesh partitions specifications?			
Does project require metal doors and frame specifications?			
Does project require metal framed skylights specifications?			
Does project require metal frames specifications?			
Does project require metal pan ceiling systems specifications?			
Does project require metal siding and roofing specifications?			
Does project require mezzanine specifications?			
Does project require millwork specifications?			
Does project require mortar specifications?			
Does project require movable filing and storage systems specifications?			
Does project require movable gypsum partitions specifications?			
Does project require movable metal partitions specifications?			
Does project require movable storage shelving systems specifications?			
Does project require overhead clothes storage systems specifications?			
Does project require overhead doors specifications?			
Does project require pass through boxes specifications?			
Does project require passenger elevators specifications?			
Does project require piping and equipment painting specifications?			
Does project require plastic sheet wall covering specifications?			
Does project require pneumatic tube systems specifications?			
Does project require polymeric damp proofing specifications?			
Does project require polyurethane floor systems specifications?			
Does project require porcelain paver specifications?			
Does project require Portland cement plaster specifications?			
Does project require pre engineered buildings specifications?			
Does project require precast concrete parking bumpers and splash blocks specification?			
Does project require precast concrete splash blocks specifications?			
Does project require precast thin set polyester terrazzo specifications?			
Does project require prefabricated air showers specifications?			
Does project require prefabricated expansion joints specifications?			
Does project require prefabricated fireplaces specifications?			
Does project require prefabricated guard houses specifications?			
Does project require prefabricated roof curbs specifications?			
Does project require prefabricated roof equipment supports specifications?			
Does project require prefabricated shower compartments specifications?			
Does project require prefabricated storage shelving specifications?			



EPC Master Checklist

Does project require preformed metal siding specifications?			
Does project require pressed metal window frames specifications?			
Does project require protected membrane roofing specifications?			
Does project require quarry tile specifications?			
Does project require radiation-shielding specifications?			
Does project require recessed entrance mats specifications?			
Does project require reinforced plastic panels specifications?			
Does project require remote signal door operators and doors specifications?			
Does project require resilient sheet flooring specifications?			
Does project require resilient tile flooring specifications?			
Does project require revolving doors specifications?			
Does project require rigid insulation specifications?			
Does project require rigid rubber doors specifications?			
Does project require rigid wall covering specifications?			
Does project require rollup counter doors specifications?			
Does project require rollup doors specifications?			
Does project require rollup grill specifications?			
Does project require roof access hatches specifications?			
Does project require roof smoke hatches – plastic specifications?			
Does project require roof smoke vents – steel specifications?			
Does project require rough carpentry specifications?			
Does project require rubber sport surfaces specifications?			
Does project require rubber tile flooring specifications?			
Does project require rubberized asphalt sheet membrane waterproofing specifications?			
Does project require security windows specifications?			
Does project require seismic isolation bearings specifications?			
Does project require selective demolition specifications?			
Does project require self-framing pre-engineered buildings specifications?			
Does project require sheet applied elastomeric membrane waterproofing specifications?			
Does project require shop priming of structural steel – organic zinc specifications?			
Does project require sidewalk doors specifications?			
Does project require skylights specifications?			
Does project require sliding chalkboard and tack board specifications?			
Does project require sliding doors specifications?			
Does project require sliding pass windows specifications?			
Does project require sound and vibration control specifications?			
Does project require sound retardant doors and frames specifications?			
Does project require spray applied elastomeric membrane waterproofing specifications?			
Does project require sprayed fireproofing?			
Does project require sprayed on insulation specifications?			
Does project require stainless steel flashing and sheet metal specifications?			
Does project require standing seam roofing specifications?			
Does project require steel ladders specifications?			
Does project require storage racks specifications?			
Does project require strip doors specifications?			
Does project require stucco specifications?			
Does project require submittals specifications?			
Does project require suspended canopies specifications?			
Does project require suspended plastic panel ceilings specifications?			
Does project require swimming pools specifications?			
Does project require tapered roof insulation system specifications?			
Does project require telephone enclosures specifications?			
Does project require termite control specifications?			
Does project require toilet and janitorial accessories specifications?			
Does project require toilet partitions and urinal screens specification?			
Does project require traffic mirrors specifications?			
Does project require traffic rail specifications?			
Does project require turnstiles specifications?			
Does project require under slab sprayed on cellulose insulation specifications?			
Does project require unit kitchens specifications?			
Does project require vault doors specifications?			
Does project require veneer plastic systems specifications?			
Does project require vertical material lifts specifications?			
Does project require vinyl wall covering specifications?			
Does project require walk-in freezer specifications?			
Does project require walk-in refrigerators specifications?			
Does project require wall access doors specifications?			
Does project require wall bumper guards and corner guards			
Does project require wall fabric specifications?			
Does project require wardrobe specialties specifications?			
Does project require wood / metal handrails specifications?			
Does project require wood bi fold doors specifications?			
Does project require wood doors specifications?			



EPC Master Checklist

Does project require wood fence specifications?			
Does project require wood trusses specifications?			

Architectural - Woodwork (TOC)

Issue	Responsibility/Comments	Date	Complete
Are finished materials delivered in proper sequence?			
Are finished surfaces are protected?			
Are materials of grade, species, treatment, construction, thickness, pattern, finish, matching and appearance per specification?			
Are methods of installation and connection per specification? Workmanship is adequate and meets requirements			
Are surfaces are thoroughly cleaned and finished per specification?			
Is agency inspection complete?			
Is corrective action complete?			
Is furring and clogging provided and installed per specification to receive materials?			
Is subsurface to receive finish materials per specification? Moisture is checked before installation.			

Asphalt (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adequate trucks available for continuous paving operations?			
Are barricades called for? Who installs barricades?			
Are corrective actions completed and verified?			
Are headers and screeds properly installed for thickness control?			
Are special permits required?			
Are special topping surfaces, color coatings, striping, etc are applied using materials specified?			
Are suitable covers used when mix protection is needed?			
Are tie-ins to adjacent surfaces as specified?			
Are unit rates established? What about patching rates			
Are weather limitations observed per specification?			
Do we have current scale certification?			
Does drainage test meet requirements?			
Does Field Technician demonstrate either by oral or written examination, or both, the ability to perform correctly the duties required of that position?			
Does field technician have appropriate credentials and is a full time employee?			
Does Supervising Field Technician have at least five years experience in the kind of work involved on construction project?			
Does supervising Laboratory Technician have at least five years experience performing tests on asphalt?			
Does Technician demonstrate an ability to perform the tests normally required in the manner stipulated under ASTM or other governing procedures?			
Does that person have at least five years of engineering experience in inspection and testing of asphalt?			
How are payments made?			
Is a wearing surface to be placed initially and final surface later? Does scope c this out?			
Is Agency under the direction of a person charged with engineering managerial responsibility?			
Is any special treatment needed for the base coat if it is decided to wait through the winter months for binder?			
Is asphalt being used where oil tank rupture is possible, if so need to change?			
Is asphalt the required mix and approved for this work? Are lab tests completed per specification?			
Is concrete specification approved for curbs and gutters?			
Is damage to adjacent surfaces is repaired?			
Is design mix approved and does it meet specifications?			
Is equipment available to satisfy ASTM C-127 test for specific gravity and absorption of coarse aggregate?			
Is equipment available to satisfy ASTM C-128 test for specific gravity and absorption of fine aggregate?			
Is equipment available to satisfy ASTM C-136 test for sieve or screen analysis of fine and coarse aggregates?			
Is equipment available to satisfy ASTM D-113 for ductility of bituminous materials?			
Is equipment available to satisfy ASTM D-1559 test for resistance to plastic flow of bituminous mixture using Marsh Apparatus?			
Is equipment available to satisfy ASTM D-1754 test for effect of heat and air on asphalt materials?			
Is equipment available to satisfy ASTM D-2042 test for solubility of asphalt materials in trichloroethylene?			
Is equipment available to satisfy ASTM D-2172 test for quantitative extraction of bitumen from bituminous paving mixtures?			
Is equipment available to satisfy ASTM D-5 test for penetration of bituminous materials?			
Is equipment available to satisfy ASTM D-92 test for flash and fire points by Cleveland			

EPC Master Checklist

open cup?			
Is primer coat of tar required prior to base coat?			
Is proper earthwork support of curbs owed for by subcontractors in their price?			
Is size and type of roller and paving equipment is as specified?			
Is spreading equipment suitable for application?			
Is tack coat of tar required between base coat and finish coat?			
Is temperature, after final rolling within specified limits?			
Is there additional equipment required for this contract?			
Materials are spread, raked, and placed for thickness and uniformity?			
Plant inspection is made and required results and certifications are on file?			
Records of placement and suspension of operations documented?			
Rollers are operated within speed range and have backup features, drum scrapes, and wetting devices?			
Seal coat is properly applied and of material specified with proper curing period before and after installation?			
Temperature of mix when delivered is within limits required			
What time of the year Is batch plant open?			
What type of test is needed for bituminous sub grade, concrete and where are costs? Will core drilling be done?			
When is road lighting and parking lot lighting installed, before or after asphalt? Are sleeve requirements identified?			
Who does striping?			
Who maintains roads during the project?			
Who provides field engineering? Does contractor give reference points?			
Who provides riprap at wash points?			
Who sets elevation for drainage structures in roadbed?			
Who's responsible for correct elevation for water ponding versus plans?			
Who's responsible for the curb and gutter work?			
Who's responsible to slope road shoulders?			
Will asphalt be done at the same time or will final binder coat be done at the end of project?			

Auger Cast Piling (TOC)

Issue	Responsibility/Comments	Date	Complete
Are Auger-Cast Piling Forms completed and retained?			
Are Quality Control forms reviewed prior to start of work?			
Are we documenting the time of finish of Auger removal and retaining?			
Are we documenting the time of start of Auger removal and retaining?			
Do we know what the QC Documentation requirements are for turnover?			
Has scope of work and specifications been completely reviewed?			
Have inspection personnel qualifications been reviewed?			
Is ambient temperature checked and documented?			
Is auger plumb within 2%?			
Is cage assembly per specification?			
Is cage sidewall clearance maintained?			
Is diameter of rebar cage per drawings?			
Is final installation elevation of rebar cage measured, documented?			
Is flow rate of grout timed, documented?			
Is grout mix design approved?			
Is grout pressure documented?			
Is grout testing results acceptable, documented?			
Is length of rebar cage per drawings?			
Is location within 3" and 5 pile diameters?			
Is pile cut-off elevation measured, documented?			
Is pile tip elevation measured, documented?			
Is pile type and diameter verified to be per drawing, documented?			
Is time of start of pile installation documented?			
Is volume of grout being installed measured, documented?			

Backcharging (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adjustments on the backlog report generated by estimate or scope changes to the contract received from the Project Accountant?			
Are new awards on the backlog report?			
Does work accomplished on the backlog report agree to revenue on the income statement?			
Is backlog report reviewed by management to determine that the report is accurate?			
Is backlog report reviewed to determine whether active projects with work remaining under contract are included on the report?			
Is cost report reviewed and compared to supporting backlog report that shows projects to insure that the report is accurate?			
Is ending backlog amount reviewed to determine that the ending balance for each project represents work remaining on the project in the next five years?			



EPC Master Checklist

Bank Accounts (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bank accounts reconciled to the general ledger and have reconciling items been addressed promptly?			
Are bank checks stored in a secure location and is access restricted to authorized personnel?			
Are bank statements reconciliations performed monthly and approved by Financial Management?			
Are cash flows forecasts developed to support accounts payable funding requests and other requests for funds?			
Are journal entries affecting project cost, such as interest expense, financing charges and other banking costs, prepared by Accounting and Finance personnel and approved by Project Management?			
Are journal entries resulting from the bank reconciliation process that affect project cost, such as interest expense, financing charges and other banking costs, prepared by Accounting and Finance personnel and approved by Project Management?			
Are manual checks approved by Financial Management before issued for signature?			
Are Project Bank Accounts approved by contractor Treasury?			
Are support documents attached to checks and do both of the signatories review the support documents before signing?			
Are supporting documents cancelled by stamping "PAID"?			
Are the void checks accounted for by the Finance Group?			
Are wires and manual checks signed by two authorized signatories per the approval matrix ?			
Do Accounting and Finance personnel maintain an off-books cash ledger, representing transactions processed through a bank account, for each bank account?			
Do authorized personnel review the check register who do not prepare checks or the support documents?			
Do Financial personnel reconcile the local bank statement to the cash disbursement register in the Financial System and the off book ledger monthly?			
Do Financial personnel verify that reconciliations match general ledger amounts?			
Does Financial Department maintain formal documentation on investigations of reconciling items?			
Does only Financial Management have approval signatories authorized to make wire transfers?			
Does preparer of the bank reconciliations sign off on the reconciliations?			
Has segregation of duties been considered when assigning the responsibility for bank account reconciliations and payroll duties?			
Have the Bank reconciliations been reviewed and approved by Financial Management?			
Have you considered segregation of duties when determining check signatories?			
Is check register and bank statement reviewed by Financial personnel on a monthly basis to ensure checks are not misused or unaccounted for?			
Is documentation to support changes to the authorized list of signatories maintained at the Site Office for at least the life of the project?			
Is list of authorized signatories maintained by the bank and updated by Financial Management when changes are made?			

Batch Plant (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adjustments made in water requirements to compensate for moisture in aggregates?			
Are admixture dispensers calibrated regularly?			
Are admixtures approved by contractor?			
Are admixtures handled and stored to prevent contamination?			
Are admixtures re-tested at proper intervals?			
Are ambient and material temperatures documented regularly during batching operation?			
Are batch tickets completed as each batch of concrete is charged into truck or other conveyor?			
Are gradation reports prepared as the material is processed?			
Are hopper scales calibrated regularly?			
Are hoppers completely empty after release of their contents?			
Are ice scales calibrated regularly?			
Are manufacturer's instructions for admixtures being followed?			
Are material proportions, mix time, delivery rates and concrete characteristics per approved mix design?			
Are material records complete?			
Are materials acceptable?			
Are mill test reports of cement on file?			
Are proper stockpiling procedures used?			
Are provisions for hot weather concrete production available?			
Are reasons for rejection of concrete documented?			
Are revolution counters on truck operations? Are they reset to zero at beginning of the operation?			

EPC Master Checklist

Are scales returned to zero after materials are released?			
Are sections of the batch ticket completed at the time pertinent information is received? Ticket not filled out in advance			
Are silos easily identified?			
Are silos moisture tight and doors closed tightly?			
Are standard sieves for grading fine and coarse aggregate at the batch plant?			
Are standard weights at the batch plant?			
Are the cement bins and weight hoppers properly sealed?			
Are the chutes, hoppers, gates, and pipe or other devices used for conveying or discharging concrete made of metals other than aluminum?			
Are the gauges on the truck water tanks operational?			
Are the metering devices for admixtures calibrated and current for operation?			
Are the mixers pre-wetted at beginning of operations?			
Are the weighing dials easily readable?			
Are there alternate routes to site?			
Are there periods of major traffic congestion along the haul route?			
Are there provisions in place for rainy weather regarding the moisture content of the sand and coarse aggregate?			
Are water and ice tested to meet specification?			
Are water meters calibrated regularly?			
Can adequate quantities of materials be stored on site to produce product for maximum project concrete placement?			
Do admixtures meet engineering specifications?			
Do piling methods reduce the change of segregation?			
Do silos have precise cut-off apparatus for automatic control?			
Do silos have separate conveyance to cement scales?			
Do tanks have measuring devices that are easily readable?			
Do the trucks have worn out or damaged fins, excessive buildup of hardened concrete or the presence of wash-water from the previous delivery?			
Do we have a mix design for each class of concrete and other Cementitious materials that are required for engineering approval?			
Do we have batch plant history from third party testing firm?			
Do we have recent "history" of breaks or control charts?			
Do we have references?			
Do we have state / federal work history?			
Do you have a sample batch ticket?			
Does air entrainment admixture meet ASTM C260?			
Does batch plant use spray to keep moisture even and pile temperature low?			
Does batch ticket include batch quantities for cement, fly ash, fine aggregate, coarse aggregate, water, air entrainment and other admixtures?			
Does batch ticket include batch time and date?			
Does batch ticket include moisture content for each aggregate?			
Does batch ticket include scale weights for cement, fly ash, fine aggregate, coarse aggregate?			
Does chemical admixture meet ASTM C260?			
Does concrete vendor have a Quality Control plan for the facility? Get copy.			
Does equipment indicate when correct amount of material is in hopper?			
Does equipment prevent free f of cement from batcher?			
Does mix design indicate project for which it was approved?			
Does water meet chloride, sulfide, and nitrate requirements?			
Have we visually verified the sand and coarse aggregate for method of storage, handling, grading, cleanliness, and moisture condition?			
Have you compared the National Ready-mix concrete manufacturer's association truck rating charts to verify that load capacities will not be exceeded?			
How is aggregate moisture test performed and documented?			
How many concrete trucks are available for delivery?			
Is admixture dispenser easily readable?			
Is admixture measuring dispensers clean and in good operating condition?			
Is aggregate dropped from a height that will not cause segregation?			
Is aggregate from different sources separated?			
Is aggregate pile used to depletion prior to storing additional aggregate from another source or size?			
Is aggregate separated by definite size?			
Is aggregate stored on solid base?			
Is batch plant checklist form approved?			
Is batch plant equipment satisfactory?			
Is batch plant inspection satisfactory?			
Is cement approved by contractor?			
Is cement bin clean and dry?			
Is cement chemistry acceptable?			
Is cement f protected by chute or enclosure?			
Is cement stored in separate silo and segregated by source?			
Is cement stored in separate silo separated by type?			
Is cement type correct?			
Is checkout sheet for batching, mixing and delivery received?			
Is communication with the placement site a part of the batch plant operation?			
Is concrete strength acceptable?			



EPC Master Checklist

Is fly ash in a separate bin?			
Is ice shredder in good visible condition?			
Is ice storage area clean and insulated?			
Is knife gate tight and not worn?			
Is material certification for the fly ash available?			
Is materials qualification development and testing complete?			
Is mix design approved?			
Is mixer revolution counter verified at zero after it is charged?			
Is moisture metering device operable?			
Is pertinent data being documented for each batch?			
Is reason for rejection of concrete documented?			
Is record of concrete testing in the field received and documented at the batch plant?			
Is sequence of charging materials into mixer acceptable?			
Is sequence of charging materials into mixer satisfactory?			
Is setting time acceptable?			
Is storage area wetted to prevent dust contamination of aggregates?			
Is storage pile large enough to supply the largest single placements with ample access?			
Is temperature of mixed concrete acceptable?			
Is temperature of mixed concrete documented?			
Is there a backup plant?			
Is there prevention of contamination?			
Is there prevention of intermingling aggregates?			
Is there prevention of segregation?			
Is water added to the mix, adjusted for the moisture in the aggregate?			
Is water free of deleterious substances?			
Is water meter verified for accuracy?			
Is water quality adequate?			
Is water/cement included on batch ticket? Is additional allowable water included?			
Verify that no recycled wash water is used in the concrete mix?			
Verify the capacity of the trucks?			
Verify the current "weights and measures" seal on scales are current?			
What equipment prevents loss of cement from scales to mixer?			
What type of moisture equipment is used to determine free moisture in aggregates?			
What's the estimated delivery rate of concrete to the project site – cubic yards per hour?			
What's the estimated delivery time from concrete batch plant to the project site?			
What's the haul distance from the concrete batch plants to the project site?			
What's the production rate – cubic yards per hour?			
What's the water source used for batching?			
Where is backup plant?			
Who performs material testing for the plant? In house laboratory? Testing firm? Obtain name and contact.			

Bituminous Concrete Paving (TOC)

Issue	Responsibility/Comments	Date	Complete
Are Overlaps / joints per drawings/specifications?			
Are repairs being completed per drawings/specifications?			
Has mix temperature been verified?			
Is compaction verified per specification?			
Is equipment per contract?			
Is finish surface smoothness per drawings/specifications?			
Is Layer thickness / total thickness verified per drawings/specifications?			
Is Line/grade per drawings?			
Is material been verified Material per drawings/specifications?			
Is paving being completed in acceptable weather conditions?			
Is preparation per specification?			
Is Prime Coat per drawings/specifications?			
Is Rolling being done per drawings/specifications?			
Is smoothness per drawings/specifications?			
Is Tack Coat being completed per drawings/specifications?			

Boilers Shop Inspection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bending / forming operations carried out to the fabricator's written practice?			
Are current quality control manuals presented for review?			
Are dimensional checks being made on fabricated items and noted on traveler or drawing?			
Are drums, header, or tubular products shown on the shop drawings?			
Are in house inspections performed in accordance with QC procedures?			
Are inspections to your satisfaction?			
Are methods for pre-heat adequate per code specifications and welding procedure?			
Are NDE requirements understood? Are personnel qualified?			
Are preparations for shipping adequate? Bundles, banding and end preparation			



EPC Master Checklist

Are requirements for ASME data reports, mill test reports, and other relevant data resolved as to required number of copies and to individuals that receive them?			
Are SA or SB numbers correct per the shop drawings?			
Are shop traveler sign-off sheets utilized as described in QC procedures			
Are the purchase order and specifications available with complete understanding by fabricator as to the project requirements?			
Are there any specific project requirements determined by contractor's project manager, [Client] or QC Manager?			
Are visual examinations satisfactory?			
Do weld procedures meet ASME Section IX requirements and are they in the work place and available to welders?			
Does shop have current contract with third party inspection services?			
Does shop have valid ASME certificates of authorization?			
Has final inspection been accomplished to ensure project specifications / requirements are fulfilled?			
Has radiographic film been reviewed and found acceptable?			
Have test reports for PT and MT been reviewed?			
Is filler metal control in accordance with fabricators QC program?			
Is it assured that end preparations meet project requirements?			
Is material controlled in accordance with quality control procedures?			
Is post weld heat treatment accomplished per ASME Section I and the welding procedure?			
Is Quality Control Manager or representative at the initial meeting?			
Is welder qualification checked for current dates and qualification for fabrication processes?			

Business Development – Account Management (TOC)

Issue	Responsibility/Comments	Date	Complete
Are we executing the strategic account plan?			
Are we penetrating [Client] key decision-making groups?			
Do we have account performance and financial analysis?			
Do we have communication and knowledge management?			
Do we have Single Point Accountability for development and execution of account strategy?			
Does Key Account Executive Sponsor participate in an annual review with [Client] to address improvements of [Client]'s business and additional opportunities where contractor can add value?			
Does Key Account Executive Sponsor understand [Client]'s business plan and strategic directions and shares contractor's business plan and strategies?			
Does Key Account Manager coordinates and assist supporting account manager and team activities?			
Does Key Account Manager have primary corporate interface with the [Client]?			
Does Key Account Manager provide corporate strategies and tactics to ensure the account team is aligned with the latest company direction?			
Does Key Account Manager provide feedback and c reports to the account team after interfaces with [Client]?			
Does Key Account Manager review the accountability matrix with the account manager and ensure expectations are clear and measurable?			
Does Key Account Manager sanction the account manager's strategy and tactics for the key account and performs an annual review of the account strategy and plan?			
Is Key Account Executive Sponsor actively developing and maintaining personal relationships with selected executives?			
Is Key Account manager mentoring the account manager on an ongoing basis?			
Is Key Account Manager working coordination with Key Account Executive Sponsor to develop and maintain relationships with [Client] and [Client]'s executive management?			

Business Development - Proposal (TOC)

Issue	Responsibility/Comments	Date	Complete
Has a key issues analysis been completed with differentiators and strategic actions?			
Has a postmortem been conducted - win or lose?			
Has competitor analysis been completed?			
Has executive summary been completed?			
Has formal proposal kickoff meeting been conducted?			
Has offer been presented? Did we get additional information?			
Has proposal theme been determined?			
Has the executive summary been conceptualized?			
Has the management strategy review been completed?			
Has timing for section reviews been set?			
Has win strategy been developed?			
Have [Client] needs been analyzed?			
Have sectional themes been determined?			
Have we addressed concerns?			
Have we completed proposal compliance verification?			
Have you confirmed receipt of the proposal by [Client]?			
Is [Client] decision making process and evaluation criteria been analyzed?			

EPC Master Checklist

Is proposal assembled?			
Is proposal core team staffed?			
Is proposal distributed?			
Is proposal layout determined?			
Is proposal schedule set?			
Is sectional content determined?			
Is table of contents complete?			

Business Development – Prospect Questions (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any of the following services required? (Programming, Automation Studies, Environmental, Software Development, Services Verification or Startup Services)			
Are there other known projects in the area of significant size? What are they?			
Are there other proposals we should reference to keep BD costs down?			
Are we licensed to do work at his location? Who has verified? Which company is licensed?			
Can senior contractor management be utilized in any way during the bid process?			
Do we fully understand what the [Client] is looking for?			
Do we have an existing contractual agreement? What are the key issues in the Terms and Conditions?			
Do we have any business or personal relationships with the [Client]'s team?			
Do we have previous jobs like this one? What were the pluses and minuses of previous jobs?			
Does [Client] allow the utilization of the sole source concept for procurement?			
Does [Client] have a listing of local contractors previously used? Can we obtain a copy of the listing?			
Does [Client] have a real knowledge of the level of staffing he would require?			
Does [Client] have a real knowledge of the level of staffing he would require?			
Does [Client] have an experienced staff?			
Does [Client] understand these terms? (Note, in detail, his explanation)			
Does [Client] usually perform as contractor on the project? What's their history? Generally, what is to be covered?			
How does [Client] want subcontracts to be issued, on a T&M basis, lump sum basis, unit price basis or GMP basis? Who'll hold contracts?			
How important is local presence? Should we team with a local?			
How many projects has [Client] done in the last five years?			
How will payment of subcontracts/vendors be handled?			
How will the interface with Engineering work?			
If contractor is already performing on the project, what is their multiplier?			
If GC, will the general contractor perform some of the work with direct hire forces or can of the work be subcontracted?			
If it is a design build opportunity, should we bid alone or team?			
Is [Client] open to incentive programs?			
Is [Client] quality sensitive, schedule sensitive or cost sensitive?			
Is COLA applicable?			
Is it acceptable for us to contact the local officials to get a better understanding of the specific requirements and concerns of the agency?			
Is project funded? If not, when? What's the process for doing so?			
Is there a local teaming partner who would strengthen our bid?			
Is there a select list of firms being owed to propose? How many?			
Is there an experienced partner to be considered?			
Is there one construction company that the [Client] uses consistently?			
Should startup and checkout assistance be priced in estimate?			
What approach to design and construction will be used? (Traditional approach - design/bid/construct, fast track)			
What are local housing conditions?			
What are the local and state tax requirements for the project?			
What are the normal outages for the existing plant and what is timing?			
What facilities are available for Constructor/Engineer's use?			
What service is [Client] requesting? (Design, construction management, general contractor)			
What should be addressed in the proposal? (Safety, quality control, value engineering, constructability etc.)			
What type of construction is anticipated? (Steel frame, wood frame, precast concrete, tilt up etc.)			
What type of contract will [Client] prefer?			
What type of estimating service is expected?			
What type of insurance will [Client] provide?			
What type of insurance will Construction provide?			
What type of scheduling system is to be used? Is Primavera acceptable?			
What's [Client]'s definition of completion?			
What's [Client]'s perception of safety responsibility? Do they want full-time safety engineer? What does law require now?			
What's [Client]'s relocation policy? Is ours acceptable?			
What's [Client]'s staff size?			
What's [Client]'s view of contractor/Engineer scope of services?			



EPC Master Checklist

What's approximate project cost? Does this include Design costs, Construction costs, Procurement, Startup, spare parts?			
What's our experience in the industry?			
What's our experience with the [Client]?			
What's the [Client]'s perception of security responsibility? Does he want full time security services?			
What's the anticipated schedule and timing?			
What's the billing format?			
What's the current labor climate at facility, if existing? Closed, Open or Merit			
What's the labor climate that the [Client] expects the job to be performed under?			
What's the planned use for the facility, specifically?			
What's the schedule and budget to develop the proposal?			
When will decision be made on Construction and Design?			
Where the project is located – city and state			
Who are the decision-makers in the "[Client]" organization?			
Who'll be [Client]'s contact?			
Who'll be operational interface? How will the interface work?			
Who'll be responsible for checkout and startup?			
Who'll be responsible for cost system?			
Who'll be responsible for obtaining building and environmental permits?			
Who'll be responsible for the scheduling for the total project?			
Who'll do expediting?			
Who'll do procurement?			
Who'll do the scheduling for construction?			
Who'll do warehousing?			
Who'll make decision?			
Who'll provide clerical support staff?			
Who'll they want to see?			
Who's decision-making team?			
Who's our major competition?			
Who's responsible for construction facilities?			
Who's the Engineer of record? If someone else -Construction only			
Whose construction contract documents are used for base case?			
Whose cost system will be used?			
Whose scheduling system will be used?			
Will committee make decision? Who'll the selection committee include?			
Will construction contract be in contractors' name or will contractor act as agent for [Client]?			
Will interview be required?			
Will presentation be needed?			
Will the Architect/Engineer be present? (If Construction only)			
Will the job be awarded solely on a price basis? What's the price sensitivity?			

Business Development – Teaming Arrangement (TOC)

Issue	Responsibility/Comments	Date	Complete
Ph 1 - Can the potential partner be trusted to act in the best interest of the teaming agreement instead of leveraging their position with the teaming agreement?			
Ph 1 - Can the potential partner provide the necessary performance security requirements of the project and the bonding and letter of credit obligations from institutions acceptable to contractor?			
Ph 1 - Can the potential partner support the equity requirements at e necessary time and at the required levels?			
Ph 1 - Can the potential partner support the pricing needs of the bid (Target Price, Lump Sum, and Unit Rate) in line with contractor's requirements?			
Ph 1 - Culture: Is partner culturally aligned with contractor in issues of safety, labor conservatism and business goals?			
Ph 1 - Do potential partners in the teaming agreement have the ability to sign and provide necessary documents relating to the contract, bank loans, bonds, indemnity agreements and the like?			
Ph 1 - Do we desire employees to remain with respective parent company or transfer to a teaming agreement payroll?			
Ph 1 - Do we expect to achieve alignment between the [Client] and the partners' executive management (on the level above that of the project)?			
Ph 1 - Do we want to be exclusive with this partner?			
Ph 1 - Do you have the names, addresses and identification of the parties, including the type of business of each member of the teaming agreement?			
Ph 1 - Does contractor desire a teaming agreement for a single project, total market, specific [Client], region, or other?			
Ph 1 - Does contractor desire to have the project insurance requirements covered by a project specific insurance policy?			
Ph 1 - Does contractor want restrictions on the admission of third parties?			
Ph 1 - Does execution strategy for the project reflect the actual capabilities of each potential partner (both technical capabilities and robustness of work processes)?			
Ph 1 - Does potential partner have a viable business outside of the teaming agreement?			
Ph 1 - Does potential partner have sufficient assets to protect contractor in event of			

EPC Master Checklist

their default?			
Ph I - Does potential partner have sufficient, current and/or proper types of insurance to meet the contract commitments?			
Ph I - Does potential partner have the balance sheet to support liabilities?			
Ph I - Does potential partner have the resources to perform to their expected obligations?			
Ph I - Does teaming agreement violate any existing Teaming Agreements?			
Ph I - Has the specific contribution of each potential partner been defined?			
Ph I - Has the type of insurance carried by the teaming agreement been established, defining the liabilities that are to be insured against by each potential partner?			
Ph I - Has thorough research been performed on potential teaming agreement potential partners before selection?			
Ph I - Have we investigated any co-employment issues on labor laws in the host country of the teaming agreement?			
Ph I - How deep is talent we expect them to add to the team? Is it one person, a department, or whole business?			
Ph I - Indemnity: Does contractor desire to be joint and several with our teaming potential partner towards the [Client]?			
Ph I - Indemnity: Do we desire the potential partner to indemnify contractor for their assigned scope of work			
Ph I - Indemnity: Does contractor desire a cross claim indemnity?			
Ph I - Is a name under which the teaming agreement will do business been established?			
Ph I - Is a publicly traded entity; are there potential problems in other parts of potential partners business that might affect our expectations of them in this deal?			
Ph I - Is marketing and BD plan developed for the teaming agreement through bid/no bid procedure ?			
Ph I - Is name approved by contractor Legal and Marketing Departments?			
Ph I - Is potential partner in any pending litigation or serious claim?			
Ph I - Is potential partner in compliance with the Federal Anti-Corruption Practices Act?			
Ph I - Is potential partner truly committed to stay with the deal through contract closing?			
Ph I - Is teaming agreement potential partner in good standing?			
Ph I - Is there an equity requirement for the teaming agreement?			
Ph I - Is there protection of confidential pricing/bidding information during bidding phase?			
Ph I - Is U.S. potential partner familiar and in compliance with the Financial Reporting requirements specified in Sarbanes / Oxley Act?			
Ph I - Per the approvals matrix, what level of authority is required for the proposed teaming agreement?			
Ph I - Prior to award, is there a clear understanding of the scope of the teaming agreement and over objectives, specifically, has a declared/agreed and signed off list of operating principles and scope split been established during the bid preparation or bidding period?			
Ph I - Some form of security is mandatory. What form of security will the potential partner provide (parental guarantee, bond or letter of credit)			
Ph I - Trustworthiness: Can contractor trust the potential partner's representatives?			
Ph I - What form of teaming agreement is needed (e.g., Consortium; Joint Venture, Single Entity, LLC, Subcontract)?			
Ph I - What level of performance security requirements does the contractor want the potential partner to be responsible for?			
Ph I - What's the true financial condition of our potential partner? If not publicly traded, can we get reliable data?			
Ph I - Who do we expect the potential partner to name as key personnel and/or dedicated personnel in the teaming agreement?			
Ph I - Will implementation of the proposed systems have a commercial impact on contractor's anticipated margin or profit due to licensing restrictions?			
Ph II - Are partnership or retention of patents, technology and consultant reports addressed?			
Ph II - Are potential partner's labor agreements current for trades?			
Ph II - Are survival obligations defined after the end of the project teaming agreement? i.e., warranties, latent defects, latent defect liability.			
Ph II - Are the labor agreements subject to re-negotiation during contract life?			
Ph II - Are we intending to use contractor's HR policies?			
Ph II - Can contractor receive indemnifications regarding use of potential partners' tools or work processes?			
Ph II - Describe those items which are not reimbursable to members of the teaming agreement like PMP personnel, administrative and clerical services, [Client] space, travel, entertainment, and payroll services or training.			
Ph II - Do contractor's license agreements allow for usage by the teaming agreement entity?			
Ph II - Do the labor agreements include "no strike" or "labor harmony" clauses?			
Ph II - Do we intend to use the contractor Change Management Process?			
Ph II - Does contractor desire to have one or parties sign the final (teaming agreement) project contract?			
Ph II - Does contractor want provisions within the teaming agreement to permit dissolution of the relationship at any time?			



EPC Master Checklist

Ph II - Does contractor want the right to litigate, arbitrate or claim against potential partner and vice versa?			
Ph II - Does contractor want to be the managing director?			
Ph II - Does contractor want to prepare the final marketing documents?			
Ph II - Does each potential partner have commitment from their senior/executive management, to the principles of the teaming agreement integrated management team, and are they demonstrating this commitment through their own actions?			
Ph II - Does establishment of a new legal entity create conflicts with exiting contractor entities?			
Ph II - Does establishment of the teaming agreement create a new legal entity?			
Ph II - Does teaming agreement comply with contractor's branding requirements?			
Ph II - Does teaming agreement have a Mission Statement and a set of common goals, agreed to by parties?			
Ph II - Does teaming agreement specify ownership, rights and disposition of intellectual property, installed to the teaming agreement or developed during the life of the teaming agreement?			
Ph II - Has a "seamless team" been developed?			
Ph II - Has a Business Risk assessment on the teaming agreement been completed?			
Ph II - Has a control management team been determined? Has a General Manager been appointed, with authority to bind the teaming agreement?			
Ph II - Has a date been established on which the agreement is to be executed?			
Ph II - Has a formal Approval Matrix been completed as part of the agreement?			
Ph II - Has a plan been developed or funds set aside for training and employee development? If so, which party will bear the cost of training?			
Ph II - Has an agreement or process for reaching agreement on issues related to operations of the entity, such as earning recognition and distribution, tax treatment and reporting, personnel compensation, etc. been established?			
Ph II - Has an approval matrix been established for teaming agreement financial decisions?			
Ph II - Has consideration been given to labor laws and potential employee severance payments?			
Ph II - Has contractor corporate given approval for teaming agreement employees to access company systems?			
Ph II - Has contractor finalized the process to determine how each potential partner takes responsibility for risks and for maintain both schedule and process performance guarantees?			
Ph II - Has each teaming agreement potential partner selected the management team members who have demonstrated flexibility and adaptability to working in an integrated team or teaming agreement structure?			
Ph II - Has payment of any fee to the controlling partner or sponsor been specified like a share of the profit, or a flat dollar sum?			
Ph II - Has the participation of the parties and the split percentage in which profits and losses are shared been established?			
Ph II - Has this expected trust been recognized in developing the alignment and execution plan?			
Ph II - Have items been defined which are to be considered as costs to the teaming agreement, for determining profit or loss.			
Ph II - Have parties in the teaming agreement agreed to sign necessary documents relating to the contract, bank loans, bonds, indemnity agreements etc.?			
Ph II - Have the elements requiring unanimous versus majority approval by the Managing Committee been defined?			
Ph II - Have the parties agreed to the method of distributing schedule and cost risks associated with Change Management ?			
Ph II - Have the required approvals been obtained for this agreement, per the approval matrix?			
Ph II - Have we defined the funds necessary to finance the work?			
Ph II - Have we established the split of equity funds, if applicable, to be installed by each party?			
Ph II - How does contractor desire equity ownership to be divided in the teaming agreement company between potential partners?			
Ph II - How will contractor be reimbursed for those proprietary systems?			
Ph II - If the joint operation decides not to bid, do we want to grant the right to our potential partner to proceed on its own or with a new party?			
Ph II - If using partner or project specific HR policies, do we have the necessary internal approvals?			
Ph II - In the event of a [Client] claim or lawsuit, are parties agreed on cost of defense distribution?			
Ph II - In the event of additional funding requirement, has an agreement been reached regarding which party will supply the additional funds?			
Ph II - In the event the bid is unsuccessful, what happens? Provide details of the consequences.			
Ph II - Is a plan in place to commit necessary personnel through the life of the teaming agreement?			
Ph II - Is a principal place of business for teaming agreement established?			
Ph II - Is a teaming agreement bank account required?			
Ph II - Is contractor intending to utilize their execution Procedures?			
Ph II - Is contractor the primary [Client] interface during the bidding?			



EPC Master Checklist

Ph II - Is it decided how the costs to pursue the project would be divided between parties?			
Ph II - Is it established as to which contractor programs or software will be shared/ installed?			
Ph II - Is Managing Partner entitled to a fee?			
Ph II - Is Phase I: Due Diligence checklist complete?			
Ph II - Is proper contractor entity identified, specifically as it applies to tax matters? Identify the entity.			
Ph II - Is scope split between parties clear?			
Ph II - Is there a clause regarding the confidentiality of trade information passed between the partners?			
Ph II - Is there a remedy for failure of any party to meet its obligations? i.e., forfeiture of profit, etc.			
Ph II - Is there agreement that any copies of the Proposal given to the Partners are controlled and excludes commercial and pricing information?			
Ph II - Was contractor able to find a potential partner that meets the desired criteria of the Teaming Arrangement (teaming agreement)			
Ph II - Which parties need to be signatory to the Bank Account?			
Ph II - Will contractor proprietary systems be used?			
Ph II - Will revenues and costs be accumulated in the teaming agreement Bank Account?			
Ph II - Will the [Client] be paying for or providing a stipend for bidding? If so, provide details as to how this money will be allocated?			
Ph II - Will the teaming agreement use contractor's accounting system?			
Ph III - Are regular communication and teambuilding sessions, or other joint events, being held to keep teaming agreement team members focused and engaged?			
Ph III - Are there notice clauses?			
Ph III - Do we have agreement on baseline for reference data and review process?			
Ph III - Do we have base quantification methodology for a given scope of work?			
Ph III - Do we intend to use contractor specifications?			
Ph III - Does contractor intend on using contractor procedures for work processes?			
Ph III - Does contractual structure between teaming agreement potential partners and [Client] allow for efficient, timely, and cost-effective management of changes and claims?			
Ph III - Does teaming agreement address the situation where equipment or assets are being supplied by one of the potential partners to the teaming agreement and that are not permanently incorporated into the work?			
Ph III - Has a common approach to estimating been established			
Ph III - Has a financial and periodic teaming agreement progress reporting procedure been implemented?			
Ph III - Has a project or teaming agreement Approval Matrix been established?			
Ph III - Has a regular Steering Committee meeting schedule been considered?			
Ph III - Has a risk assessment of the teaming agreement been completed/updated with accompanying mitigation plans for final agreement?			
Ph III - Has a teaming agreement bank account been established as well as the appointment of a chartered accountant and lawyer?			
Ph III - Has agreement been reached on a consistent set of working tools, such as IT systems and automation plan, via an agreed execution plan?			
Ph III - Has consideration been given to final performance (closeout reports) and financial statements for the teaming agreement? Will contractor Closeout Process be used?			
Ph III - Has the access into contractor's computing infrastructure been defined?			
Ph III - Has the acquisition of equipment and materials by the teaming agreement and the disposal of such equipment and material (either by sale, with the proceeds treated as ordinary revenues, or by distributing the funds to the co-ventures on a pro-rata basis) been established?			
Ph III - Has the Approval Matrix been verified to make sure the proper internal parties have approved the teaming agreement			
Ph III - Has the frequency of payouts been defined? Provide details			
Ph III - Has the possibility of the death, bankruptcy or insolvency of a member been handled?			
Ph III - Has the support for jobsite computing infrastructure been determined?			
Ph III - Have alignment and team building sessions been held at the start of each major phase of the project?			
Ph III - Have both the Phase I and Phase II portions of this checklist been completed?			
Ph III - Have clear and unambiguous roles and responsibilities of each participating party been established?			
Ph III - Have remedies or failure in the event of non-performance by parties been addressed?			
Ph III - Have restrictions been considered regarding assignment of potential partners undivided pro-rata interests in assets of the teaming agreement?			
Ph III - Have the network security processes and systems been defined.			
Ph III - Have the tax consequences of the teaming agreement structure been addressed?			
Ph III - Have trusting, personal relationships been established and cultivated between the key teaming agreement potential partners and with the [Client] personnel, to enhance collaboration, cooperation and resolution of challenging issues?			
Ph III - How will undivided pro-rata interests be held by the potential partners for			



EPC Master Checklist

assets of the teaming agreement?			
Ph III - If not contractor work processes, has an agreed set of work processes been developed which are the most effective ones for the project?			
Ph III - In the event of a disputed payment (by the [Client]), giving rise to partial payment, has allocation of the payment been defined?			
Ph III - In the event of a force majeure claim has the split of funds and schedule relief received from the [Client], if any, been defined?			
Ph III - In the event one party breaches its obligation under the agreement, do we have an acceptable remedy in the contract to protect contractor?			
Ph III - Is applicable jurisdiction of the Agreement acceptable to contractor?			
Ph III - Is contractor charging the teaming agreement at the standard external charge schedule rates, except to the extent they don't apply, due to licensing requirements?			
Ph III - Is it agreed which system will be used for email			
Ph III - Is project using contractor procedures for QA/QC processes ?			
Ph III - Is teaming agreement following the appropriate IT security policies so that Sarbanes-Oxley and other audit requirements are met?			
Ph III - Is technique / process defining how will contractor be reimbursed for IT capital purchases been established?			
Ph III - Is there a clause concerning indemnification that is acceptable to contractor?			
Ph III - Is there a common estimate software platform?			
Ph III - Is there a disputes arbitration clause?			
Ph III - Is there a maximum term of the teaming agreement operation (both pre and post-contract award)?			
Ph III - Is there a well-designed program of continuous team building in place, which has strong senior level commitment and is based upon professional leadership techniques?			
Ph III - Is there an anti-poaching agreement between the potential partners?			
Ph III - To date is teaming agreement issues being addressed promptly and within the agreed/established culture of the Teaming Arrangement?			
Ph III - Under the terms of the teaming agreement, has it been determined when and how the teaming agreement is terminated?			
Ph III - Was contractor able to incorporate of the desired criteria of the teaming agreement Memorandum of Understanding portion of the checklist?			
Ph III - Whose HSE standards are being used on the project?			
Ph III - Will contractor issue teaming agreement employee's Secure ID for remote access to computer systems?			
Ph III - Will the teaming agreement be acquiring their own assets (computers, servers etc)?			

Change Management (TOC)

Issue	Responsibility/Comments	Date	Complete
Are deviations from the project control base using the Change Management Process either from Design Development or Scope Change?			
Are contract changes managed per contractor Change Management procedures?			
Did the Change Management Process determine how to document, expedite, and implement project changes efficiently?			
Did you review the Change Management Process in Kickoff [Client] Review Meeting at the beginning of the project?			
Do you have the project FEL III/Conceptual Design and Estimate document?			
Do you know the project control base?			
Does Site Manager approve extra work associated with subcontractors? Does [Client]?			
Has the Project Manager confirmed project team member's primary and supports responsibilities and reviews with regard to the Change Management Process ?			
Have you determined the requirements for project changes and liability related to change type?			
Have you reviewed and verified understanding of [Client]'s RFP including the base scope of work, project budget and project schedule?			
Have you reviewed the financial terms related to project changes such as fixed rates, lump sums, T&M, etc. outline in the contract?			
Have you reviewed the Prime Contract Summary , specifically how it relates to change management?			
Have you secured and do you understand [Client]'s approval matrix for Change Order approval?			
Have you secured and do you understand the contractor approval matrix for Change Order approval?			
Is Change Management process being followed without exception?			
Is Change Management Process implemented? Are issues reconciled every 30 days?			
Is Change Management Process implemented? Are the levels of approvals set and understood?			
Is there a Change Management Process in effect?			
Is there modification needed to Change Management Form do to contractual or [Client] requirements?			

EPC Master Checklist

Civil (TOC)

Issue	Responsibility/Comments	Date	Complete
Are plant and highway movement restrictions defined?			
Are excavation permits required? Is there a procedure in place?			
Are new foundations separated adequately from existing units to minimize requirements for sheet piling or shoring during construction?			
Are procedures developed for monitoring the grading contractor?			
Can permanent fencing being used during construction for security purposes?			
Can project economics use geotechnical fabric, granular material, mud mats or lean concrete in the bottom of excavation?			
Do typical sections on detailed drawings show requirements for bedding materials for U/G utilities?			
Do we have a site water runoff disposal plan for construction?			
Do we have culvert schedule?			
Do we have different specifications for backfill compaction and maximum lifts for traffic areas versus non-traffic areas?			
Do we know what permanent roads and drainage can be used for good access and mobility during construction?			
Does plan layout gain the maximum use of mobile or self-propelled compaction equipment?			
Has a permanent survey control point been established and are survey control monuments accessible throughout the project?			
Has design been able to raise and slope plot elevation to facilitate drainage during construction and permanent facility design?			
Has the clearing and grubbing contract been issued?			
Has the project maximized the use of common excavation trenches for U/G piping, direct buried cable and duct banks?			
Has the project maximized the use of precast manholes, pull boxes and other miscellaneous concrete items?			
Have composite drawing of underground, temporary, new and existing been completed?			
Have erosion control requirements been identified to meet local codes, EPA and the Environment Plan requirements?			
Have excavations below the water table been minimized.			
Have galvanized corrugated or bitumastic coated pipe been considered for culverts?			
Have locations for construction water access been identified for use during site dirt work?			
Have minimum elevations for excavation been established?			
Have RFC drawings been received for site grading plans?			
Have the soils borrow pits and topsoil / spoil stockpile locations been identified prior to the civil contract bid.			
Have we considered installing pulling eye in bottom and sides of manholes			
Have we evaluated a plan to maximize mass excavation where possible?			
Have we minimized sheet piling?			
Have we received soils information?			
Have we received preliminary site plans?			
If a water table problem exists, have alternate foundation schemes been considered?			
Is Sitework "cut and fill" balanced?			
What drawings are issued for Fine grading?			
Who directs compacting requirements?			
Will design support the release of early paving for roads, where the base course is layed and used during construction?			
Will permanent fencing plan release support early construction for security purposes?			
Will project utilized thin base layer of asphalt in selected areas for foot traffic and laydown areas?			
Will the project utilize stone for walkways for building entrance and egress coupled with laydown areas?			

Civil - Caissons (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are rebar cages verified for size, length and grade of verticals and size and spacing of ties?			
Are we checking bottom of hole for cleanliness?			
Are we checking coordination of casing withdrawal where required?			
Are we documenting location, depth and diameter of hole?			
Are we observing placement of concrete?			
Are we observing the placement of steel?			
Are we recording water depths if water is encountered?			
Are we verifying clearance and dowel projections?			
Are we verifying straightness and plumbness?			
Are we verifying the approved method for handling water when holes are wet?			
Are we verifying the stability of material for caving?			
Does caisson require dewatering?			
Does drilling apparatus meet specifications?			

EPC Master Checklist

Is adequate head maintained during casing removal?			
Is agency inspection complete?			
Is any steel casing required?			
Is concrete overflow into simple hole – good concrete visible?			
Is concrete placed to proper elevation?			
Is concrete placed under slurry?			
Is concrete placed under water?			
Is concrete testing performed?			
Is concrete vibrated?			
Is dewatering effective?			
Is drilling apparatus verified as to meeting specifications?			
Is drilling slurry required?			
Is excavated material moved away from shaft?			
Is Free F concrete used?			
Is loose soil removed from bottom of shaft?			
Is material removed correlated with soils report?			
Is permanent steel casing required?			
Is PIG inserted in Tremie / Hose?			
Is reinforcing placed after concrete?			
Is reinforcing placed before concrete?			
Is reinforcing steel placed and secured?			
Is reinforcing steel placement re-verified?			
Is slurry removed by suction or pumping?			
Is temporary steel casing required?			
Is Tremie / Hose submerged 5" -7" in concrete under slurry?			
Is Tremie / Pump hose concrete used?			
Verify concrete test reports per specification?			
Verify rebar cages: size, length and grade of verticals and size and spacing of ties?			

Civil – Culverts and Road Crossing (TOC)

Issue	Responsibility/Comments	Date	Complete
Have the local and/or state regulations been complied with?			
Is agency inspection complete?			
Verify proper elevation?			
Verify that culvert material is proper and meets specifications?			
Verify that foundation, backfill, etc, are of proper material and compacted to requirements and specifications?			
Verify the completion of any corrective action?			

Civil – Drilled Piling (TOC)

Issue	Responsibility/Comments	Date	Complete
Are pile numbers documented?			
Are concrete/grout mix designs approved?			
Are correct reinforcing steel and casing materials installed?			
Are location coordinates correct?			
Are materials correct and onsite prior to drilling?			
Are shaft hole/bell dimensions and elevations within tolerances?			
Does daily record reflect the Bell diameter?			
Does daily record reflect the Bottom elevation?			
Does daily record reflect the Casing Shell length?			
Does daily record reflect the Casing Shell size?			
Does daily record reflect the Casing Shell top elevation?			
Does daily record reflect the cylinders taken?			
Does daily record reflect the Groundwater observations?			
Does daily record reflect the Pier location offset?			
Does daily record reflect the Quantity and Slump of concrete during installation?			
Does daily record reflect the Reinforcing steel description?			
Does daily record reflect the Shaft Diameter +/- 1/2"?			
Does daily record reflect the Specified Concrete strength?			
Does daily record reflect the Test results - Concrete Strength?			
Does daily record reflect the Top Elevation?			
Does daily record reflect the Truck number?			
Is bottom cleaned and repaired?			
Is casing removal approved?			
Is casing removal performed in accordance with specifications?			
Is concrete released for pour?			
Is deviation from vertical 1% of length maximum?			
Is elevation correct?			
Is last 5 ft. vibrated?			
Is layout of pile location verified?			
Is length correct?			
Is maximum drop 4 feet?			
Is nature and location of obstructions documented and/or on as built drawings?			
Is proper casing removal equipment used?			



EPC Master Checklist

Is proper drilling equipment approved and documented?			
Is shaft hole closed or covered at night?			
Is shaft hole satisfactory prior to placing reinforcing steel?			
Is soil compacted per specification?			
Is soil compacted per specification?			
Is temporary casing left in place for specified time prior to removal?			

Civil - Insulation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are spaces completely filled in walls and tightly stuffed to avoid settlement or allow air space?			
Are batts installed with flanges in position, with insulation material making firm butt contact and providing air space required? Fastening method is adequate per specification			
Are expansion provisions observed?			
Are fire-resistant adhesives installed where required?			
Are horizontal surfaces filled to required depth?			
Are joints staggered, per specification? Check for joints over flute openings in steel deck			
Are materials per specifications? (surfaces, treatment, ratings, sizes, thickness, etc)			
Are materials stored to prevent moisture infiltration? Verify requirements pertinent to moisture limits / installation.			
Are nails, when required, the proper type with sufficient holding power, and spaced per specification?			
Are runways used to support mechanical equipment where required?			
Are ventilation and airspace maintained per specification?			
Are wood nailers / stops installed on perimeters, eaves, etc., per specification?			
Have you verified air pressure on blowing machine is suitable to avoid excess fluffing?			
Is agency inspection complete?			
Is batt insulation of adequate width to fit between joists and studs and of thickness and facing required? R-value is per specification			
Is installation method over decking, under pavement vapor barrier, etc., per specification?			
Is insulation installed in conjunction with roofing felts when required? Observe turning up and sealing of insulation assembly			
Is insulation remaining dry until covered by roofing?			
Verify that reflective material is on correct side?			
Verify that fitting and cutting around outlets, devices, etc., is tight? Surfaces are not unduly torn and damaged.			

Civil – Soil Inspection (TOC)

Issue	Responsibility/Comments	Date	Complete
Is the fill material correct?			
Is compaction method correct with the right equipment?			
Is lift preparation according to specifications?			
Is lift thickness according to specifications?			
Is moisture control at the proper levels?			

Civil – Subgrades and Bases (TOC)

Issue	Responsibility/Comments	Date	Complete
Are drains, utilities, and other underground construction in place per specification?			
Are sub-base and base courses of source, type, thickness and material specified?			
Do materials delivered meet requirements and specifications?			
Is control testing of subgrade and subgrade materials being performed and documented?			
Is corrective action completed and verified?			
Is location of manholes, outlets, and surface features known, verified, and per specification?			
Is source of material sampled and approved by testing laboratory?			
Is subgrade inspected for ruts?			
Is subgrade is of proper density and properly compacted?			
Is subgrade to proper elevation and cross-section?			
Is trench backfilling performed, per specification?			

Closeout (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bills paid?			
Are contractual requirements for closeout been completed?			
Are material, equipment and tools disposed?			
Are project charges collected and accounted for?			
Are receivables paid?			

EPC Master Checklist

Are subcontracts closed out?			
Are vendor purchase orders closed out?			
Are any payments due from [Client] for previously submitted invoices?			
Are as builts completed and turned over to [Client]			
Are project records boxed for archiving?			
Are Project Records Vital?			
Are Record Documents Acceptable to [Client]?			
Are there any credits due [Client]? If Yes, explain.			
Are there any items in dispute for invoices previously submitted to [Client]? If yes, explain.			
Are you following the project execution plan and records retention master regarding document distribution?			
At Project Closeout are -insurance coverage's canceled as applicable? Reference Closeout Process in contractor procedures.			
Do record drawings require [client] review?			
Do we have a closeout plan?			
Has [Client] been invoiced for field billed reimbursable labor and materials?			
Has a demobilization plan been developed and implemented?			
Has final cash report been prepared?			
Has final input for Cost, Schedule, and Quality been put into historical database?			
Has Notice of Completion Letter gone to [Client]?			
Has project number been closed in accounting system?			
Has project site insurance coverage been canceled?			
Has the Letter of Acceptance been issued to [Client] for completion?			
Has the Project Completion Report been completed and issued?			
Has the Transfer Care, Custody, and Control Letter to [Client] been issued?			
Has the transfer of test records and other data been given to [Client].			
Have adjusting items in previous reconciliation been resolved?			
Have arrangements been made for unused checks return?			
Have bank service charges been listed on a cash report?			
Have final reconciliations been prepared for payroll, accounts payable and petty cash accounts?			
Have funds been requested from contractor or [Client] invoiced for final cash reports?			
Have imprest funds been returned to contractor or [Client]?			
Have the aged outstanding accounts payable checks been resolved with vendors?			
Have unclaimed wages been remitted to corporate accounting?			
Have we processed the final invoice?			
Have we received As Built drawings from subcontractors?			
Have we secured [Client] Review and Approval of Record Documents?			
Have you issued record documents to document control?			
If accounts remain open, have instructions been given on where to mail future statements and cancelled checks?			
Is material and/or equipment received, overages and shortages reconciled, and backcharges resolved?			
Is final cost report complete?			
Is final invoice paid?			
Is formal closeout change order issued?			
Is project completion report completed?			
Is project completion report format/outline completed and approved by [Client].			
Is Project Manager's Final Report issued?			
Is purchase order file complete and retained on project or sent to retention?			
Is release of personnel coordinated with HR?			
Verify the receipt of required data from vendor?			
Is there a surplus disposal plan developed?			

Closeout – Project Critique (TOC)

Issue	Responsibility/Comments	Date	Complete
Are project objectives clear and were they communicated to parties?			
Did [Client] have timely decision-making and scheduled reviews?			
Did [Client] represent unified direction?			
Did [Client] stick to decisions?			
Did joint ventures experience effective and proper participation?			
Did project utilize the Client Survey program ?			
Did technology work? Did [Client] understand and explain it?			
Did the project benefit from the continuity of personnel?			
Do we have inventory of physical property belonging to [Client]?			
How were project communications? Be specific.			
Was [Client] support - too little, too much, just right?			
Was basic data complete and needed quality?			
Was scope of services defined and then frozen?			
Was the responsiveness to contractor questions and request for information timely?			
Was working relationship between contractor and [Client] – smooth and businesslike?			
Were mill/plant preferences communicated on time?			
Were project flow sheets complete?			



EPC Master Checklist

Communications (TOC)

Issue	Responsibility/Comments	Date	Complete
Does project have a Community Relations plan developed and implemented?			
Does project have a contact list for local law enforcement?			
Have we investigated alternative means of communications such as pagers and cellular phones, where radio channels are limited?			
How will news releases be handled? Must [Client] approve them ?			
Is a Community Relations Program established? Alternatively, is one needed?			
Is there any sensitive material that should not have photographs taken?			
Who approves any press releases?			
Will video conferencing be used to converse between engineering and construction? Is it set up?			

Concrete (TOC)

Issue	Responsibility/Comments	Date	Complete
Are areas to receive concrete cleaned, wetted, or otherwise prepared per specification?			
Are control joints, construction joints, and expansion joints per specification?			
Are corrective actions complete?			
Are pertinent prints, drawings, specifications, codebooks, federal, state, and/or local regulations on hand and reviewed?			
Are requirements of concrete specifications met before delivery or placement of concrete; tests, bad design, ingredients, inspections, etc?			
Are additional bars, such as wall intersection bars, trim bars at opening, and corner bars, installed per specification?			
Are adjacent concrete surfaces roughened/cleaned?			
Are admixtures as approved?			
Are agency inspections complete?			
Are agency requirements met for design regarding sidewalks, curbs, gutters, aprons, etc?			
Are anchor bolts size correctly?			
Are arrangements for specified curing, sawed joints, and protection including cold weather protection per specification?			
Are bars placed in proper locations with proper spacing and clearances?			
Are beam and slab bars spliced properly?			
Are bends within radii required and accurately installed?			
Are bent tension members installed where approved?			
Are bolts and loose items embedded properly located and installed?			
Are clearances for anchor bolts and embedded items identified on drawings?			
Are concrete blankets and or heaters needed?			
Are concrete forms completely removed?			
Are concrete mix designs approved?			
Are conduits separated from other conduits and rebar per specification?			
Are contraction joints made within specified time interval?			
Are contracts obtained for the testing of concrete?			
Are corrective actions completed and verified?			
Are corrective actions completed before pouring?			
Are curing, timing, and methods per specification? Curing compounds are per specification.			
Are cylinders cast and stored and slump and other test performed per specification?			
Are design elevations determined?			
Are dowels installed for marginal bars at wall ends and openings, per specification?			
Are electrical items correct, inspected and tested?			
Are elevations verified?			
Are embedded items installed per specification?			
Are embedded items securely anchored in place and in proper location per drawings?			
Are embeds at correct elevations within proper location tolerance?			
Are embeds designed flush with face of concrete?			
Are extra turns installed at top and bottom of spiral columns as needed?			
Are field-cured cylinders required? Who's responsible for storage?			
Are final form adjustment procedures established?			
Are form cut-off and bulkheads in approved locations?			
Are forms and layout verified?			
Are forms properly cleaned and surface treated per specification?			
Are forms tapered and prepared per specification?			
Are grades, elevations, alignment from adjustment and supports being checked and verified during pouring?			
Are grouting requirements specified"			
Are ice requirements identified?			
Are joint methods and materials installed and observed?			
Are joint patterns formed per specification?			
Are joints cleaned and cured?			
Are joints sealed properly?			
Are joints, edges, and corners finished per specifications and requirements?			

EPC Master Checklist

Are lab tests and samples completed?			
Are layers kept to standards and do not exceed required lifts?			
Are location dimensions and grades per specification?			
Are methods for trowling per specification and requirements?			
Are methods in place to control slab curling?			
Are non-corrosive nails used to hold curtains?			
Are pipe penetrations verified?			
Are placing tolerances of reinforcing per specification?			
Are plans and specifications correct?			
Are pockets vented to prevent air entrapment?			
Are pour schedules and procedures approved?			
Are precast elevated slabs considered versus poured in place?			
Are pumps or standby pumps available?			
Are recessed areas checked for elevations?			
Are reinforcement spacers, ties, chairs and supports installed of type, size and finish specified?			
Are reinforcing steel ties correct?			
Are requirements for mixes, batching plant and mixing plant met and approved?			
Are saw joints properly aligned and of proper width and depth?			
Are screeds installed per specification? Are wood screeds removed, per specification?			
Are sign off procedures working?			
Are slump and compression tests being made per specification?			
Are specifications on hand for hot and cold weather concrete work when needed?			
Are stock lengths of rebar kept on site?			
Are Sub-base and capillary fills compacted and membrane provided and installed per specification?			
Are temporary form openings, Tremies, chutes, etc. provided as needed?			
Are testing specifications established?			
Are tests for drainage and surface variation made?			
Are the form surface treatment and pattern per specification?			
Are there concrete sealers required and locations defined? Are sealers compatible with floor finishes?			
Are there control joints in elevated slabs? Do you have criteria and assigned responsibility?			
Are unit rates established for extra work?			
Are vertical bars at wall ends installed inside horizontal bars?			
Are vibrators and stand-by vibrators readily available? Is frequency and amplitude checked?			
Are water stops required? If yes, what type?			
Are we able to standardize building bay dimensions?			
Are we following manufacturer's instructions for installation and storage of grouting materials?			
Are we maximizing concrete contraction joint sawing production, but using lightweight "Soft Cut" electric joint saw while the concrete is still green?			
Are weather conditions reported?			
Can water be added to concrete at site? If yes, who has to approve?			
Can we get early foundation sizes for pipe racks?			
Can we get early foundation sizes for pumps?			
Can we get early foundation sizes for structures?			
Can we get early foundation sizes miscellaneous supports?			
Can we include permanent plant roads and area paving near pipe ways and other heavily trafficked areas in Site Preparation package for early construction?			
Can we incorporate small foundations into slab-on-grade design?			
Can we issue anchor bolt lists early in project, especially where special alloy steel or hot-dipped galvanizing is required?			
Can we neat cut foundation concrete or must it be formed?			
Can we set one anchor bolt 2"+ high to act as a guide pin when setting large equipment?			
Can we use fiber mesh in concrete versus rebar?			
Can we utilize wire mesh for area paving reinforcing instead of rebar where design allows or fiber concrete?			
Do drawings show location of future floor toppings that require water curing?			
Do we have a system to track the shelf life of the grouting material?			
Do we have agency approval of forms and rebar prior to pour if required?			
Does base plate grouting require sign off before chamfering?			
Does batch plant have the ability to heat the aggregate and use hot water during the winter months?			
Does concrete design have flexibility with regard to slump and air content ranges?			
Does design provide adequate embeds in concrete surfaces for miscellaneous attachments?			
Does finishing provide evenness, smoothness; slope and levelness of surfaces are within tolerance indicated in specification?			
Does paving equipment meet requirements?			
Does project have documentation reflecting settlement readings at each interval?			
Has a Batch Plant Inspection been done?			
Has bearing capacity been verified?			



EPC Master Checklist

Has concrete been inspected for damage?			
Has concrete cured per engineering design?			
Has concrete repair been inspected and is satisfactory?			
Has hardening concrete been watered and remained wet for 24 hours minimum?			
Has material and equipment protection been verified before use?			
Has on onsite Batch Plant analysis been completed?			
Has project established baseline elevation readings?			
Has size, location and elevation of excavation been verified?			
Has the batch plant been checked for their scale certification, loading capabilities, delivery capabilities, etc? Reference the Quality Process for concrete.			
Has the considered used of drilled/epoxy or a drilled/mechanical system for small anchors less than 1" rather than cast-in-place anchor bolts.			
Has the project maximized the use of pre-cast concrete construction where cost and schedule savings are possible?			
Has trenching been verified?			
Have under slab items been installed? Who'll verify?			
Have anchor bolt locations been verified? How			
Have calculations been completed for elevated slabs with regard to use during equipment installation?			
Have circular foundations eliminated or minimized for ease of construction with standard forms?			
Have concrete forms been completely removed?			
Have concrete mix designs been approved and test made at least 30 days in advance to first pours?			
Have embedded items been inspected and installed per specification?			
Have inspection intervals been determined per [Client] requirements?			
Have we completed Investigation for cost comparisons for different types of deep foundations; i.e., caissons, H-piles, pipe, DeWaul, auger cast or precast concrete piles			
Have we considered using concrete maturity method of testing concrete in lieu of conventional cylinders?			
Have we designed foundations in congested Ares with bottom of concrete at same elevation and are able to use common footings?			
Have we dimensioned concrete foundations and structures to make maximum use of commercial form sizes?			
Have we eliminated or minimized haunches in the design of foundations and slab-on-grade?			
Have we established reference line to show that screeds are properly set and verified for proper deflection during pour?			
Have we evaluated the use of standard diameter concrete piers and pedestals instead of odd-sized rectangular shapes?			
Have we extended slab dimensions 4-inches when placing walls above to accommodate setting outside form on slab?			
Have we maximized our use of straight, flat, easily formed shapes and surfaces instead of offsets, tapered sections and other complicated concrete shapes?			
Have we maximized the use of foundation against earth, versus use of forms?			
Have we maximized the use of pre-cast manholes, pull boxes and other miscellaneous concrete items?			
Have we minimized the grades of rebar?			
Have we performed elevation verifications at required intervals?			
Have we reduced the number of reinforcing steel bars in concrete placements by using larger bar sizes and thus increasing the required spacing?			
Have we standardized anchor bolts to the maximum level possible?			
Have we utilized anchor bolt "sleeves" for equipment foundation anchor bolts?			
Have we utilized metal zip strips for bulkheads and eliminate wood forming for area paving joints?			
Have you verified that loading, traffic, etc., is controlled over surfaces to protect concrete?			
How are elevations checked for pours? Are they blue topped?			
How are embed locations verified?			
How are embeds controlled?			
How are quantities of concrete trucks verified?			
How are we verifying that formwork to be reused will meet requirements?			
How cold must the weather get before the Batch Plant cannot operate?			
How is concrete tested for allowable moisture prior to floor coverings/adhesives application?			
How is rebar fabricated and ordered?			
How is wire mesh for SOG supported?			
How will we verify the removal of any temporary spreaders?			
If conflict occurs between embedded items and reinforcing bars, are we reinforcing no cutting, bending or omission without approval?			
If welding is required on base plates, what are we doing to make sure there is no cracking?			
Is foundation engineering scheduled for early release, ahead of underground utilities that will eliminate free access?			
Is adjacent concrete surface free of water?			
Is age of concrete within specified time limit and delivery tickets contain proper information?			
Is agency inspection complete?			



EPC Master Checklist

Is anchor bolt location verified?			
Is anchorage proper and per specification?			
Is area investigated for existing underground utilities/sub structures prior to starting excavation?			
Is area investigated for existing underground utilities/substructures prior to starting excavation?			
Is backfill installation approved and released?			
Is backfill material in accordance with engineering design?			
Is backup placement equipment available? Where is it and how long it takes to mobilize?			
Is base course maintained per specification?			
Is bearing capacity verified?			
Is civil inspector signature required for placement?			
Is clearance of steel from earth and forms per specification?			
Is color, if required, of proper type, tone and amount?			
Is concrete cured per engineering design?			
Is concrete deposited, rodded, and vibrated to meet specifications?			
Is concrete design criteria developed and approved?			
Is concrete inspected for damage?			
Is concrete pour approval completed and applicable sections are signed off and approved?			
Is Concrete Pour Approval Record completed?			
Is concrete procedure developed?			
Is concrete repair satisfactory?			
Is concrete strength acceptable?			
Is conduit or piping placed below rebar mat in suspended slabs only when approved?			
Is conveying and depositing equipment capable of making placement without segregation, loss of ingredients, formation of air pockets, or cold joints?			
Is craft supervisor signature required for placement?			
Is cross bracing per specification?			
Is date and location of each pour documented?			
Is delivery of concrete and sequence of delivery scheduled to allow continuous placement to prevent cold joints?			
Is design mix approved?			
Is dry storage available for grouting material?			
Is excavation approved?			
Is excavation dewatered prior to installation of forms?			
Is field surveyor signature required for placement?			
Is finish on unformed surfaces verified to be in compliance to the specification? Verify that smooth, rubbed, broomed, non-slip, exposed aggregate, colored, etc.			
Is formwork inspected prior to placing concrete?			
Is formwork removed after concrete attains design strength?			
Is grade, slope, pitch and thickness control installed per specification?			
Is grout or bonding agent used for congested areas?			
Is gunite installed to specification and local codes?			
Is hardened concrete watered and kept wet for 24 hours minimum?			
Is jointing of old concrete to new work properly performed?			
Is lay down yard for rebar established?			
Is material and equipment protection verified?			
Is miscellaneous metals scope coordinated with the concrete documents?			
Is modified grout provided at first lift and/or where rebar congestion occurs? Is Grout Release Record completed?			
Is non-metallic grout required?			
Is rebar epoxy coated?			
Is rebar welded only with approval and then only with qualified welder? Rebar welding is performed in accordance with contractor welding procedures			
Is red concrete used on site?			
Is red dye required for electrical duct banks?			
Is reinforcement cleaned of loose or flaky rust or scale, dried concrete, oil, bond breaker, and other foreign material that might reduce bond? Are tags removed?			
Is reinforcement tied and supported per specification?			
Is reinforcing steel clearance adequate?			
Is reinforcing steel inspected per specification?			
Is reinforcing steel spacing correct?			
Is repairing of defective areas per the Concrete Repair Procedure ?			
Is size, location, elevation of excavation verified?			
Is splice lapping, length of splices, and staggering of splices installed per specification?			
Is steel installed in accordance with approved drawings and of sizes indicated? (Bar length, bar diameter, bar-to-bar spacing, etc.)			
Is temperature and weather protection provided for in contract price, are there any exceptions?			
Is testing arranged to be done at site?			
Is testing laboratory notified prior to pour?			
Is there a rain out plan during floor placement?			
Is there a summer concrete protection procedure developed?			
Is there a Winter concrete protection procedure developed?			



EPC Master Checklist

Is there any special hardeners involved and are locations defined?			
Is there special coating for concrete for high toxic areas?			
Is there super float construction? Who monitors and verifies measurements?			
Is time delay made for concrete in columns, piers, walls and openings to allow concrete to settle before placing concrete above them? Initial set is to be avoided. Timing and weather conditions are important.			
Is time interval between adding water to concrete and placement in final position documented?			
Is trenching verified?			
Is type of soil at bottom of excavation per soils report?			
Is underground piping installation inspected and tested?			
Is vibrations performed properly, using correct equipment, and forms are not damaged?			
Is waterproof paper or similar covers applied with sufficient lap, seal and adequately protected during curing period?			
Is waterproofing specification met?			
Special floor toppings, are special requirements defined?			
Verify curing provisions are per specification and work is properly protected?			
Verify embedded items, sleeves, dowels, and reinforcements are per specification			
Verify finishing treatment and texture is per specification?			
Verify forms are not removed until minimum required time after placement?			
Verify forms, headers, outlets, boxes and equipment in place and meet specifications?			
Verify grade and dimensions of steel on delivery? Ascertain that steel is identified, tagged and stored properly.			
Verify procedures and/or limitations concerning water at site?			
Verify rebar for excessive bending?			
Verify shoring locations and bearing?			
Verify that anchors, hanger wire, inserts, cans, bucks, etc., are per specification and within tolerance?			
Verify that chamber strips, nailer strips, chases and rustification strips are accurately placed, adequately aligned and fastened?			
Verify that completed formwork provides required structural conditions?			
Verify that concrete pour approval is completed and that applicable sections are signed off and approved?			
Verify that expansion, construction and contraction joints are as specified?			
Verify that filler is properly installed and fastened in expansion joints?			
Verify that forms are in alignment?			
Verify that forms installed for depressed slab areas, cutouts, curbs, etc are as specified			
Verify that forms provide for required features such as doors, windows, opening, etc. and are removable?			
Verify that foundation forms are deepened per specification for pipes, conduits, soft spots, etc.?			
Verify that free movement of expansion and contraction joints can occur, per specification?			
Verify that keys are installed in construction joints?			
Verify that mortar-tight condition prevails? (offsets and defects)			
Verify that scrap lumber, trash, mud, and loose items are removed from the inside of the formed area?			
Verify that sleeves for piping and conduit are per specification?			
Verify that trench ducts, boxes, cleanouts, flanges, etc. are set properly?			
Verify the number and location of cleanouts and parts?			
Verify type of form spacers, ties and bracing used?			
Was excavation de-watered prior to installation of forms?			
Was grout or bonding agent used for congested areas?			
What are limits of a single monolithic pour?			
What are rebaring tolerances, when installed?			
What arrangements are made for off-hours concrete needs? What type of notification is needed for batch plant?			
What grade of rebar is required?			
What rebar laps are required?			
What's batch plant production capability on a daily basis?			
What's cure time for each type of concrete?			
What's delivery time on concrete?			
What's live load usage approval cycle for elevated slabs?			
What's the methodology for rebar inspection?			
What's the methodology for verifying formwork?			
Where is bad concrete from the truck wash dumped?			
Who can order concrete?			
Who can reject or stop a pour?			
Who does concrete breaks and slump tests? How often?			
Who does test cubes for grout? How often are they done?			
Who lays out anchor bolt pattern? How are they verified?			
Who provides fill in stair pads and abrasive nosings?			
Who signs off on the pours prior to pouring?			
Who supplies equipment and housekeeping pads?			
Who supplies pipe sleeves/blockouts/utility openings?			



EPC Master Checklist

Who's responsible for misc. site concrete structures such as pedestals, flagpole base, light pole bases, etc?			
Who's sketching the required "cutback" at flanges for bolt removal?			
Will design be done early enough to allow concrete approach aprons at site entrance to be put in Site Preparation Package?			
Will precast wall panels or any other precast with the exception of elevated slabs be done on site or purchased off site?			
Will the project use a site batch plant or outside source?			

Constructability (TOC)

Issue	Responsibility/Comments	Date	Complete
Are [Client] and contractor committed to the cost effectiveness of the whole project? Do they realize the cost effectiveness of early project decisions?			
Are constructability reviews conducted and results documented?			
Are construction personnel brought on board early enough to have real impact on constructability?			
Are design elements standardized?			
Are lessons learned being documented?			
Are lessons learned reviewed at the start of each project phase?			
Are over project schedules construction driven?			
Are requirements defined?			
Are value creation programs specified in the project execution plan and implemented?			
Do open constructability and lessons learned items appear on the action list with specific due dates, and record of implementation or rejection?			
Do basic design approaches consider construction methods?			
Do site layouts promote efficient construction? However, not at the expense of operations and maintenance.			
Does management team use constructability as a major tool in meeting project objectives concerning cost and schedule?			
Does project have a constructability coordinator?			
Establish a constructability procedure for inclusion in project execution plans			
Has emphasis been placed on total project integration, not optimization of individual parts?			
Has management encouraged teamwork, creativity, new ideas, and new approaches?			
Has senior management's commitment to constructability been made?			
Has the project defined constructability goals?			
Is contracting strategy construction driven?			
Is contractor's Constructability Process used on the project?			
Is design team receptive to improving design through constructability?			
Is there a constructability timetable developed?			
Verify that constructability and value engineering issues have been incorporated and/or documented			
Was constructability considered and started from the outset of the project?			
What's the frequency of progress evaluation and results?			

Construction (TOC)

Issue	Responsibility/Comments	Date	Complete
Are employees provided orientation per contractor procedures before entering field site? Employee Orientation Template			
Are invoices approved by Project Manager and Site Manager prior to submitting for payment?			
Are operators certified per contractor Operator Certification procedure ?			
Are project procedures documented, approved and operating within contractor procedures concepts?			
Are project vehicles registered and licensed according to local and state laws?			
Are subcontractors complying with Project Safety Action Plan ?			
Are authorized requisitions used for labor requests?			
Are cleanliness requirements set?			
Are cranes inspected in accordance with contractor Safety Process?			
Are Critical Lift procedures followed without exception?			
Are drainage problems addressed during construction?			
Are duties for field personnel developed and reviewed by Project Management? Are they issued to field personnel?			
Are material status meetings conducted on regular basis?			
Are measurements developed and implemented to track quality initiatives?			
Are milestones verified for the job?			
Are models needed for any installation for construction? Who provides?			
Are monetary limits established by contractor Procurement procedures not exceeded?			
Are project control points established?			
Are routine safety reviews conducted by contractor Safety Department?			
Are Safety meetings held weekly by first line supervisors and documented?			
Are subcontract bid tabulations approved by Project Manager prior to award?			
Are subcontractor invoices verified by contracts Manager?			
Are temporary electrical needs developed? Who's responsible?			

EPC Master Checklist

Are test assemblies used on any of the equipment?			
Are the construction parking lot needs developed and laid out? Who's responsible?			
Are the project workhours defined? (Make sure you have definition for craft (regular and shift work), management coverage and staff.			
Are there any existing overhead obstructions such as wires or pipe? If so, how high above grade are they? Who's responsible to remove or relocate?			
Are vehicle transportation needs developed for field staff?			
Are we maximizing metal cutting productivity by using lightweight portable add-on plasma cutting machine in lieu of oxy-acetylene cutting?			
Are we maximizing thin wall tubing installation productivity for highly repetitive joints, by using autogenously orbital welding equipment?			
Are we maximizing use of cranes, by using cranes with load movement indicators and "dial in" spotting capabilities?			
Are we maximizing use of stackable welding machines accompanied by permanently installed welding outlets?			
Are we minimizing motor vehicle use on the site for transport of supervision, tools and light materials?			
Are we minimizing pipe and tubing weld preparation by using hand-held air-operated high speed milling tools?			
Are we minimizing the separation between welding and weld source by using portable electric inverter welding machines that can be taken directly to the point of work?			
Are we minimizing the use of engine-driven welding machines?			
Are we performing Constructability reviews on design installation details to review bulk materials are covered on material lists?			
Are we providing ample computers to track material in the field?			
Are we using electric drinking fountains and bottled water fountains as early and plentiful as possible?			
Are we using twist lock plugs for small tools and extension cords?			
Are we using vacuum blasting techniques that recycle grit in a closed system to minimize disruption of adjoining work in sandblasting?			
Are weekly schedule meetings held and are field staff attending?			
Are welding certificates required?			
Do construction power tools have lock-on button removed?			
Do the demolition drawings indicate instruments that will be reused?			
Do the subcontractors perform and document safety training per stated regulations?			
Do we have a complete Clean Protocol procedure in place? Is it approved and transmitted to [Client] and subcontractors?			
Do we have a fuel plan?			
Do we have a hazardous waste disposal plan?			
Do we have an ice-furnishing program developed?			
Do we have fire watch personnel?			
Do we have local weather bureau data for the past two years?			
Do we have operational guidelines and site-specific work rules established?			
Does Construction Manager have Field Staffing Plan?			
Does design schedule support early development of a Master Rigging Plan?			
Does project have a consumable supply replenishing stock plan for items such as saw blades, files, welding rod, etc)			
Has construction defined the needs and timing for Vendor representatives?			
Has the project completed a personnel skills assessment and availability matrix?			
Has the subcontract plan been finalized and approved by construction?			
Have construction procedures been reviewed and issued per contractor's Construction Process ?			
Have rigging plans been developed by a rigging engineer for each piece of equipment that is considered a major lift?			
Have we developed a plan to protect electrical work on skids? Historically there is damage and rework needed?			
Have we developed a temporary water removal and drainage plan during construction?			
Have we developed an access to remove and replace critical equipment plan?			
Have we established a program to update As-Built P&IDs to show field conditions?			
Have we identified and ordered any special installation tools that are needed?			
Have we specified the laser survey equipment for elevations and centerlines?			
How are we preventing cross contamination of materials?			
How far in advance are shutdowns requested? Are request procedures in place?			
How often are punchlists updated and what format is used? Who's responsible?			
How often will construction coordination meetings be held and who are required participants?			
How will overtime be approved?			
If this is an existing facility, are there additional procedures needed during hours of operation?			
If this is an existing plant, are the boundaries and reference monuments available?			
If this is an existing plant, are there any known underground obstructions? If so, who will remove and are they properly marked?			
If this is an existing plant, what condition are existing access roads? Will they hold up during construction?			
Is project reporting defined for content and timing?			
Is a management representative required on site when work is performed?			
Is a report published showing Scheduled vs. Actual for Field Staff, Construction Labor			



EPC Master Checklist

and Equipment?			
Is clean up responsibility assigned for project?			
Is construction engineering keeping accurate "As Built" dimensions and coordinates of installed underground piping and components?			
Is construction following the Project Execution Plan , without exception?			
Is construction using welding permits in instances?			
Is equipment cleaned, fueled and maintained prior to return?			
Is equipment properly maintained and records kept?			
Is equipment tracking system being used?			
Is Equipment Yard notified of Project completion date and mobilization?			
Is field mobilization date approved in writing by operations management?			
Is field organizational chart completed?			
Is Foreman/General Foreman daily work plan used per Construction procedures?			
Is it determined whether any demolition to existing structures is required? If so, who does demolition?			
Is plan for flushing and testing each required system complete?			
Is project basing selection of construction equipment on versatility, ease of maintenance and simplicity of operation?			
Is project checking with engineering before welding on any machined surface?			
Is project going to use mock-ups to help set installation expectations? If using, are in place mock-ups acceptable?			
Is project minimizing the use of hand rigging and "bull-rigging" in installing upper level process equipment?			
Is project using interlocking "Unimats" or similar system to "stabilize" and/or protect heavy lift haul roads.			
Is quantity for field radios developed? Who'll control?			
Is rework measured and coordinated by Quality Manager?			
Is Site-specific Training Plan developed?			
Is there a dust control procedure developed and issued? Who's responsible?			
Is there a plan implemented for the collection and removal of scrapped material, rubbish, waste, etc?			
Is there a purchase requisition for equipment obtained from equipment yard?			
Is there a Safety Program for small tools in place?			
Is there a snow removal plan?			
Is there adequate space for staging items pre-assembled at site such as stacks and platforms?			
Is there an employee trained in multimedia first aid and CPR on the jobsite?			
Is there any item or characteristic of the surrounding property that may create an unusual construction problem?			
Was a Project Field Kick-Off Meeting held prior to mobilization?			
What are normal shut down durations?			
What are the general meteorological conditions in the area?			
What are the hours for lunchtime for the field staff?			
What hard hat identification system is used?			
When access roads need rework, which is responsible for the rework?			
When is rainy season? What months? Same with snow if applicable?			
Where are the nearest borrow pits?			
Where does contractor dispose of burnable trash, scrap lumber, water paper, etc.?			
Where does contractor dispose of unburnable trash? Is it up to contractor or [Client] to get Dumpster plan?			
Where environmental regulations are in effect, is Health and Safety Plan approved per contractor procedures?			
Where is excess dirt hauled for disposal?			
Who provides materials testing?			
Who provides surveying for the project?			
Who'll furnish construction access roads?			
Who'll maintain construction access roads?			
Who's responsible for safety tour after working hours?			
Who's responsible for weather reporting? How will it be done?			
Will any special welding and burning permits be used after a system is turned over to [Client]?			
Will code authorities conduct on site inspections? How often will they happen? Who has the responsibility for each discipline?			
Will design look at modules/skids/equipment to review project specific requirements, develop rigging plans and confirm/advise on structural design for the most effective and safest rigging possible?			
Will project be Union?			
Will the project be Merit shop?			
Will the project computers transfer to [Client] operations or maintenance?			
Will the project packaged air compressors transfer to [Client] operations or maintenance?			
Will the project portable power tools transfer to [Client] operations or maintenance?			
Will the project require labor transportation, either within or external to the site?			
Will the project shop equipment transfer to [Client] operations or maintenance?			
Will the project two-way radios and cell phones transfer to [Client] operations or maintenance?			
Will the project use a central cleanup crew to make certain project is clean?			



EPC Master Checklist

Will there be a detail work list developed from weekday to weekend shift work? When is transition meeting held?			
Will we use the same supervision on the weekends as during the week?			

Construction Equipment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are alarms in working condition?			
Are belts in working condition?			
Are blades in working condition?			
Are boom inserts in good shape?			
Are boom sheaves in good condition?			
Are brakes in fully functional condition?			
Are cables free of fraying or cuts?			
Are filters clean?			
Are fluid levels proper?			
Are horns in working condition?			
Are hydraulic fluid levels correct?			
Are ladders intact with no rungs damaged?			
Are mechanical devices in working condition?			
Are pads functional?			
Are rollers functional?			
Are sprockets fully functional with no teeth missing?			
Are swing brakes fully functional?			
Are tires inflated to proper levels and tires are above minimum wear levels?			
Do we have an equipment schedule developed?			
Do you have the right fire extinguishers in the correct locations?			
Does [Client] have vehicles that can be used, in lieu of lease or purchase?			
Does headache b show any signs of breakage?			
Does Lessor's identification show?			
Does project have a lease / buy program on construction equipment?			
Have you taken pictures of any dents and metalwork?			
Is a list of project vehicles that can leave the project developed and approved?			
Is boom fully functional?			
Is cleanliness of the equipment acceptable?			
Is glass clear of cracks and defects?			
Is hook block in full functional working conditions?			
Is paint damaged?			
Is project performing overhead crane inspections?			
Who handles the over coordination of Construction Equipment?			
Who provides computers on the project?			
Who provides copying machines on the project?			
Who provides fax machines on the project?			
Who provides phones on the project?			
Will project use contractor's equipment or 3 rd party?			
Will project vehicles be leased or purchased?			

Construction Equipment - Cranes (TOC)

Issue	Responsibility/Comments	Date	Complete
Are boom and jib automatic stops functional?			
Are boom and jib bent lattices or cords functional?			
Are boom and jib pendent lines functional?			
Are boom and jib sheaves functional?			
Are brake drums in full working condition?			
Are brakes and clutches in full working order?			
Are cab gauges and warning lights fully functional?			
Are cab lights fully functional?			
Are cab mirrors intact with no cracks or encumbrances?			
Are cab operations aids anti two block in console fully functional?			
Are cab windshield wipers functional?			
Are control mechanisms clear of maladjustment?			
Are drum locking devices / dogs fully functional?			
Are emergency batteries fully charged and taking charge?			
Are engine belts in good shape? (no cracks or tears)			
Are engineer fluids at their proper levels?			
Are hook, block and b latches fully working?			
Are hooks, block and b sockets functional?			
Are hydraulic system filters clean?			
Are hydraulic system hoses and connections showing NO signs of leakage?			
Are safety devices clean?			
Are safety devices, Anti Two Block / LMI Components in working conditions?			
Are tires and tracks in functioning shape with unnecessary wear?			
Are wire rope connections good?			
Do any of the hooks, blocks or b show signs of cracking?			
Do Control Mechanisms have Excessive Wear?			

EPC Master Checklist

Do drums have a minimum 3 wraps of rope?			
Do hooks, blocks or b show signs of excessive wear?			
Does cab have required number of extinguishers?			
Does electrical apparatus show excessive deterioration?			
Is boom and jib angle indicator functional?			
Is boom and jib limiting device functional?			
Is cab bubble level fully functional?			
Is cab glass intact - no cracks?			
Is cab signal horn functional?			
Is engine air filter clean?			
Is engineer air system and pressure fully functional?			
Is hydraulic system oil at proper level?			
Is overhead crane travel warning device operable?			
Is there a fully readable cab load chart?			
Is there any electrical apparatus malfunctioning?			
Is vent for hooks, block and b fully functional?			
Is wire rope in good condition - no damage?			
Is wire rope reeving fully functional?			

Construction Equipment - Motorized (TOC)

Issue	Responsibility/Comments	Date	Complete
Are braking system linings in good shape?			
Are braking system parts fully functional?			
Are controls and gauges functional?			
Are engine batteries fully charged and accepting charge?			
Are engine belts in good shape with no cracks or tears?			
Are engine fluids at their proper levels?			
Are hold handle and guardrail at catwalks intact and fully functional?			
Are non-slip surfaces on running boards intact?			
Are rotating belts, gears, shafts, etc fully functional with no excess wear?			
Does braking system show excessive wear?			
Is engine air filter clean?			
Is engineer air system and pressure fully functional?			
Is glass free of cracks and wipers fully functional?			
Is guard on exhaust pipes and muffler fully functional, no exception?			
Is reverse signal alarm fully functional?			
Is rollover protection fully functional, no exceptions?			
Is seat belt fully functional?			
Is signal horn functional?			

Construction Equipment - Overhead Crane (TOC)

Issue	Responsibility/Comments	Date	Complete
Are brakes operational?			
Are lever type controllers completely functional?			
Are safety guards in place and approved by safety department?			
Are walks / ladders / and handrails intact and fully functional?			
Is bridge travel safe and what is required?			
Is crane properly marked?			
Is electrical disconnect functional?			
Is general appearance good?			
Is hoist travel functional and per requirement?			
Is hook safety latch functional?			
Is limit switch functional?			
Is lower block and hook functional?			
Is pushbutton properly supported?			
Is pushbutton station operational?			
Is remote and or radio operational?			
Is start / stop button operational?			
Is trolley travel per requirement?			
Is wire rope reeving operational?			
Verify there are no loose parts?			

Construction Equipment – Pre-Lift Rigging – Hand Rigging, Including Air Tugger (TOC)

Issue	Responsibility/Comments	Date	Complete
Do you have a designated flag person?			
Has the hoist been inspected today?			
Have the hoist attachment been inspected today?			
Is rigging pad eye welding verified?			
Was a Pre-Lift Meeting held with rigging crew?			
What are number of parts on air tugger being used?			

EPC Master Checklist

What are shackle, type, size and capacity?			
What are slings, type, size and capacity?			
What are tag lines – diameter, length and location?			
What's cable size and type on air tugger?			
What's the capacity of hoist attachment being used?			
What's the capacity of rigging attachment point?			
What's the number of the sketch of rigging attachment point?			
What's the number of the sketch of rigging attachment point?			
What's the safety margin?			
What's the weight of rigging below attachment point?			
What's the weight of the lift?			
Will communication be by hand or radio?			

Construction Equipment – Pre-Lift Rigging – Mobile Crane (TOC)

Issue	Responsibility/Comments	Date	Complete
Are potential hazards discussed?			
Is crane stable and level?			
Is there a designated flag person?			
Was a pre-lift meeting with rigging crew and operator held?			
What are number of parts on hoist block?			
What are shackle, type, size and capacity?			
What are slings, type, size and capacity?			
What are tag lines – diameter, length and location?			
What's boom point elevation and length?			
What's capacity of crane at lift radius?			
What's operating radius in feet?			
What's the lift point and elevation of lift?			
What's the safety margin?			
What's the weight of crane components below and past boom point?			
What's the weight of the rigging?			
What's weight of lift (live load)?			
Will communications be by hand or radio?			

Construction Equipment – Pre-Lift Rigging – Overhead Crane (TOC)

Issue	Responsibility/Comments	Date	Complete
Do you have a designated flag person?			
Was a Pre-Lift Meeting held with rigging crew?			
What are tag lines – diameter, length and location?			
What's object to be lifted?			
What's safety margin?			
What's shackle type and capacity?			
What's sling type and capacity?			
What's the angle of the sling?			
What's the capacity of the crane?			
What's Trolley 1 Capacity?			
What's Trolley 2 Capacity?			
What's Trolley 3 Capacity?			
What's weight of rigging?			
Will communication be by hand or radio?			

Construction Equipment - Safety (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adequate Class B fire extinguishers installed on the equipment charged and ready for use, suitably placed, and distinctly marked, and is accessibility to them is not obstructed?			
Are adequate guardrails installed around the skips of pavers, concrete mixers, and similar equipment?			
Are anti-two block devices operating properly?			
Are any of the structural members bent or rusted, or do they otherwise show signs of damage?			
Are belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains or other reciprocating or rotating parts adequately guarded?			
Are brakes on wheeled equipment in good operating condition?			
Are drums, sheaves, sheave pins and pulleys smooth and free of defects?			
Are dump bodies installed with hinged struts or other suitable devices for locking body in raised position?			
Are exhausts and discharges so directed as not to endanger workmen or obstruct view of operator?			
Are fuel tanks located so that spills or overflows are not exposed to engine, exhaust, or electrical equipment?			
Are fueling cans used with this equipment approved type safety cans?			
Are hooks, shackles, rings, pad eyes and other fittings in good condition?			
Are hot pipes and surfaces exposed to accidental contact suitably guarded or			

EPC Master Checklist

insulated?			
Are motor vehicles equipped with a speedometer, a fuel gauge, and an adequate audible warning device?			
Are motor vehicles equipped with directional signal lights both front and rear?			
Are motor vehicles equipped with two headlights: one on each side, one red taillight and one red or amber stop light for operation between sunset and sunrise when applicable?			
Are operator's vision and hearing good?			
Are operators experienced and able to read and understand signs, notices, and operating instructions and signal codes to be used?			
Are performance test being administered for lifting and hoisting equipment prior to usage?			
Are platforms, catwalks, steps, handholds, guardrails and toeboards installed to assure safe footing and access ways?			
Are positive stops or limited devices installed for equipment operated on rails?			
Are required rollover protection and seat belts installed on tractors, self-propelled pneumatic tired earthmovers, tank trucks and similar equipment?			
Are running boards and steps of vehicles installed with non-slip surfaces?			
Are running lines of hoisting equipment exposed to hazardous contact adequately guarded?			
Are sections of the boom constructed of the same size structural members?			
Are tailgate-dumping devices so arranged that operator is in the clear while dumping load?			
Are towing devices structurally adequate and properly mounted?			
Are traveling rail mounted gantry cranes equipped with dogs, pawls or other positive locking devices?			
Are windshields on equipment installed with windshield wipers in operating condition?			
Are wire rope sockets, splices, thimbles and clips adequate and properly applied?			
Are wire ropes or cables in good operating condition?			
Do modifications, extensions, replacement parts and/or repairs to equipment maintain the minimum factor of safety as the originally designed equipment			
Do self-propelled pieces of construction equipment have a reverse signal alarm that operates automatically when the vehicle moves in reverse and gives suitable audible sound alarm for the conditions and circumstances under which the equipment is operated?			
Do points requiring lubrication during operation have such fittings located or guarded in such a manner that personnel servicing the equipment are protected from injury?			
Does operator have a heart condition, epilepsy or other ailment detrimental to safe operations of the equipment?			
Does operator have any physical or emotional limitations?			
If equipment is operated on airfield landing areas, is it equipped with proper flags?			
If equipment is operated on highways, is it equipped with turn signals?			
Is a safe-load-capacity chart for various boom radii posted in the cab of the crane? Is this chart applicable to present boom length, counter weight, etc?			
Is adequate protection for operator installed against the elements, falling or flying objects, swinging loads, backlash of winch cables and similar hazards?			
Is crane equipped with shock-absorbing type boom stop?			
Is emergency brake system on heavy-duty haulage equipment capable of automatically stopping equipment upon failure in service brake system? Can system be manually operated from drivers position?			
Is engine equipped with power operated starting device in operative condition?			
Is glass in windshields, windows and door safety glass?			
Is of the glass installed in the operator's compartment safety glass?			

Contract (TOC)

Issue	Responsibility/Comments	Date	Complete
Are [Client]'s requirements for project completion outlined in the contract and understood?			
Are any bank guarantees required by [Client]?			
Are bank guarantees going to be used for subcontractors versus retention? Are amounts predetermined by [Client]?			
Are bonus or penalty clauses understood by [Client], subcontractors and contractor?			
Are confidential drawings and documents returned to [Client] in accordance with Corporate Confidentiality Agreement and Individual Confidentiality Agreement ?			
Are employees required to sign any special documentation regarding the project or its intellectual property?			
Are formalized Corrective Action Plans required?			
Are incentive, penalty and guarantee plans updated?			
Are legal fees reimbursable, specifically for labor relations concerns?			
Are Off Shore Manufacturing Bonds required?			
Are Payment and Performance bonds required of contractor?			
Are Payment and Performance bonds required of subcontractors?			
Are prime contract amendments reviewed and approved by the legal department?			
Are subcontractors to bid with and without insurance coverage is OCIP or OCIP are being used?			
Are there any Design Performance Standard Requirements, other than the ordinary			

EPC Master Checklist

Are there any exceptions to the site listed in the contract?			
Are there any restrictions with regard to project access?			
Are there any retention limits that contractor must adhere to with subcontractors, vendors, or Consultants?			
Are there any special areas of the contract that need to be listed and reviewed, by team and by team and [Client]? Reference the Prime Contract Summary in contractor procedures.			
Are there any special terms for billing Change Orders?			
Are there any specific requirements out of the ordinary contractor must provide with design services.			
Are there bonus or penalty clauses in the contract?			
Are there incentives?			
Are there liquidated damages? How much and what is maximum liability?			
Are there specific cleanup requirements?			
Are there specific dates that [Client] is to provide certain pieces of information, approvals, equipment, and or other list?			
Are there specific testing and inspection requirements by the [Client]?			
Are there wage scales for craft and professional personnel?			
Can [Client] accept non-conforming work?			
Can [Client] dictate subcontractors or vendors that have to be used, other than those that have a specified single source product?			
Can [Client] or 3rd Party Inspectors order work stoppage?			
Can contractor charge interest for bills not paid per the agreement?			
Can contractor issue partial packages for construction or procurement?			
Can contractor terminate the project for Cause?			
Can contractor terminate the project for convenience?			
Can drawings for construction be released prior to approval of submittals?			
Do overtime premiums need to be approved prior to spending?			
Do we have a capsulated version of the contract for daily understanding and is it distributed to staff? Reference the Prime Contract Summary in contractor procedures.			
Do we have a complete listing of what is to be transferred to [Client]?			
Does [Client] have a required time limit to review, comment and or approve submittals?			
Does [Client] have a time requirement to contractor for the discovery of latent defects?			
Does [Client] have right to change sequence of project?			
Does [Client] pay for the scoping and pricing of a [Client] generated change?			
Does [Client]'s approval relieve contractor of any liability?			
Does acceptance of the final payment - Waive rights to claims for contractor?			
Does contract c for liquidated damages? If so, is there an absolute cap on any such damages, approved by contractor management?			
Does contract clearly spell out [Client]'s responsibilities and timing for approvals for aspects of the project?			
Does contract clearly spell out [Client]'s responsibilities for supplying design criteria, timely?			
Does contract contain a Frivolous Claim clause? Give particulars.			
Does contract contain a general exclusive remedies clause? At a minimum, contracts must state that remedies in connection with warranty and liquidated damages are sole and exclusive remedies.			
Does contract contain a general exclusive remedies clause? At minimum that remedies in connection with warranty and LD's are sole and exclusive			
Does contract contain a limitation of liability? If so, then is that limited to an amount no greater than our stated profit?			
Does contract contain a provision-owing contractor to suspend or terminate work for non-payment by the [Client]?			
Does contract contain a time-is-of-the-essence clause? If so, is it limited to only the substantial completion date?			
Does contract contain an explicit waiver of consequential damages in favor of contractor?			
Does contract contain an express limit on the warranty limiting the period to 12 months?			
Does contract contain an express limit on the warranty limiting the period to 12 months? Are there statutory requirements after the 12 months?			
Does contract contain any limitation on our business?			
Does contract contain specific labor provisions?			
Does contract contain specific labor provisions? These are usual events on government sponsored projects			
Does contract indemnity provision limit the contractor's indemnity to claims of third parties for personal injury and property damage and only to the extent caused by the negligence of contractor?			
Does contract insurance provision require that the [Client] be named as an additional insured?			
Does contract limit our subcontracting activities? (Customer pre-approval, etc.			
Does contract provide a guaranty or warranty of any process, product quality, or specific output?			
Does contract provide for construction or maintenance work to be performed at the site of [Client]?			
Does contract provide for retention by [Client] from payments? If so, then does the			



EPC Master Checklist

contract allow the contractor to post a bond or letter of credit in lieu of retention? If			
Does contract provide that in the event of a disputed invoice, the contractor shall be paid the undisputed portion?			
Does contract require payment in 30 days?			
Does contract state the full legal name of the correct contractor company?			
Does contractor have a penalty situation in the case of labor stoppage or dispute?			
Does contractor lose its rights to change if they do not follow strict timing requirements for formal notification?			
Does Force Majeure clause exclude any specific issues?			
Does this contract have a parental guarantee?			
Has [Client] been provided with data and documentation per specification by the contract?			
Has contractor signed a "confidentiality agreement"?			
Has legal, [Client] and contractor, reviewed project documents which are used for the project?			
Has the Prime Contract Summary been completed?			
Has the project manager and construction manager reviewed contract prior to entry into field?			
Has there been a contract review meeting scheduled for everyone?			
How are costs handled for exceeding statutory requirements?			
How are fee increases or decreases handled?			
How are liquidated damages accessed?			
How does the contract address the ramifications of premature plant takeover by [Client] before contractual care, custody and control transfer?			
How is contractor to be paid - via check or wire transfer?			
How long does project manager have to settle claims?			
How many sets of drawings is contractor to provide [Client]?			
How will "in absence" of key managers be addressed, especially with regard to approval authority, contractor and [Client]?			
If an incentive program is in place, have we determined measurement criteria?			
If any damage occurs on the project, under what circumstances is contractor financially responsible.			
If contract is design only, does remedy clause c for re-performance of design work only.			
If the change is a "credit" change, are there any special requirements?			
If the contract is lump sum or guaranteed maximum price, then is there pricing adjustment for varying site conditions?			
If the Work is in Florida or is in a coastal area of other states, then is [Client] carrying builder's risk or otherwise assuming the builder's risk deductible?			
If there is a dispute over the price or time duration for a Change Order claim, must contractor continue to work?			
Is [Client] required to assume risk of loss to existing facilities and to the completed Work?			
Is [Client] required to assume risk of loss to existing facilities and to the completed Work?			
Is a Hypo Tax required for the project?			
Is agreement only ratified with formal change request?			
Is any special paperwork required prior to gaining site access?			
Is contract clear on how [Client] controlled contractors are administered?			
Is contract fixed as to cost or schedule?			
Is contractor acting as the agent for the [Client], regarding Procurement?			
Is contractor being paid in US \$'s? If not, what currency?			
Is contractor expected to administer the Warranty?			
Is contractor required to bond around subcontractor or Vendor claims?			
Is prime contract document maintained in project files?			
Is prime contract finalized and signed?			
Is prime contract summary distributed to site leadership?			
Is prime contract summary updated?			
Is project to follow Foreign Corrupt Practices Act?			
Is retention being held on contractor billings?			
Is scope of work understood by?			
Is there a "key personnel" clause in the contract? Who are those people?			
Is there a specific procedure for Warranties developed as part of the contract?			
Is there an explicit waiver of consequential damages in the contract in favor of contractor?			
Is there any limitation to either party's liability regarding any of the insurances or indemnifications?			
Is this contract solely for engineering or design services?			
Once inspected and approved by [Client] or [Client]'s representative, does this relieve contractor in anyway?			
Should Vendor warranties not agree with warranty guaranteed by contractor, what is acceptable solution?			
What approval is necessary to use the project or any of its information in publicity for contractor?			
What are [Client] guidelines for use of Foreign Guarantors?			
What are [Client] requirements for scheduling tie-ins to existing plant?			
What are [Client] requirements of project closeout?			



EPC Master Checklist

What are [Client]'s requirements upon completion of the project?			
What are [Client]'s Audit Rights?			
What are [Client]'s requirements for personnel departures?			
What are [Client]'s requirements for the protection of Proprietary Information?			
What are [Client]'s requirements regarding Alcohol and Drug-Free workplace directive?			
What are [Client]'s requirements with regard to Confidential Information?			
What are [Client]'s rights to Backcharge?			
What are [Client]'s rights with regard to acceleration?			
What are [Client]'s rights with regard to Carrying out the Work?			
What are [Client]'s rights with regard to stopping the Work?			
What are [Client]'s rules of Compliance with Code of Conduct?			
What are as-built drawing requirements?			
What are change orders requisites?			
What are contractor payment terms to [Client]?			
What are criteria for design reviews? Is there specific timing?			
What are excusable delays?			
What are formal notification requirements on the project?			
What are guidelines for US Export Laws?			
What are guidelines regarding using "used equipment and materials"?			
What are insurance requirements on the project from contractor?			
What are notification time requirements for default?			
What are payment terms to contractor?			
What are project record retention requirements?			
What are reimbursable costs?			
What are requirements for final billing?			
What are special tax considerations on the project?			
What are specific time requirements with regard to change orders?			
What are the provisions for changes and rate schedules and when are they applicable?			
What are the reasons for contractor defaulting?			
What costs are considered non-allowable?			
What costs require [Client]'s pre-approval			
What documentation is required to be maintained at the site?			
What documentation is required to support contractor billings?			
What documents are considered proprietary?			
What documents form the entire agreement?			
What does [Client] require with regard to Shop Drawings, Product Data and Samples?			
What escalation provisions are there in the contract?			
What governs between drawings and specifications?			
What makes up contract documents?			
What markups are owed for Labor?			
What needs to be returned to the [Client] at the end of the project?			
What notification period required by [Client] for inspection			
What permits, fees, special licenses and inspection fees are contractor liable for?			
What rights does contractor have if errors or omissions are found on [Client] provided material or equipment?			
What rights to subcontractors, vendors and consultants have with regard to settlements between [Client] and contractor?			
What the requirements are of redline drawings?			
What type of contract Is project based on?			
What type of contract? Explain any uniqueness.			
What's [Client]'s remedy for uncompleted Punchlist work?			
What's approved completion date for the project?			
What's contractor's liability if it should cover work that should be inspected by [Client], and was not?			
What's definition of [Client] Costs?			
What's financial remedy that the [Client] will take when liens are filed against project? How long does contractor have to be discharged?			
What's order of precedence for contract Documents?			
What's scope of services?			
What's scope of work?			
What's specific security issues addressed in contract?			
What's the attitude of project management with regard to Letter of Intent versus signed contracts?			
What's the basis for charging time for home office personnel?			
What's the basis for the project billings issued? Progress payments, even billing payments, cost in place, etc?			
What's the definition of Cost of Work?			
What's the definition of initial operation?			
What's the definition of mechanically complete?			
What's the definition of operationally complete?			
What's the definition of substantial completion?			
What's the projects labor posture?			
What's the specific definition of mechanical completion?			
What's timing for Executives to get involved in dispute resolution?			
When [Client] takes partial use or occupancy of a section of the facility, do they accept			



EPC Master Checklist

this work formally?			
When contract refers to "day", is it calendar or workday?			
Where are contract definitions outlined?			
Where elements of contractor costs are fixed, is it clear what is fixed and what is reimbursable?			
Which tax costs is contractor liable for?			
Who are authorized signatories for [Client] and contractor?			
Who can settle claims and at what level?			
Who owns the project float on the schedule?			
Who pays for defect or warranty repair costs that are found not to be contractor's fault?			
Who pays for interviews, hiring, recruiting and training?			
Who pays for permits, licenses, leases, etc., which are applicable to the specific project - [Client] or contractor?			
Who provides what insurances for the project?			
Who's liable for Audit costs if errors are found in billing?			
Who's liable for cost of a change, if a signed Change Order is not exercised?			
Who's responsible for currency exchange risk?			
Who's responsible for customs charges?			
Who's responsible for import duties?			
Who's responsible for safety on the project?			
Who's responsible for the costs of default termination?			
Who's the [Client]?			
Whose account do the credits, discounts and tax exemptions apply?			
Whose responsibility is it for licensing vehicles - [Client] or contractor?			
Whose specifications are being used?			
Will [Client] be providing housing arrangements?			
Will [Client] continue to make payments while project has ongoing disputes?			
Will [Client] do any type of formal evaluation during the project?			
Will [Client] pay for unused vacation?			
Will contractor's expenses guidelines be applicable?			
Will contractor's relocation policy be applicable?			
Will project run a CCIP - Constructor Controlled Insurance Program?			
Will project run an OCIP - [Client] Controlled Insurance Program?			
Will there be a 3rd party Quantity Surveying consultant present on the project?			

Cost Control (TOC)

Issue	Responsibility/Comments	Date	Complete
Are "disputed" [Client] Change Orders (CCO's) which are not being approved in accordance with established requirements in the Project Specific Change Management Process being referred to Company Senior Management as appropriate for resolution?			
Are actual costs being verified against financial ledgers, and captured to appropriate accounts?			
Are calendars available for current years for planning cost runs, financial runs, etc.?			
Are Changes in Work ([Client] Change Orders) being submitted to the [Client] for approval in accordance with timing as established in the Project Specific Change Management Process?			
Are Changes in Work and Internal Budget Transfers being estimated, acted on, and implemented in accordance with timing as established in the Project Specific Change Management Process?			
Are changes in work and internal budget transfers being reviewed and approved by the project manager and other management as appropriate?			
Are computer hardware specifications agreed to?			
Are computer installation arrangements made?			
Are computer requirements reviewed in conjunction with the personnel and accounting group?			
Are computer supplies ordered?			
Are controls personnel selected?			
Are Cost Reports issued monthly for projects with procurement and/or construction? Do they meet minimum requirements?			
Are cost responsibilities, expectations, systems required by [Client] fully documented and understood by?			
Are educational sessions set up to inform E&C personnel how the estimate is structured?			
Are EWA logs and procedures in place? Are personnel trained on these procedures?			
Are expenditures in cost system up to date? What frequency are expenses other than labor updated?			
Are final project cost reports and cost analysis being issued within 45 days of cessation of work?			
Are indirect account responsibilities assigned?			
Are overhead staff projections done based on release dates?			
Are project changes documented per the Change Management Process ?			
Are project control manager approved cost reports being generated and are they based on current (up-to-date) inputs regarding project changes and other factors which form the basis for the cost report?			



EPC Master Checklist

Are project costs control responsibilities versus project accounting responsibilities established?			
Are project forms from contractor procedures?			
Are purchase requisitions cost coded and reviewed by cost department before order is issued?			
Are requirements for capitalization identified in writing from [Client] to the contractor?			
Are site-specific procedures developed for the accounting of commitments and expenditures? Are they consistent?			
Are the critical cost contracts identified and a plan for control identified?			
Are the quarterly inputs for financial status review in the correct form being generated and issued as an approved/signed document by the Lead Project Controls Specialist and the Project Manager?			
Are there any cash flow restraints?			
Are trend reporting requirements being followed? Which ones and do they shown true trends?			
Are unit performance graphs used on the project?			
Do we get interest on retainage being held by [Client]?			
Does project require spending curves for labor and materials?			
Has a cash flow curve been issued and what is its basis? How often is it updated?			
Has a check estimate and any subsequently required changes in work or internal budget transfers been generated and incorporated into the project for cost monitoring, forecasting and control purposes?			
Has a documented Change Management Process been established for the Project?			
Has a list been developed for major items of work to track cost against intensively?			
Has a project controls execution plan been approved by the project manager wherein specific cost control execution issues are addressed, including but not limited to, project coding requirements, accounting and finance interface, change management, forecasting plan/analysis and cash flow planning for the project?			
Has a project cost engineer been assigned to the project?			
Has an estimate "turnover" occurred for the transition of estimate details to project execution personnel?			
Has an Extra Work Authorization log been set up?			
Has the backcharge procedure for [client] equipment been issued?			
Has the completion report been kept in mind when developing scope and quantities?			
Has the Cost Project Procedure been approved and implemented? Does everyone on the project know his or her responsibility?			
Has the Project Controls Manager verified that the Operations Contingency drawdown for the project has been assessed and any subsequent re-forecasting used as a basic input for the Monthly Cost Report forecasts.			
Has the Project Financial representative been supplied with the "Internally Generated Profit Report" approved and signed by the Project Manager and Lead Cost Control Specialist in support of generating the PSR (Project Status Review)?			
Has the Project Management Team reviewed and distributed the WBS (Work Breakdown Structure) for the project?			
Has the system been implemented for the input of purchase orders to the material system?			
Have the cost personnel on the project reviewed the contract to ensure compliance with commercial terms and conditions including any influence it may have on internal cost and financial reporting requirements?			
Have the scheduling and cost systems been reviewed to reflect simplicity for cross reference between the two?			
Have we defined the cost reporting needs for the project?			
Have worksheets been developed for projections showing original estimates and noting modifications?			
Is a cost savings program report used for engineering and field? Who are the responsible parties?			
Is a drawing file set up in the cost section for updating quantities?			
Is a log developed to record total effort hours spent to date for contractors?			
Is a Margin Analysis issued monthly? Does it meet minimum requirements?			
Is a monthly calendar prepared for Cost report issuance and forecasts?			
Is a schedule of values developed for each contract?			
Is an Extra Work Authorization procedure developed, issued and implemented?			
Is chart of accounts developed, approved and issued?			
Is completion report data developed on an ongoing basis?			
Is cost control baseline updated?			
Is cost control plan complete?			
Is cost forecast updated and current via trending system?			
Is cost program maintained onsite?			
Is estimate loaded and balanced in the costs system?			
Is everyone on the project trained and held accountable for forecasting their specific portion of the work?			
Is Field Labor Analysis issued weekly?			
Is Field Labor Analysis used for direct hire craft? The first one should not be later than 4 weeks after mobilization.			
Is Final Cost Report issued and per contractor procedures minimum distribution?			
Is final cost report issued, accompanied by financial/statistical reports required for management information and evaluation?			
Is Final Cost Report prepared upon completion?			



EPC Master Checklist

Is Full Cost Report signed by the Cost Engineer, PM and Site Manager?			
Is historical cost data gathered to assist in future bidding and execution of new work?			
Is it determined how commitments are worked between the cost and purchasing groups, balancing, releases, etc.?			
Is it determined which key contractors are used on site?			
Is Project Cost Analysis issued and per contractor procedures minimum distribution?			
Is Project Cost Engineer maintaining Change Management Log ?			
Is Project Status Report issued per contractor procedures?			
Is PSR distributed to contractor's Senior Management monthly?			
Is scope and estimate completely reviewed by engineers, construction manager, project manager, [Client] and approved?			
Is Scope of Work in writing?			
Is there a commitment / expenditure reconciliation between the cost report and [Client]'s records? How often is it issued?			
Is there a contractor/vendor Backcharge Procedure issued and is it implemented? Is staff acutely aware of this procedure?			
Is there a cost savings program developed?			
Is there a material cost log set up for estimating purposes?			
Is there a monitoring report on performance factors for both hours and wage rates?			
Is there a procedure in place to forecast the cost of process equipment at completion or is this [Client]'s responsibility?			
Is there a Project Cost Engineer assigned to the project?			
Is there a purchase order transmittal form developed between costs and purchasing?			
Is there a summary of indirect accounts issued with, estimate, spending and current projections?			
Is there an estimate basis document?			
Is there an outside audit? Who are accounting review authorities?			
Is there an understanding between engineering, construction, and [Client] as to what is considered capital and what is expense?			
Is there is a warranty period?			
Is Total Cost Report prepared monthly?			
Is Work Breakdown Structure updated?			
What are [Client]'s views on EWAs and approval thereof?			
What does the estimate not include?			
What frequency are quantities checked and contractor labor reviewed?			
What notification system is used to tell [Client] of cost impacts greater than \$1000?			
What project reports will [Client] receive, daily, weekly and monthly.			
What's approach toward projecting salvage values?			
What's the control system being used to keep the designed project within budget by the design team?			
What's the duration of the lag with regard to material commitments and expenditures into the cost system?			
What's the quantifying system that is used within each contract?			
When is retainage held by [Client] released? How often and at what percent of completion?			
Where is forecasting done?			
Which way is project north on the project?			
Who's cost coding requisitions?			
Who's cost system is used, [Client] or contractor?			
Will contractor use [Client] owned computer and associated equipment?			

Document Control (TOC)

Issue	Responsibility/Comments	Date	Complete
Are project files maintained per Document Control Process in steps and the File Index and Retention Schedule ?			
Are we using the Acceptable Documents List ?			
Do we have a Document Control Plan per Document Control Process in contractor procedures developed for drawings and specs?			
Has a central file index set up according to the Document Control Process in contractor procedures?			
Has the Document Distribution Matrix been completed?			
Have blueprint reproduction equipment needs been developed, ordered, received and implemented?			
Is Document Control Process being followed?			
Is document reproduction procedure implement?			
Is filing system defined per Document Control Process in contractor procedures?			
Is Master Distribution Matrix complete and issued?			
Is project document control established per Document Control Process in contractor procedures?			
Is project library established?			
Is there a list developed by [Client] of concerns from a similar project that need integration into current project?			
What format will project use for standard reporting for meetings?			
Which drawings are kept on active sticks? Whose responsibility is it to update?			
Will the records for the project be electronically turned over to [Client]?			
Will there be any special subscriptions on the project?			



EPC Master Checklist

Earthwork (TOC)

Issue	Responsibility/Comments	Date	Complete
Are as-built drawings complete?			
Are backfill materials approved?			
Are backfill materials testing complete and approved for use?			
Are clearing and grubbing limits defined?			
Are sheeting / shoring / bank protection requirements specified?			
Are soils testing facilities identified and approved?			
Are tolerances for rough and fine grading specified?			
Do we have [Client] approval for activities that will interfere with traffic?			
Do we have drawings to let lump sum contract?			
Do we have equipment rates separately?			
Do we have soil boring information on site?			
Do we have topographic drawings on site?			
How are extras charged?			
How are load counts verified?			
How is contract let, lump sum, unit rates?			
Is a soil erosion permit needed?			
Is backfill material clean and free of deleterious material?			
Is backfill material placement compacted, uniform, level, and proper thickness?			
Is backfill supplier approved?			
Is burning of debris owed? Are air monitors required?			
Is correct fill material verified?			
Is disposal of contaminated material per [Client] requirements?			
Is each layer tested for density prior to proceeding with next layer?			
Is final cleanliness, removal of spoils etc. acceptable?			
Is location, length, depth, width of excavation per drawings?			
Is site soils report reviewed and satisfactory?			
Is test method used for in-place density relative to test method used in laboratory?			
Is testing equipment calibrated and correct?			
Is there a contingency plan for unforeseen conditions?			
Is there a contingency plan in place if contaminated soil is found?			
Is there a silt fence plan developed and instituted? Whose responsibility is it to keep updated?			
Is topsoil required on seeded areas?			
Minimum quantity of tests performed and reports/records complete			
What are compaction specifications? Do they vary from area to area? Is there any relief on moisture content?			
What are the zoning requirements for trees? Who provides barricades to protect trees?			
What kind of backup information is needed for progress payments?			
What kind of equipment capabilities does contractor have?			
Where is spoil area?			
Who does survey work? Benchmarks? By licensed surveyor?			
Who locates existing underground utilities?			
Who performs comparison tests?			
Who performs soils testing? How often?			
Who provides a dust control plan? What are the local requirements? Who monitors and how?			
Who provides barricades for open excavation?			
Who provides pest / termite soil preparation?			
Who supplies silt fences and settling basins? How are they located?			
Who's responsible for coordinating work with the appropriate street or highway department? Who gets permit?			
Who's responsible for fill dirt? Where is source?			

Electrical (TOC)

Issue	Responsibility/Comments	Date	Complete
Are "No-Fly" zones identified around power and control panels? Suggest 36" in front and 72" on top.			
Are adequate cable lengths insured by the contractor? Will the reels be weighed?			
Are any cables, wired or light fixtures considered specialty items or long delivery?			
Are cable pulls planned for access of equipment, banking of cable spools and downhill pulls - to maximize productivity?			
Are cable tray drawings issued with miscellaneous structural steel supports for required installation?			
Are cables below the computer floor or above in a cable tray?			
Are circuit numbers for large sizes of electrical cable identified on individual spools when shipped?			
Are conduit seal fittings clearly defined on drawings?			
Are conduit seal locations shown on drawings where required in area class changes and location of expansion joints?			
Are conduit stub-ups under raised floors or in termination rooms located near doors when possible to make wire pulling less costly?			

EPC Master Checklist

Are disconnect switches shown on drawings?			
Are electrical lines in high-risk areas underground to minimize crane contact or pipe rack energization?			
Are flex couplings used in locations where vibration frequencies occur?			
Are grounding clips installed on fireproofed steel at time of fabrication?			
Are grounding drawings scheduled to be issued before or in conjunction with civil drawings?			
Are hangers painted? If so by whom?			
Are hazardous area boundaries identified on above ground electrical power conduit drawings?			
Are motor connection boxes large enough for bulky termination, including stress relief devices?			
Are oversized fittings called out on drawings when sleeving cables to meet bending radius requirements?			
Are specifications regarding Class I Division II area "Hazardous for Installation" verified?			
Are the power requirements for auxiliary systems identified on the design documents - lights, Public Address, and Telephone/Intercom, etc?)			
Are the primary power and the secondary power design boundaries the same?			
Are the temporary electrical requirements determined?			
Are there grounding lugs on tanks and equipment for field installation of grounding cables, especially those pieces with protective interior lining?			
Are tray barriers being purchased for tray fittings?			
Are vendor electrical boundaries the same as those of electrical design engineering?			
Are vendor prints verified for electrical impact?			
Are vendors required to comply with specifications for marking terminal blocks?			
Are we avoiding stub-ups directly under equipment?			
Are we considering over-sizing electrical cables to meet construction schedule delivery requirements instead of determination of every minor electrical load?			
Are we maximizing the use of armored cable and tray for above ground instruments in lieu of conduit?			
Are we maximizing the use of floodlighting from platforms where possible?			
Are we maximizing underground cabling versus above ground?			
Are we minimizing cable trays running under welded piping?			
Are we minimizing the depth of duct banks?			
Are we minimizing the use of cable tray fitting?			
Are we preordering Automatic Transfer Switches before complete IFC specification are complete because of long delivery requirements?			
Are we preordering Control Panels before complete IFC specification are complete because of long delivery requirements?			
Are we preordering Generator Sets before complete IFC specification are complete because of long delivery requirements?			
Are we preordering Major Distribution Gear before complete IFC specification is complete because of long delivery requirements?			
Are we preordering MCC's before complete IFC specification are complete because of long delivery requirements?			
Are we preordering Substations before complete IFC specification are complete because of long delivery requirements?			
Are we preordering Variable Frequency Drives over 40 HP before complete IFC specification is complete because of long delivery requirements?			
Are we running interference checks on conduit and raceways 3" and larger?			
Are we using PVC Conduit for underground wherever possible?			
Are we using PVC conduit to support ground wire?			
Can MCCs be powered up prior to supporting systems? Are power distribution systems checked out early?			
Can the project use Hilti studs to inst tray directly to structural steel?			
Can we consider (No Suggestions) type connection wired by supplier on large motors?			
Do any of the areas require specialty materials, special cable trays or special conduits? Are they delineated on the drawings?			
Do conduit stub outs for building extend at least 5 feet beyond the building foundation?			
Do drawings reflect the responsibility for deck cutting in locations of recessed light fixtures to allow proper clearance?			
Do electrical drawings reference Civil drawings that detail appurtenances to accommodate electrical conduit.			
Do items and specifications adhere to local and state ordinances?			
Do MCC rails for transformers inside/outside line up correctly?			
Do vendors understand electrical specifications?			
Do we have a procedure for stress cone installation and termination?			
Do we have consistency in our electrical installation, aspects?			
Do we have embedded grounding pads inside substation building for equipment grounding when needed?			
Do we indicate specific motor connection box sizes on purchase requisitions rather than accepting standard NEMA sizes?			
Do we know the specifications issuance dates?			
Does design of electrical heat trace support the piping installation schedules to reduce scaffolding requirements?			



EPC Master Checklist

Does design reflect minimum depth requirements for direct buried cables?			
Does design reflect the maximizing of cable size standardization?			
Does design schedule support early release of lighting plans to minimize the need for temporary lighting?			
Does design slope foundations for outside switchgear so that water will not pond around the gear?			
Does engineering establish high voltage equipment and cable testing requirements early, enough to support subcontracting package for this specialized service?			
Does engineering provide cut length schedules for power cable?			
Does engineering schedule allow for completion of design calculations for the high and low voltage relay settings to support substation check out schedule?			
Does project have adequate power supply for panel and skid mounted equipment?			
Has [Client] approved grounding under slab to be placed in sand bed under slab, rather than buried in a ditch?			
Has [Client] approved the use of shrink sleeves for 600-volt control cable splices, when splices are authorized?			
Has adequate space been provided in the design of terminal boxes for neat termination of cables?			
Has construction completed and submitted redline drawings for electrical to engineering firm?			
Has design grouped elevated cable junctions in as few places as possible to minimize scaffolding needs?			
Has the [Client] approved ground wire installation on flex conduit?			
Has the project evaluated the use of aluminum transformer windings versus the more expensive copper windings for cost savings?			
Has the project specified heat shrink or pre-molded stress relief devices for medium voltage cable terminations?			
Have control and electrical panel locations been reviewed for minimal conduit/wiring runs?			
Have we arranged for supplier representative on major pieces of electrical equipment? Make certain to include field terms and conditions in purchase order.			
Have we completed an analysis to maximize use of cable tray and minimize conduit runs?			
Have we developed listing of local vendors and their capability regarding electrical material?			
Have we insured that the interface between HVAC, controls and electrical specifications and contracts are clearly defined?			
Have we maximized the routing of conduit and small piping, instrument leads, behind stairwells for ease of installation with using expensive temporary scaffolding or personnel baskets?			
Have we maximized the specifying of multi-pair cables?			
Have we minimized bends on duct banks and manholes?			
Have we specified cable reels to be shipped in upright position for ease of unloading and preventing cable damage?			
How are specifications revised?			
How high potential testing is accomplished.			
How is fee calculated for the permit? By horsepower or connected load?			
How is grounding verified?			
How is project tracking cable pulls with cable reels?			
How is wire accounted for? By using a wire pull/cable schedule?			
If temporary HVAC is required, who provides the hookup of the system?			
Is a separate computer grounding grid required?			
Is a short circuit study required?			
Is a UPS system required?			
Is cable tray reduction positioned at structural steel to minimize need for additional tray support steel?			
Is concentric bending used?			
Is conduit and tray dimensioned?			
Is conduit painted?			
Is conduit routing shown on drawings - point to point?			
Is each subcontractor responsible for core drilling and/or saw cutting additional hole openings for their specific trade?			
Is electrical equipment appearing on single lines and wiring diagrams properly tagged and numbered according to the specifications.			
Is electrical part of the over equipment tagging system?			
Is EMT conduit owed in lieu of rigid conduit in any of the areas?			
Is flexible conduit being used to connect to equipment - to minimize fit-up and alignment - much quicker installation?			
Is ground wire between cable and trays and conduits per specification by NEC shown on drawings?			
Is it defined what the contractor orders and what the engineering group or [Client] is expected to order?			
Is lighting and CKT wiring codes Black, Red and Blue - with white wire as color tracer?			
Is project designing embedded floor channel for supporting switchgear flush and level with top of floor to permit easy installation and removal of breakers?			
Is project making use of unitized transformers and circuit breaker panels?			
Is project using embedded grounding pads inside substation buildings to ground equipment?			



EPC Master Checklist

Is project-using PVC coated conduit for renovation projects where it may not be feasible to locate conduit behind walls in classified areas?			
Is there at least 18" of separation of cable trays when they are stacked to facilitate pulling cable and installation of tray covers?			
Is there identification on the spools for long run multi-pair cables when they are shipped?			
Is thermographic testing required? If so, by whom?			
What control is instituted over entrance into the electrical and MCC rooms?			
What kind of electrical permits are required?			
What phases of the job must be inspected?			
What role does [Client] play during the energizing of equipment?			
What space in building does electrical have?			
What systems require rigid conduit versus thin wall or cable tray?			
What vendors are required during the energizing?			
What's done to use permanent electrical installation for temporary to minimize general condition costs?			
What's the definition of substation suitable power site - fenced, gravel, space, etc.?			
What's the formal approval for specification deviation?			
What's the right of way of the incoming power lines?			
When is bump and rotating of motors done?			
When is lighting to be done?			
Which pipelines are heat traced and where do they show on drawings?			
Who are the electrical contacts and for what purposes with [Client]?			
Who does fire proofing on fire rated walls where electrical penetrations occur?			
Who energizes the equipment?			
Who fabricates electrical panel supports, installs and paints?			
Who has identified equipment to be furnished by others that requires electrical connections?			
Who has verified that electrical cable tracing requirement takeoffs are complete?			
Who installs and checks out security systems and switches?			
Who installs sleeves and blockouts per specification?			
Who installs the MCC pads?			
Who powers up the DCS and PLC systems?			
Who provides and installs instrument cable?			
Who provides encasement for underground conduits or lighting standard bases?			
Who provides intercom systems?			
Who provides painting of conduits when required?			
Who provides the coordination for electronically controlled hardware, doors and shutters with hollow metal frames?			
Who provides, installs and maintains construction power and lighting?			
Who repairs previous applied fireproofing upon installation of electrical systems?			
Who supplies the permanent electric for the elevator?			
Who supplies the temporary electrical for the elevator?			
Who tags equipment with permanent tags?			
Who terminates DCS or PLC data highway cables?			
Who's responsible for buying the temporary fuses and heaters?			
Who's responsible for closure of sleeves in rated surfaces?			
Who's responsible for compatibility verification of supplier-to-supplier electrical connections?			
Who's responsible for detailing a complete listing of materials for electrical installation?			
Who's responsible for locating conduit larger than 1 1/2" and coordinating with mechanical systems?			
Who's responsible for preparing breaker settings and tap settings on electrical gear?			
Who's responsible for the communication systems?			
Who's responsible for the issuance of wire tags?			
Who's responsible in design for producing the database with wire marker information?			
Who's responsible to buy the permanent fuses and heaters, removing the temporary, installing the new and testing?			
Who's responsible to inst and terminate motor starters provided as part of the mechanical equipment?			
Who's responsible to inst backing plates for electrical equipment, fixtures and boxes?			
Who's supplying the primary switchgear and the MCC units?			
Who's the electrical design firm?			
Who's the local electrical inspector?			
Who's the quality control inspector for electrical - for both contractor and [Client]?			
Who's verifies access to large electrical equipment for maintenance and replacement as needed?			
Who's verifying Grounding stub up locations with vessel and equipment ground clip locations?			
Whom witnesses' high voltage cable pulls?			
Will electrical underground drawings be issued during civil phase and coordinated with construction schedule?			
Will Megger Testing be done?			
Will point-to-point checks be done?			
Will the MCC and control room HVAC and filter system be operational prior to the installation of electrical equipment?			



EPC Master Checklist

Will the MCC room equipment be mounted on embedded channels or the concrete slab?			
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Electrical - Cable (TOC)

Issue	Responsibility/Comments	Date	Complete
Are cable ends sealed after cutting?			
Are cables identified per specification and drawings?			
Are terminals torqued per specifications?			
Are we checking arrows on High Voltage Cable Reels for direction of pulling off reel?			
Are we completing a continuity check on instrument wire after installation?			
Are we meggering metal clad cables before pulling?			
Are we meggering power and control cable after installation?			
Are we verifying cable reel assignment and cutting schedule?			
Are wire size, type and color correct?			
Has underground conduit has been swabbed out?			
Is bend radius of trained cable in accordance with specifications?			
Is cable free of kinks, neat and cable tray is in accordance with drawings?			
Is cable length adequate?			
Is cable tray free of sharp edges?			
Is crimping tool correct?			
Is hipot of medium and high voltage cable complete?			
Is instrument cable verified for continuity and isolation from drain wire before pulling?			
Is instrument wire and cable meggered after installation?			
Is permanent cable I.D. correct?			
Is spacing between instrument cable and power cable in accordance with specifications?			
Is termination lug the correct size and type?			
Is termination preparation proper?			
Verify cable voltage rating, minimum pulling temperature and type of pulling compound?			
Verify maximum permitted pulling tension?			
Verify number of bends between pulling points does not exceed specification requirements?			

Electrical – Cable Tray (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bonding jumpers and grounding properly installed per specifications?			
Are cable tray size, type, routing, elevation and configuration verified?			
Are cable tray spans per design and specifications?			
Are covers acceptable?			
Are covers installed correctly per drawings?			
Are expansion joints installed per engineering design?			
Are high voltage barriers installed per specifications?			
Are high voltage labels acceptable?			
Are ID tags or labels installed per specifications?			
Are separators acceptable?			
Are splice plates installed at mid span?			
Are supports installed per specifications?			
Are supports per specifications and drawings for cable tray?			
Are wall penetrations acceptable?			
Do materials meet area classification requirements per specifications?			
Is cable spacing acceptable?			
Is cable tie down acceptable?			
Is grounding acceptable?			
Is spacing from hot surfaces maintained per specifications?			
Is tray free of sharp edges, physical damage and obstructions?			
Is tray separation maintained per drawings and specifications?			

Electrical – Cathodic Protection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anode wiring, terminations and connections per design?			
Are measurements within specified limits, documented?			
Are measuring instruments calibrated and calibration documented?			
Are specified nameplates attached?			
Are we using specified anode and cable type and material?			
Are we verifying anode backfill, proper depth/ location per specification?			
Do we have the designed number and location of anodes?			
Have we witnessed and documented wire bonding, jumpers?			
Is anode mounting per design?			
Is current on impressed current system verified?			
Is header cable megger tested and results documented?			
Is inspection prior to burial per specifications?			
Is performance of system per specification?			

EPC Master Checklist

Is specified power source installed?			
Is specified system installed?			
Verify that no damage exists?			
Verify the installation of ground beds per specification?			
Verify we have no splices on header cable?			

Electrical Conduit (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bonding jumpers acceptable?			
Are breathers / drains installed per specification?			
Are bussings installed per specification?			
Are conduit fittings installed per specification?			
Are conduits swabbed clean, open ends plugged, covers/gaskets installed, properly tightened?			
Are covers installed per specification?			
Are expansion joints acceptable?			
Are expansion joints installed per engineering design?			
Are field conduits bend radius maintained in installation?			
Are high voltage labels acceptable?			
Are junction boxes installed per engineering design?			
Are plugs installed per specification?			
Are pull joints acceptable?			
Are seals and drains acceptable?			
Are seals installed per specification?			
Are seals poured and identified per applicable codes?			
Are supports installed per specifications?			
Are supports per specifications and drawings?			
Do above ground signs identify location of underground conduit?			
Do materials meet area classification requirements?			
Is conduit free of damage and sharp edges?			
Is flex installed per specification?			
Is grounding complete?			
Is inspection of conduit prior to placement of concrete and/or backfill satisfactory?			
Is proper thread engagement / coating utilized?			
Is spacing from hot pipes and surfaces maintained?			
Is underground conduit identified w/tags at access points?			
Is Workmanship acceptable?			

Electrical - Grounding (TOC)

Issue	Responsibility/Comments	Date	Complete
Are ground rod array per specification?			
Are high resistance grounding schemes adjusted and tested?			
Are mechanical connections tight and protected?			
Are relays and alarms for ground protection and system neutrals tested / calibrated?			
Are tests and operational checks complete?			
Has continuity of underground, insulated ground loop conductors been verified before making connections?			
Has f of potential test between grounded system or individual electrode resistance to ground been completed?			
Has material been verified as per specification?			
Have underground splices been inspected and approved?			
Verify that ground at proper ground depth before ground cover is placed?			
Is disconnect link on Zero Sequence sensing systems?			
Is earth resistance of each ground electrode measured and documented prior to connection to ground loop?			
Is exothermic welding connection verified?			
Is ground cable between ground bus and ground rod identified and tagged?			
Is ground cable free of damage and protected?			
Is ground fault interrupter calibrated and tested?			
Is ground strap sensing system grounded through sensing device?			
Is ground wire connected per engineering design?			
Is ground wire properly color-coded?			
Is ground wire to rod connections coated / mechanically solid?			
Is grounded connection made ahead of neutral disconnect link on zero sequence sensing systems?			
Is lightning protection properly installed?			
Is neutral insulation resistance measured to ensure no shunt ground path exists?			
Is zero sequence sensing system grounded?			

Electrical – Heat Tracing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are "electric traced" labels and identification applied per specification?			
Are cables protected from severe blows, weld slag, etc?			

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Are circuit breakers and fuse ratings verified?			
Are connections and end seals complete?			
Are connector components and end seals installed per specification?			
Are heater cable and connectors free of storage damage?			
Are heaters megger tests acceptable upon receipt at jobsite?			
Are heaters stored in dry location?			
Are identification tags correct?			
Are megger tests of heater cables acceptable prior to installation?			
Have cables been meggered?			
Is continuity verified?			
Is correct cable on right pipe in right location?			
Is functional verification of proper operation complete?			
Is heat tracing installation per specification?			
Is heat transfer cement applied?			
Is heater cable securely fastened?			
Is heater cable stringing correct and undamaged?			
Is heater cable visually inspected for signs of mechanical damage?			
Is installation of controls acceptable?			
Is installation visual inspection acceptable and cable not damaged?			
Is insulation installation acceptable?			
Is megger testing of cable acceptable?			
Is piping acceptance verified by piping inspector?			
Is thermostat installed per specification?			
Is thermostat set prior to installing insulation?			

Electrical – High Voltage Motors and Starters (TOC)

Issue	Responsibility/Comments	Date	Complete
Are conduits labeled 4160 volts?			
Are floor anchors installed and acceptable?			
Are maintenance tools available?			
Are nameplates completed and acceptable?			
Are unused knockouts plugged?			
Is control scheme verified and acceptable?			
Is ground bus tied to plant grounding?			
Is grouting complete without voids?			
Is touch up painting complete?			

Electrical - Lighting (TOC)

Issue	Responsibility/Comments	Date	Complete
Are branch circuits installed per drawings?			
Are building interiors verified and tested per IES recommendations?			
Are fixtures installed correctly?			
Are floodlights at night directed for expected results?			
Are fuse sizes and types verified as correct?			
Are lighting fixtures accessible for re-lamping w/o use of ladders or handrails?			
Are lighting fixtures at proper elevation and accurately installed to line and level?			
Are lights for proper circuit designation and actual load per circuit?			
Are measurements for illumination levels verified?			
Are shipping braces removed?			
Are the wire markers completed?			
Are timers and photocell controls verified for functionality?			
Has instant re-strike feature on fixtures been verified for proper operation?			
Is equipment grounded?			
Is equipment in conformance to area classification?			
Is ground terminal verified?			
Is load balance on phases verified?			
Is operation of emergency lighting units verified?			
Is phase meter tested?			
Is secondary transformer verified in no load state and taps set?			
Is size and type of power and control wiring verified?			
Is touch up painting complete?			
Is voltage verified at farthest light fixture away from light panel for each branch circuit?			
Verify there is no obstruction to lamp light output? Candle foot to ground			

Electrical – Low, Medium, Hi Cable (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bending radius verified for correctness to specification?			
Are continuity tests of conductors complete and documented?			
Is cable free of physical damage?			
Is cable grounding complete?			
Is cable installed without splices?			
Is cable landing and workmanship acceptable?			
Is cable size correct?			

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Is cable supplied and connected per specification and one-line diagram?			
Is cable support system per specification?			
Is cable termination complete?			
Is DC High Pot test complete?			
Is DC voltage test complete?			
Is high voltage termination kit properly installed?			
Is insulation resistance test complete?			
Is phase identification correct?			
Is tightness of joints and connections per specification?			

Electrical - MCC (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bus joints torqued?			
Are bus supports verified for cleanliness and tightness?			
Are door interlock operations verified?			
Are floor anchors installed?			
Are fuses verified for correct size and rating?			
Are mechanical interlocks operational?			
Are nameplates complete?			
Are overload relays verified for proper size and rating?			
Are units verified for proper alignment and levelness?			
Are units verified for proper bolt tightness?			
Are unused knockouts plugged?			
Are ventilations filters installed correctly?			
Has each unit been visually and mechanically inspected for physical damage?			
Has ground connection to ground bus and / or structure been verified?			
Has ITO completed testing?			
Have blocks, temporary ties and shipping brackets been removed?			
Is bus bar connection for tightness and bolts for proper torques verified?			
Is control panel directory complete?			
Is deification of components been verified?			
Is door alignment verified?			
Is ground bus continuous?			
Is ground bus tied to plant ground?			
Is grouting complete without voids?			
Is remote trip installation acceptable?			
Is touch up painting complete?			

Electrical – Rack Panel (TOC)

Issue	Responsibility/Comments	Date	Complete
Are cables labeled and landed per drawings? (If not, mark print per as-built wiring)			
Are conduit entries plugged with duct seal?			
Are connections tight?			
Do doors close properly?			
Does drawing require revision?			
Is bench board clean and free of moisture?			
Is cable entry per [Client] Specification?			
Is floor opening sealed with foam?			
Is light inside rack working Properly?			
Is panel clean and free of moisture?			
Is rack clean and free of moisture?			
Is there any damage to rack devices?			

Electrical - Receptacles (TOC)

Issue	Responsibility/Comments	Date	Complete
Are 120-volt general-purpose receptacles tested for correct connection?			
Are floodlights at night directed for best results?			
Has each receptacle per circuit been verified and documented?			
Is circuit breaker rating verified?			
Is equipment in conformance to area classification for location?			
Is ground terminal verified?			
Is identification for components verified?			
Is phasing sequence or polarity and voltage of receptacles verified?			
Is size of power conductors verified?			
Is wiring verified for proper identification and color-coding?			
Verify that the operation of receptacle unit, including interlock systems per specification?			

Electrical – UPS and Battery Systems (TOC)

Issue	Responsibility/Comments	Date	Complete
Are inter-cell bus links and interconnections verified for integrity and phasing?			
Are power conductor sizes verified?			



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Are turn ratio tests complete and documented?			
Are we checking proper charging rates during recharge mode?			
Are we checking the rating and tap positions against single line diagram and specifications?			
Are we monitoring the measurement of bank charging voltage rate and each cell voltage?			
Did we witness insulation resistance test by third party?			
Did we witness secondary voltage measurement by 3rd party?			
Did we witness test/measurements by 3rd party, such as functional unit, rectifier-charger, inverter, transfer switch, ac alternate bypass source voltage, monitor and control equipment?			
Did we witness turn ratio test by 3rd party?			
Do components have proper identification?			
Does equipment conform to area classification?			
Have batteries been checked for damage and corrosion?			
Have we visually verified individual cell acceptance of charge during recharge mode?			
Is battery booster charge and adjustment for float operation verified?			
Is core equipment grounding verified?			
Is enclosure and neutral grounding correct and verified?			
Is insulation resistance test complete and documented?			
Is type/voltage of batteries verified?			
Is verification of alignment, level, and fastener tightness complete?			
Is Wiring ID and color-coding correct?			
Verify circuit breaker ratings?			
Verify contact integrity test across connections adjacent terminals?			
Verify ground terminal?			
Verify that individual cells are tagged and identified?			
Verify the measurement of electrolyte-specific gravity and level?			

Electrical Manholes (TOC)

Issue	Responsibility/Comments	Date	Complete
Are plugs and caps installed?			
Are pulling eyes and ladder rungs in place?			
Are sump and or drain installed in accordance with drawings?			
Have opening sizes and location been verified for compliance with drawings and specifications?			
Is conduit adequately supported?			
Is conduit in the right location?			
Is conduit orientation correct?			
Is conduit sizing correct?			
Is conduit type correct?			
Is grounding/earthing in place and secure?			

Elevator (TOC)

Issue	Responsibility/Comments	Date	Complete
Are elevator disconnects properly labeled?			
Are elevator sump pit grates designed flush with floor and shown on drawings?			
Are GFCI receptacles required inside the elevator machine rooms			
Are masonry frames lined up for proper door alignment?			
Are temporary hoisting requirements specified?			
Are the elevators specifications to state code?			
Are there special badging requirement needed for use and access?			
Can the elevator be used for construction?			
Do the electrical disconnects in the elevator have shunt trip breakers where elevator machine room is Sprinklered?			
Does elevator shaft require fireproofing or sprinklers?			
Has state inspector been contacted for any restrictions?			
Has verification and checking been done on the hole drilling company?			
Have ADA requirements been incorporated?			
Have the required utilities, ladders and sumps been included in the pit design?			
If used during construction are finishes installed later?			
Is elevator flooring material specified?			
Is elevator sized for future equipment installations?			
Is fire insulation required in shaft?			
Is schedule coordinated with startup needs?			
Is there a need for an extended warranty for the elevator if used during construction?			
Is there any other equipment that elevator contractor will need during the duration of installation?			
Is there any special ventilation needed during construction in the shaft?			
Verify that elevator design meets local code requirements, especially as applicable to ventilation?			
Verify that heat and smoke detectors are in the elevator machine room?			
Verify that no other services pass through the elevator machine room other than those applicable to elevator room and elevator?			



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Verify that only one duplex GFCI receptacle is in the elevator pit?			
Verify that phones are shown on drawings on elevators where card access to exit is required?			
Verify that proper lighting is installed in elevator pit			
Verify that sump pump for elevator has a single receptacle for power?			
Verify that the elevator machine room doors are self-closing and self-locking?			
Verify that the fireman's phone jack is located in the elevator lobby?			
What amount of conduits and piping are owed in the shaft?			
What intercom system is required?			
Who operates and maintains elevator if used during construction?			
Who provides the elevator hoist beam?			
Who provides the grouting of the space under the elevator sills and the grouting of the doorframes?			
Who's required to provide the safety beam canting and shaft separations to meet code requirements?			
Who's required to verify that the elevator rail "run out" distances satisfy the elevator codes?			
Will contractor have to supply personnel such as welder?			
Will contractor need a pump for water while digging the hole?			
Will the hole be drilled before the building goes up or during the building?			

Engineering – CADD Approach (TOC)

Issue	Responsibility/Comments	Date	Complete
Are we responsible for supplier data reviews?			
Has field time for design been estimated?			
How often are workhour estimate / projections needed?			
We will be responsible for subcontract package preparation?			
Will engineering be involved in anything other than technical bid evaluation / recommendations?			
Will we have demolition and relocation drawings?			
Will we have formal safety reviews?			
Will we need specifications for fire protection?			
Will we need specifications for HVAC?			
Will we need specifications for mechanical?			
Will we need specifications for piping?			
Will we provide field support during construction?			
Will we provide purchase requisition preparation?			
Will we provide startup assistance in the field?			
Will we use 2D design?			
Will we use 3D design?			
Will we use 3D to verify the model?			
Will we use bubble view in our CADD approach?			
Will we use equipment list?			
Will we use photogrammetry?			
Will we use quality reviews or 3rd party review and inspection?			

Engineering – Construction Package Release Gate Review (TOC)

Issue	Responsibility/Comments	Date	Complete
Are appropriate unit prices requested for items expected to change?			
Are bid documents clear and concise? Are adequately sanitized?			
Are system requirements met and authorization received?			
Are the documents officially transmitted to the right location?			
Are the required references, supporting documents included in the transmittal package and listed on the transmittal letter?			
Are there risks associated with this package or strategy?			
Are there special conditions, or unusual difficulties involved with the package?			
Has a complete and accurate contract Requisition been received and signed by the Project Manager and is it in compliance with the contractor procedures?			
If something is critical, is it defined so there is no chance of misinterpretation?			
Is there an extra work allowance? What's estimated cost of work allowance?			
Is transmittal letter clear as to its contents?			
Is transmittal letter the correct one?			

Engineering – Design Criteria (TOC)

Issue	Responsibility/Comments	Date	Complete
Do design criteria have [Client] Codes and Standards?			
Do design criteria have Analyzer Requirements?			
Do design criteria have Availability of Existing Documents/Data?			
Do design criteria have Basic Data?			
Do design criteria have Building Description?			
Do design criteria have Cafeteria and / or Lunchroom?			
Do design criteria have Clean Room Requirements?			
Do design criteria have Communication System?			



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Do design criteria have Conduit?			
Do design criteria have Control Room Requirements?			
Do design criteria have Design Wind Velocity?			
Do design criteria have Duct Testing and Cleaning Requirements?			
Do design criteria have Earthquake Zone?			
Do design criteria have ECR Requirements?			
Do design criteria have Electrical Classification Requirements?			
Do design criteria have Engines?			
Do design criteria have Equipment Data Sheets?			
Do design criteria have Expansion Requirements?			
Do design criteria have Fences and Gates?			
Do design criteria have Finishes?			
Do design criteria have Fire Alarm?			
Do design criteria have Floor Loading?			
Do design criteria have Flow Sheets?			
Do design criteria have Format and Method of Producing Drawings?			
Do design criteria have Geotechnical Report?			
Do design criteria have Heat Tracing?			
Do design criteria have HSE Requirements?			
Do design criteria have Humidity Control?			
Do design criteria have HVAC Requirements?			
Do design criteria have Insulation Requirements?			
Do design criteria have Laboratories?			
Do design criteria have Latest BOCA Code?			
Do design criteria have Lighting Requirements?			
Do design criteria have Limiting Equipment Identification?			
Do design criteria have Line Number Tabulation?			
Do design criteria have Linkage to Higher Level Computer Systems?			
Do design criteria have Local Building Code?			
Do design criteria have Location and Address of Governing Bodies?			
Do design criteria have Locker Rooms?			
Do design criteria have Loop Number Tabulation?			
Do design criteria have Lubrication?			
Do design criteria have Maintenance Shops?			
Do design criteria have MCC Requirements?			
Do design criteria have Medical Facilities?			
Do design criteria have Method of Process Control?			
Do design criteria have Need for Maintaining Production?			
Do design criteria have P&ID's?			
Do design criteria have Packing and Gasket Requirements?			
Do design criteria have Parking Facilities?			
Do design criteria have Permit Applications for Air and Waste Emissions?			
Do design criteria have Pipe, Tubing and Valve Requirements?			
Do design criteria have Preferred Suppliers?			
Do design criteria have Process Hazard Report?			
Do design criteria have Product and Service Index?			
Do design criteria have Railroad?			
Do design criteria have Road and Walkway Requirements?			
Do design criteria have Safety Interlocks?			
Do design criteria have Schedule?			
Do design criteria have Sewer Requirements?			
Do design criteria have Special Control Valves?			
Do design criteria have Spill Containment Requirements?			
Do design criteria have Storage Requirements?			
Do design criteria have Stress Analysis Requirements?			
Do design criteria have Turnover Sequence?			
Do design criteria have Utility Companies?			
Do design criteria have Warehousing and Shipping Requirements?			

Engineering - Electrical Power (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any new protective techniques being employed?			
Are conduits sealed against flammable vapors?			
Are electrical interlocks and shutdown devices made fail-safe?			
Are primary and spare equipment powered from independent buses?			
Are the electrical system instruments arranged so that equipment operation can be monitored?			
Are the hardware and protective techniques consistent with the area electrical classification?			
Are the overload and short circuit protective devices located in circuits for optimum isolation of faults?			
Are the overload and short circuit protective devices sensitive to voltage or frequency variations?			
Are the overload and short circuit protective devices tested under load? How often?			
Are trucks and railcars properly grounded during loading/unloading operations?			



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Can operators safely open or reset breakers in an emergency?			
Can the interlock and shutdown logic be simplified?			
Does bonding and grounding protect against static buildup?			
Does bonding and grounding provide for personnel protection from power system faults?			
How are the overload and short circuit protective devices coordinated?			
How are the plant's instruments and control power supplies protected from faults or other voltage disturbances?			
How completely does the electrical system parallel the process?			
How is continued use of protective devices insured?			
How often are the interlocks and shutdowns tested under load?			
Is auxiliary electrical gear located in safe areas?			
Is electrical system simple in schematic and physical layout so that it can be operated in a straightforward manner?			
Is there an emergency power supply for critical loads?			
Was equipment tested and approved by an independent laboratory or is additional testing required?			
What are the overload and short circuit protective devices interrupting capacity?			
What are the overload and short circuit protective devices?			
What bonding and grounding is installed?			
What electrical equipment can be taken out of service for preventive maintenance without interrupting production?			
What faults in one part of the plant will affect operation of other independent parts of the plant?			
What process characteristics affect the electrical classification, group, and division?			
What's the area electrical classification?			
What's the purpose of each interlock and shutdown?			
Will the overload and short circuit protective devices act quickly enough?			

Engineering – Environmental Protection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are empty containers for packaged raw materials and intermediates systematically recycled or disposed of by acceptable methods?			
Are there adequate, reliable means of reporting emergencies to a response team and to applicable government officials or agencies?			
Are there adequate, reliable means of sounding an evacuation alarm to building or area occupants?			
Are there any chemicals handled that are particularly sensitive from an environmental standpoint?			
Are there toxic gas monitors and alarms in process and material storage areas? How often are they tested?			
Containment/Cleanup - Are appropriate protective equipment and clean-up supplies on hand in readily accessible locations?			
Containment/Cleanup - Are containment and clean-up techniques defined for materials?			
Containment/Cleanup - Are different procedures or supplies required to handle products of undesired reactions?			
Containment/Cleanup - Are enough SCBAs available?			
Containment/Cleanup - Are there any suppression, absorption, or cleaning media that are prohibited? Are any media of this type available in the area?			
Containment/Cleanup - Can the material be decontaminated, recycled, or destroyed?			
Containment/Cleanup - Can wastes be safely handled?			
Containment/Cleanup - From mutual aid groups?			
Containment/Cleanup - From the community?			
Containment/Cleanup - Have arrangements for disposal been completed?			
Containment/Cleanup - How is spill response team assembled during the day shift? Off-shifts?			
Containment/Cleanup - If water is prohibited, are there warning signs in the area?			
Containment/Cleanup - Is technique usable in the work area?			
Containment/Cleanup - What are the capabilities of the spill response team?			
Containment/Cleanup - What procedures do emergency personnel follow when entering a unit?			
Containment/Cleanup - What protective equipment is available to the emergency personnel?			
Containment/Cleanup - What release suppression, collection, and cleanup equipment is available in the facility?			
Containment/Cleanup - Will protective gear withstands exposure to process chemicals?			
Dikes - Are any dikes damaged or breached?			
Dikes - Are proper drainage programs implemented to ensure the integrity of the dikes when required?			
Dikes - Are storage areas diked?			
Dikes - Are the dikes large enough?			
Dikes - What would happen if the dike overflowed?			
Effluent Emissions - Do emission points include discharges or seepage to groundwater?			



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Effluent Emissions - Do emission points include discharges to city sewers?			
Effluent Emissions - Do emission points include discharges to surface water bodies?			
Effluent Emissions - Do emission points include stacks and vents?			
Effluent Emissions - Do emission points include surface water runoff?			
Effluent Emissions - Do emission points include ventilation exhausts?			
Effluent Emissions - How are effluents monitored for unacceptable emissions?			
Effluent Emissions - What's the lag time between measurement and alarm or notification?			
Effluent Streams - Are scrubbers required?			
Effluent Streams - Are they hazardous?			
Effluent Streams - Have effluent streams been defined?			
Effluent Streams - Have permit requirements been addressed?			
Effluent Streams - What has been done to minimize effluents and wastes?			
Effluent Streams - What's their disposition?			
Effluent Streams - Will any hazardous materials, such as heavy metals, reach the waste treatment plant?			
Environmental Restrictions - Are there specific environmental restrictions that will limit operations?			
Evacuation Plan - Are assembly points, evacuation routes, and alternatives clearly marked?			
Evacuation Plan - Are emergency control centers established?			
Evacuation Plan - Are the process operations shut down, or can they be left on automatic pilot?			
Evacuation Plan - Are there any locations that present special evacuation problems?			
Evacuation Plan - Are there re-entry and cleanup procedures?			
Evacuation Plan - Are there spill containment procedures?			
Evacuation Plan - Are they effectively communicated to transient workers?			
Evacuation Plan - Has the plan been coordinated with local authorities?			
Evacuation Plan - Has the plan been tested and appropriately revised?			
Evacuation Plan - Is there a written evacuation plan for the unit, facility, and community?			
Evacuation Plan - What are the nearest and/or largest onsite and offsite populations?			
Is sampling system arranged so any initial blowdown is vented to a closed system instead of to the atmosphere or sewer?			
Loading and Unloading Spills - Are hoses inspected/pressure tested/replaced regularly?			
Loading and Unloading Spills - Are railcars protected against collision or inadvertent movement?			
Loading and Unloading Spills - Are the trucks/railcars chocked?			
Loading and Unloading Spills - Are there excess flow verify valves or automatic shutdowns?			
Loading and Unloading Spills - Are there high level and/or pressure alarms on storage tanks?			
Loading and Unloading Spills - Is there remote shutdown/isolation capability?			
Loading and Unloading Spills - What prevents or limits spills during loading/unloading operations?			
Procedures - Have the people who will clean up releases been trained?			
Procedures - To what extent should operators, maintenance workers, or contractors attempt to contain and clean up releases?			
Procedures - What procedures are followed in the event of a release?			
Procedures - When were these procedures last practiced?			
Procedures - Where is emergency command center, and how is it staffed?			
Procedures - Who decides to evacuate the unit, facility, or community?			
Procedures - Who decides when to c outside emergency response teams?			
Procedures - Who decides when to c the spill response team?			
Procedures - Who notifies corporate management and public authorities?			
Process Hazard - Are any special precautions necessary for leak-prone equipment?			
Process Hazard - What hazards would result from these releases?			
Process Hazard - What's the potential for releases in the process area, and where would they go?			
Sewer Materials - What are hazards of Cross-contamination of process and sanitary sewers?			
Sewer Materials - What are hazards of Environmental contamination?			
Sewer Materials - What are hazards of Flammable concentrations, either from the sewer material or from reactions in the sewer?			
Sewer Materials - What are hazards of runaway reactions?			
Sewer Materials - What are hazards of Toxic fumes?			
Sewer Materials - What are the hazards of sewer materials during normal and abnormal operation?			
Surface Water - Can it be protected from process material spills?			
Surface Water - Does surface water runoff require any special treatment?			
Surface Water - Is surface drainage adequate?			
What means is installed for disposal of off-specification products or aborted batches?			
Will maintenance work require special precautions to prevent odor problems, air pollution, or sewer contamination?			



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Engineering - Equipment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adequate service factors on gears in shock services installed?			
Are foundations, supporting structures, and anchor points adequate for vessel for anticipated floor loading?			
Are foundations, supporting structures, and anchor points adequate for vessel for ground movement?			
Are foundations, supporting structures, and anchor points adequate for vessel for high winds?			
Are foundations, supporting structures, and anchor points adequate for vessel for snow/ice/water accumulation?			
Are foundations, supporting structures, and anchor points adequate for vessel relief device discharges?			
Are special seals, packing, or other closures necessary for severe service conditions?			
Are there full-flow filters in lube oil systems?			
Are there provisions for operation or safe shutdown during power failures?			
Are there provisions for trapping and draining steam turbine inlet and exhaust lines?			
Are turbine overspeed trips set below the maximum speed of the driven equipment?			
Are valves fast acting enough to prevent reverse flow and reverse rotation of pumps, compressors, and drivers?			
Corrosion - Are corrosion inhibitors used?			
Corrosion - Are corrosion-resistant materials used?			
Corrosion - Are the pipes and vessels lined?			
Corrosion - How are the piping and equipment protected from corrosion?			
Corrosion - Is exterior painted or coated?			
Corrosion - Is there a cathodic protection system?			
Do major pieces of rotating equipment have adequate equipment integrity shutdowns to minimize major damage and long-term outages?			
Does equipment comply with applicable laws and regulations, codes and standards, and company guidelines?			
In cases where glass or other fragile material is used, can durable materials be substituted? What's the hazard resulting from breakage?			
Mechanical Loads - Are the mechanical loads imposed on equipment acceptable considering thermal expansion?			
Operating Speed - Could overspeed or imbalance cause the equipment to disintegrate?			
Operating Speed - What's the separation of critical and operating speeds?			
Operating Speed - Will the equipment trip on overspeed?			
Sight Glasses - Are sight glasses installed only where positively needed?			
Sight Glasses - Are they equipped with excess flow valves?			
Sight Glasses - Are they frequently inspected for cracks/damage?			
Sight Glasses - On pressure vessels, do sight glasses have the capability to withstand the maximum pressure?			
Testing - What ongoing tests, inspections, and maintenance are performed to ensure long-term reliability and integrity of the equipment?			
Testing - What tests will be performed to detect specification errors, manufacturing defects, transportation damage, construction damage, or improper installation before the equipment is put into service?			
Vibration - How does vibration affect Blowers?			
Vibration - How does vibration affect Compressors?			
Vibration - How does vibration affect Cooling tower fans?			
Vibration - How does vibration affect Motors?			
Vibration - How does vibration affect Pumps?			
Vibration - How is excessive vibration detected?			
Vibration - Is equipment's vibration signature routinely monitored to detect incipient failures?			
Vibration - Will excessive vibration trip large rotating equipment such as turbines?			
What could cause a catastrophic failure of the piping or equipment?			
What procedure exists for ensuring an adequate liquid level or flow in any liquid flushed, cooled, or lubricated seals?			

Engineering – Equipment - Compressors (TOC)

Issue	Responsibility/Comments	Date	Complete
Are air compressor intakes protected against contaminants?			
Are self-lubricated components or nonflammable synthetic lubricants used for air compressors to guard against explosion?			
Design Temperature - Can the design temperatures of the compressor be exceeded?			
Design Temperature - Could heat removal equipment be bypassed, trip off, or lose its cooling media?			
Design Temperature - Could the compressed fluid burn or exothermically decompose?			
Design Temperature - Could the compressor run in a total recycle mode?			
Design Temperature - What's the maximum interstage temperature?			
Discharge Pressure - Are pulsation dampeners installed to protect against metal fatigue?			
Discharge Pressure - Can the compressor discharge pressure exceed the design			

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pressure of downstream piping or equipment?			
Discharge Pressure - Can the compressor discharge pressure exceed the design pressure of the casing?			
Discharge Pressure - Do any safety signals that close a compressor's recycle valve also shut down the compressor?			
Discharge Pressure - Does compressor casing design pressure exceed the maximum suction pressure plus the compressor shutoff pressure?			
Discharge Pressure - How would a higher density fluid affect the discharge pressure?			
Discharge Pressure - How would compressor overspeed affect the discharge pressure?			
Discharge Pressure - If a downstream blockage could raise the compressor suction pressure, is downstream piping and equipment rated for the maximum suction pressure plus the compressor shutoff pressure?			
Discharge Pressure - If a downstream blockage would not raise compressor suction pressure, is downstream piping and equipment rated for the greater of normal suction pressure plus the compressor shutoff pressure or maximum suction pressure plus normal compressor differential pressure?			
Discharge Pressure - Is there a discharge-to-suction relief valve or recycle valve protecting the compressor?			
Discharge Pressure - Is there a relief valve for each low-pressure stage capable of discharging the maximum recycle flow?			
Discharge Pressure - Is this true for each stage?			
If the compressor is in an enclosed building, are proper gas detection and ventilation safeguards installed?			
Isolation - Are remotely operable valves, valve actuators, power cables, and instrument cables fireproofed?			
Isolation - Can the compressor be isolated from flammable inventories in an emergency?			
Isolation - Can the compressor be shut down from the control room?			
Isolation - Can the suction, discharge, and recycle lines be remotely isolated?			
Isolation - Is there a significant inventory of flammable liquids in knockout pots before each stage, and are there remotely operable isolation valves for each stage?			
Protection - Are there adequate protections against upsets that could damage the compressor?			
Protection - Are there enough suction knockout drums to protect the compressor from liquid carry-over?			
Protection - Is compressor adequately protected against over pressuring of the suction piping or interstage equipment?			
Protection - Is compressor suction piping heat traced?			
Protection - Is there a tight-sealing valve in the recycle line?			
Protection - Is there a verify valve in the discharge of each compressor stage to protect against reverse rotation?			
Protection - Is there a verify valve protecting the compressor and recycle line from backflow of downstream equipment or parallel compressors?			
Protection - Is there an automatic recycle system adequate to prevent surging?			
Protection - What pressure would result in the suction for each stage if the discharge verifies valve leaks when the compressor is tripped or shut down?			
Protection - What restricts the recycle flow?			
Protection - Will a high liquid level in the drums sound an alarm, and will high-high level trip the compressor?			
Protection - Will the compressor shut down to prevent air leakage when vacuum conditions are detected in the suction piping?			
Protection - Will the compressor shut down when low lube oil pressure or high lube oil temperature is detected?			
Protection - Will the compressor shut down when overspeed or insufficient load conditions are detected?			

Engineering – Equipment – Furnaces and Boilers (TOC)

Issue	Responsibility/Comments	Date	Complete
Firebox - Are bypass valves locked closed?			
Firebox - Are dedicated, positive shutoff trip valves installed in every fuel line?			
Firebox - Are the fuel pressure sensors downstream of the fuel control valves?			
Firebox - Are there explosion hatches in the firebox?			
Firebox - Can flammable or combustible gases enter the firebox via the combustion air supply system?			
Firebox - Can the forced draft fan over pressurize the firebox?			
Firebox - Could a tube failure cause an explosion?			
Firebox - Does burner control system meet applicable codes and standards?			
Firebox - High fuel pressure?			
Firebox - High stack temperature?			
Firebox - How is firebox purged before start-up?			
Firebox - How often are the furnace trips tested?			
Firebox - If several fireboxes share a common stack, will fuel leaking into one firebox be ignited by exhaust from the other fireboxes?			
Firebox - If steam is used, are the valves located away from the firebox?			
Firebox - Is firebox protected against explosions?			
Firebox - Is there a purge timer?			

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Firebox - Loss of instrument air or power?			
Firebox - Loss of pilot or main flame?			
Firebox - Low atomizing air/steam flow?			
Firebox - Low combustion airflow?			
Firebox - Low flow of water or process material?			
Firebox - Must these valves be manually reset?			
Firebox - What signals will trip the furnace: low fuel pressure?			
Firebox - Will air or stack dampers fail in a safe condition?			
Furnace - Are individual pass flow controls, indications, and alarms installed?			
Furnace - Are provisions made for draining liquids from the knockout drum?			
Furnace - Are relief valves installed for each coil with suitable protection against plugging the valves' inlets?			
Furnace - Are the valves located where they could be opened in the event of a fire?			
Furnace - Are there adequate traps and drains in the snuffing steam lines?			
Furnace - Are there remotely operable valves in the furnace inlet lines, or are manual isolation valves located where they could be closed in the event of a fire?			
Furnace - Are there verify valves or remotely operable isolation valves in the outlet of each coil to prevent backflow in the event of a tube rupture?			
Furnace - Are toe walls installed in the furnace to contain any spills?			
Furnace - Could a plugged burner tip cause a backflow?			
Furnace - Does drain need backflow protection?			
Furnace - How would flame impingement on a tube be detected before it led to tube failure?			
Furnace - Is a manual block valve accessible at least 50 feet from the furnace on each fuel line?			
Furnace - Is a manual block valve accessible at least 50' from furnace?			
Furnace - Is an uninsulated fuel gas knockout drum installed for each fuel gas, pilot gas, and waster gas system?			
Furnace - Is atomizing air or steam flow monitored?			
Furnace - Is fuel line heat-traced/insulated from drum to burner?			
Furnace - Is fuel supply at higher pressure than the atomizing air or steam flow?			
Furnace - Is fuel supply filtered and heat traced?			
Furnace - Is furnace adequately protected against tube failures?			
Furnace - Is furnace protected against liquid fuel system failures?			
Furnace - Is furnace protected against liquids in the fuel gas system?			
Furnace - Is snuffing steam supplied to the firebox?			
Furnace - Will a loss of process flow or drum level trip the furnace?			
Furnace - Will the furnace trip on high level in the knockout drum?			

Engineering - Equipment – Heat Exchangers (TOC)

Issue	Responsibility/Comments	Date	Complete
Are there adequate equipment clearances so that maintenance can be performed safely?			
Boiler Level - Can high-pressure vapors blow through to the next vessel?			
Boiler Level - What are the consequences of low level in a boiler or reboiler?			
Boiler Level - Will the tubes warp or split?			
Cooling Water - Are auto start systems regularly tested?			
Cooling Water - Are motor-driven and turbine-driven pumps used?			
Cooling Water - Are there multiple sources of makeup water?			
Cooling Water - How reliable is cooling water supply?			
Cooling Water - Is there any spare capacity in the cooling towers?			
Pressure Relief - Can hot fluid condense and create a vacuum if the exchanger is blocked in?			
Pressure Relief - Can the exchanger withstand exposure to the maximum pressure source upstream or downstream?			
Pressure Relief - Is pressure relief for both sides of the heat exchanger adequate?			
Pressure Relief - What if a tube ruptures?			
Pressure Relief - What if the cold fluid expands/vaporizes because it is blocked in?			
Pressure Relief - What if the exchanger were exposed to an external fire?			
Pressure Relief - What if the fluid freezes in the exchanger?			
Pressure Relief - What's the pressure drop between the exchanger and the relief device protecting it?			
Temperature - Can personnel be burned by touching the hot piping?			
Temperature - Can the design temperatures of the heat exchangers be exceeded?			
Temperature - Could flashing material, released by a tube failure or vent, auto refrigerate and embrittle the exchanger?			
Temperature - Could fouling reduce the heat transfer rate below acceptable limits?			
Temperature - Could freezing cause plugging or damaged equipment downstream?			
Temperature - Could the flow of cooling medium for this exchanger be lost?			
Temperature - Could the heating medium be too hot?			
Temperature - Could unvaporized gases flash and embrittle equipment downstream?			
Temperature - Could upstream heat removal equipment be bypassed, trip off, or lose its cooling medium?			
Temperature - What's the maximum upstream temperature?			
Temperature - Will hot material cause undesirable venting from storage or rundown tanks?			



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Temperature - Will unacceptably high downstream temperatures result if the exchanger is bypassed or its cooling media is lost?			
Temperature - Will unacceptably low downstream temperatures result if the exchanger is bypassed or its heating media is lost?			
Tube Failure - What are the consequences of a tube failure in a heat exchanger?			
Tube Failure - Will the fluid flash and auto refrigerate the system, possibly freezing the other fluid or embrittling the exchanger material?			
Tube Failure - Will the fluids react, leading to high pressure, high temperature, or formation of solids?			
Tube Failure - Will the leaking fluid cause corrosion, embrittlement, or other damage to equipment in the low-pressure circuit?			

Engineering - Equipment - Pressure and Vacuum Relief (TOC)

Issue	Responsibility/Comments	Date	Complete
Are discharges from vents, relief valves, rupture disks, and flares located to avoid hazards to equipment and personnel?			
Are discharges from vents, relief valves, rupture disks, and flares located to avoid hazards to equipment and personnel?			
Are relief devices located so that when they open, the process flow will continue cooling critical equipment?			
Are relief valve discharges directed to the proper system?			
Are the flare, blowdown, and off-gas systems capable of handling overpressure events for the plant as it currently exists?			
Are there separate cold and wet relief systems?			
Can equipment be designed to withstand the maximum credible overpressure generated by a process upset?			
Flare Gas - Are the flare, blowdown, and off-gas systems adequately purged, sealed or otherwise protected against air intrusion?			
Flare Gas - Are there reliable flare flameout detection devices?			
Flare Gas - Are there suitable flame arrestors installed in the piping?			
Flare Gas - Do procedures minimize the potential for releases until the system is returned to service?			
Flare Gas - Is flare equipped with a reliable ignition system?			
Flare Gas - What actions are required if a flare, incinerator, thermal oxidizer, or scrubber is out of service?			
Flare Gas - What would happen if the flare gas recovery compressor tripped?			
Inlet/Outlet Piping - Are maintenance valves car sealed or locked open? How often is this verified?			
Inlet/Outlet Piping - Are the inlet and outlet line ratings and sizes consistent with the ratings and sizes of the relief device's flanges?			
Inlet/Outlet Piping - Are there bird screens?			
Inlet/Outlet Piping - Can steam be injected in the discharge piping to snuff fires or disperse releases?			
Inlet/Outlet Piping - Can the discharge piping withstand liquid slugs?			
Inlet/Outlet Piping - Have piping bends and lengths been minimized?			
Inlet/Outlet Piping - How is condensate/rain drained from the discharge piping?			
Inlet/Outlet Piping - Is discharge piping independently supported?			
Inlet/Outlet Piping - Is heat tracing required?			
Inlet/Outlet Piping - Is there a purge or blowback system?			
Inlet/Outlet Piping - Should a rupture disk be used?			
Inlet/Outlet Piping - What has been done to prevent end-of-line whipping during discharge?			
Inlet/Outlet Piping - What prevents solids from plugging the inlet or outlet piping?			
Is any equipment that is not protected by relief devices operating under pressure or capable of being over pressurized by a process malfunction?			
Is relief system designed for two-phase flow? If not, should it be?			
Relief & blowdown headers and vents - Are maintenance valves locked open and oriented so a valve stem failure will not allow the gate to fall and obstruct the piping?			
Relief & blowdown headers and vents - Are there any low spots that could accumulate liquids?			
Relief & blowdown headers and vents - Can auto refrigerated vapors freeze and plug the header?			
Relief & blowdown headers and vents - Can the vent scrubber or adsorption bed plug?			
Relief & blowdown headers and vents - Does process discharge-piping drain freely into the header, and does the header drain freely to a knockout pot or collection point?			
Relief & blowdown headers and vents - How are liquid seals kept from freezing?			
Relief & blowdown headers and vents - How is condensate/ice kept from accumulating inside uninsulated headers?			
Relief & blowdown headers and vents - How often are knockout pots drained?			
Relief & blowdown headers and vents - Is there an independent high-level alarm?			
Relief Set Points - Has its capacity been corrected for this backpressure?			
Relief Set Points - Has the relief device been resized appropriately for changes in process conditions?			
Relief Set Points - In piping systems, does the relief set point allow for static head and differential pressure between the pressure source and the relief device?			
Relief Set Points - Is at least one relief device set at or below the design pressure of protected equipment?			

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Relief Set Points - Should multiple relief devices with staggered settings be considered to avoid chattering?			
Relief Set Points - What's maximum backpressure at the relief device?			
Rupture Disks - How often is pressure indicator read?			
Rupture Disks - Is there a pressure indicator and vent between the rupture disk and relief valve?			
Rupture Disks - Should an automatic bleeder be installed with an excess flow verify valve and pressure alarm?			
Rupture Disks - Were the relief devices sized considering the pressure drop through the entire assembly?			
Rupture Disks - Where are rupture disks installed in series with relief valves?			
Rupture Disks - Where rupture disks are used to vent explosive overpressures, are they properly sized relative to vessel capacity and design?			
What provisions are there for removing, inspecting, testing, and replacing vents, vacuum breakers, relief valves, and rupture disks?			
What's the basis for sizing relief devices?			
What's the plant policy regarding operation with one or more disabled relief devices?			
Where emergency relief devices are needed?			
Will the relief devices withstand the damaging properties of the relieved material, as well as other materials that may be present in the relief header?			

Engineering - Equipment - Pumps (TOC)

Issue	Responsibility/Comments	Date	Complete
Could leakage of the process fluid into the motor of a canned pump be hazardous?			
Design Temperature - Can the design temperature of the pump be exceeded?			
Design Temperature - Could heat removal equipment be bypassed or lose flow?			
Design Temperature - Could the pump be run dry?			
Design Temperature - Could the pump run in a total recycle or blocked-in configuration?			
Design Temperature - What's the maximum upstream temperature?			
In parallel pump arrangements, can leakage through an idle pump's discharge check valve overpressure the suction valve, flange, and connecting piping for the idle pump?			
Pump Discharge Pressure - Can the pump discharge pressure exceed the design pressure of downstream piping or equipment?			
Pump Discharge Pressure - Can the pump discharge pressure exceed the design pressure of the casing?			
Pump Discharge Pressure - Do any safety signals that close pump's maximum flow bypass also shut down the pump?			
Pump Discharge Pressure - Does pump casing design pressure exceed the maximum suction pressure plus the pump shutoff pressure?			
Pump Discharge Pressure - How would a higher density fluid affect the discharge pressure during an upset, start-up, or shutdown?			
Pump Discharge Pressure - How would pump overspeed affect the discharge pressure?			
Pump Discharge Pressure - If a downstream blockage could raise the pump suction pressure?			
Pump Discharge Pressure - If a downstream blockage would not raise pump suction pressure, is downstream piping and equipment rated for the greater of normal suction pressure plus the pump shutoff pressure or maximum suction pressure plus normal pump differential pressure?			
Pump Discharge Pressure - Is there a discharge-to-suction relief valve or minimum flow valve protecting the pump?			
Pump Suction Isolation - Are remotely operable valves, valve actuators, power cables, and instrument cables fireproofed?			
Pump Suction Isolation - Can the pump suction be isolated from the feed source in an emergency?			
Pump Suction Isolation - Considering the materials, process conditions, and location, can operators safely close the isolation valve during a fire or toxic release?			

Engineering - Equipment - Reactors (TOC)

Issue	Responsibility/Comments	Date	Complete
Agitator Failure - Being started late?			
Agitator Failure - Failing and later restarting?			
Agitator Failure - Running in the reverse direction?			
Agitator Failure - Running too fast or too slow?			
Agitator Failure - What would be the effect of an agitator failing?			
Can material overcharges, solvent undercharges, overcooling, etc., lead to precipitation and loss of effective agitation?			
Exothermic Reaction - Can loss of agitation in a cooled, stirred reactor lead to excessive temperature/pressure and a subsequent runaway reaction?			
Exothermic Reaction - Could an exothermic reaction be caused by leakage of heat transfer fluid from the jacket or internal coil into the reactor?			
Exothermic Reaction - Could backflow of material through a drain, vent, or relief system lead to or exacerbate a runaway reaction?			
Exothermic Reaction - Could local hot spots result from partial bed obstruction?			

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Exothermic Reaction - Could loss of agitation in a heated, jacketed reactor lead to localized overheating at a liquid surface and a subsequent runaway reaction?			
Exothermic Reaction - What would cause an exothermic reaction in the reactor?			
Exothermic Reaction - Will excessive point or surface temperature lead to thermal decomposition or a runaway reaction?			
Exothermic Reaction - Will excessive preheating drive the reaction further?			
Exothermic Reaction - Would an excess or deficiency of one reactant cause a runaway reaction?			
Exothermic Reaction - Would contaminants cause a runaway reaction?			
Exothermic Reaction - Would delayed initiation of batch reaction during reactant addition cause a runaway reaction?			
Exothermic Reaction - Would inadequate cleaning cause a runaway reaction?			
Exothermic Reaction - Would quench failure or loss of external cooling cause a runaway reaction?			
Exothermic Reaction - Would reactants added in the wrong order cause a runaway reaction?			
How agitator motion is monitored?			
Pressure Relief - Could heat transfer fluid leak into the reactor and overpressure it?			
Pressure Relief - Could the reactor be subjected to excessive vacuum?			
Pressure Relief - Could the reactor bed plug and cause overpressure in a region with no relief devices?			
Pressure Relief - Is pressure relief for the reactor adequate?			
Pressure Relief - Is relief device inlet protected from plugging?			
Pressure Relief - Was the potential for two-phase flow through the relief device considered?			
Pressure Relief - Was the pressure drop through the reactor considered in the relief system design?			
Pressure Relief - What's the design basis for the relief system?			
Reactor Catalyst - Could the catalyst attack the reactor during normal use, during an abnormal reaction, or during regeneration?			
Reactor Catalyst - Is catalyst pyrophoric either before or after use?			
Reactor Catalyst - Is fresh or spent catalyst toxic?			
Reactor Catalyst - What hazards are associated with the reactor catalyst?			
Reactor Catalyst - Will it emit toxic gases when dumped from the reactor?			
Reactor Design Temperature - Can the design temperature of the reactor be exceeded?			
Reactor Design Temperature - Could air leak into the reactor during operation?			
Reactor Design Temperature - Could heat transfer fluid leak into the reactor and overheat it?			
Reactor Design Temperature - Could local hot spots develop?			
Reactor Design Temperature - Could the bed regeneration temperature be set too high?			
Reactor Design Temperature - Could the reaction run away?			
Reactor Design Temperature - Could uncontrolled reactions or burning occur in the bed during regeneration?			
Regenerating Catalyst - Are regeneration feeds adequately isolated during normal operation?			
Regenerating Catalyst - Are there interlocks to prevent simultaneous operation and regeneration?			
Regenerating Catalyst - How are accidental flows prevented in multiple reactor systems where one reactor is regenerated while others remain in operation?			
Regenerating Catalyst - Is a runaway reaction possible?			
Regenerating Catalyst - What hazards are associated with regenerating the catalyst or bed?			

Engineering – Equipment - Vessels (TOC)

Issue	Responsibility/Comments	Date	Complete
Are the contents of storage vessels identified?			
Are tower and drum vents and drains properly specified?			
Gas Loss - How consistent is gas supply composition?			
Gas Loss - How dependable are the supplies of gas, and how easily can supplies to individual units be interrupted?			
Gas Loss - How will loss of inert gas be detected?			
Gas Loss - What hazards can occur because of loss of gas for purging, blanketing, or inerting?			
Inspection and Testing - Are they registered?			
Inspection and Testing - Are vessels regularly inspected and pressure tested?			
Inspection and Testing - Do pressure vessels conform to state and local requirements?			
Inspection and Testing - Has the history of vessels been completely reviewed?			
Inspection and Testing - When they were last inspected?			
Inspection and Testing - Would the inspection method reliably detect localized damage?			
Isolation - Are remotely operable valves, valve actuators, power cables, and instrument cables fireproofed?			
Isolation - Are there excess flow verify valves or automatic isolation valves that would			

EPC Master Checklist

limit the loss of material through a downstream piping rupture?			
Isolation - Can the contents of the vessel be isolated in an emergency?			
Isolation - Can the vessel contents be pumped out or vented to a safe location?			
Isolation - Considering the materials, process conditions, and location, can operators safely close the isolation valves during a fire or toxic release?			
Isolation - Do emergency shutdowns prevent operators from emptying process materials from the unit?			
Pressure Relief - Is a thermal expansion relief valve needed for small, liquid-filled vessels that would not otherwise require a relief valve?			
Pressure Relief - Is a vacuum relief system needed to protect the vessel during cool down or liquid withdrawal?			
Pressure Relief - Is pressure relief for the vessel adequate?			
Pressure Relief - What would happen if a slug of water were fed to the vessel?			
Pressure Relief - What's the design basis for the relief system (cooling water failure, external fire, blocked flow, blowdown from upstream vessel)?			
Safety Precautions - Are dip tubes used to avoid static buildup?			
Safety Precautions - Has the possible creation of static electricity been adequately addressed?			
Safety Precautions - Is equipment properly grounded/bonded, including transport containers?			
Safety Precautions - What safety precautions are needed in loading liquids into, or withdrawing them from, tanks?			
Vessel Specification - Are drains valved and, where required, plugged, capped, or blinded?			
Vessel Specification - Are bleeds required?			
Vessel Specification - Are double valves installed on regularly used drain connections for vessels?			
Vessel Specification - Are lines that could collect water adequately protected against freezing?			
Vessel Specification - Are normally closed vents plugged, capped, or blinded and where required, are they valved?			
Vessel Specification - Are vents large enough for planned steamouts?			
Vessel Specification - Are vents large enough to prevent vacuum conditions when liquids are drained from the vessel?			
Vessel Specification - Is there a large vent on vessels in which human entry is planned?			
Vessel Upset - Can high-pressure gas blow through?			
Vessel Upset - Can vessel upset overpressure downstream equipment?			
Vessel Upset - What if process material escapes through water draw off?			
Vessel Upset - What if the liquid level were lost?			
Vessel Upset - What if the overhead pressure control valve or vent fully opens?			
Vessel Upset - What if water were not separated and drained?			
What vessel levels are vital for the operation of process units? How are these levels monitored?			

Engineering – Fire Protection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are critical isolation valves fire-safe, and will their actuators withstand fire exposure?			
Are important fire protection resources located where they can be threatened by fires or explosions in the facility?			
Are sheltered or enclosed areas adequately ventilated to prevent accumulation of flammable gases?			
Are tanks, buildings, and structures adequately protected against lightening?			
Are vents properly located at high and/or low points, considering the density of the gases involved?			
Are worker-smoking areas clearly defined and enforced?			
Can process lines and utilities be isolated at the unit battery limits?			
Combustible Mixtures - Are firewalls, partitions, or barricades installed to separate high-value property, high-hazard operations, and units important for production continuity?			
Combustible Mixtures - How have major storage tanks or vessels been located to minimize the hazard to process equipment if the tanks catch fire or rupture? Are liquid-filled tanks near the ground?			
Combustible Mixtures - What combustible materials are present? How are they protected from fire, sparks, and excessive heat?			
Combustible Mixtures - What combustible mixture can occur because dissolved or chemically bound oxygen was released and accumulated?			
Combustible Mixtures - What combustible mixture can occur because of a loss or contamination of gas for purging, blanketing, or inerting?			
Combustible Mixtures - What combustible mixture can occur because of abnormal process conditions?			
Combustible Mixtures - What combustible mixture can occur because of condensation in the ducts?			
Combustible Mixtures - What combustible mixture can occur because of dust?			
Combustible Mixtures - What combustible mixture can occur because of improper start-up, shutdown, or restoration after maintenance?			
Combustible Mixtures - What combustible mixture can occur because of moving			

EPC Master Checklist

liquids into and out of vessels?			
Combustible Mixtures - What combustible mixtures can occur within equipment because of normal process conditions?			
Combustible Mixtures - What's the approximate inventory of flammable liquids in the equipment?			
Control Room Protection - Do any glass windows face process areas where explosions might occur?			
Control Room Protection - Is control room adequately protected against external fires or explosions?			
Drainage - Are drain valves outside any dikes?			
Drainage - Can the drains and dikes accommodate the water used during fire fighting?			
Drainage - Has adequate drainage been installed to carry spilled flammable liquids and water used for firefighting away from buildings, storage tanks, and process equipment?			
Drainage - Will burning materials float into adjacent areas?			
Dust Hazards - Are there blast gates in the ducts?			
Dust Hazards - Is explosion suppression equipment needed to stop an explosion once started?			
Dust Hazards - What protection has been installed for dust hazards?			
Extinguishing Media - Are any prohibited extinguishers available in the area?			
Extinguishing Media - Are there any extinguishing media that are prohibited?			
Extinguishing Media - If water is prohibited, are there warning signs in the area?			
Fire Brigade - Are enough SCBAs available?			
Fire Brigade - Does it include first aid?			
Fire Brigade - From mutual aid groups?			
Fire Brigade - From the community?			
Fire Brigade - How is fire brigade assembled during the day shift?			
Fire Brigade - Off-shifts?			
Fire Brigade - What are the capabilities of the fire brigade?			
Fire Brigade - What firefighting equipment is available in the facility?			
Fire Brigade - What procedures do fire fighters follow when entering a unit?			
Fire Brigade - What protective equipment is available to the fire fighters?			
Fire Brigade - What training does the fire brigade receive?			
Fire Brigade - Will bunker gear withstand exposure to process chemicals?			
Fire Detection - Have suitable locations been selected for fire detectors and alarms?			
Fire Detection - How are fires or potential fires detected?			
Fire Detection - Can personnel identify the type of alarm and the location of the fire?			
Fire Fighting Equipment - Are hydrocarbon drainage systems equipped with explosion traps and vents?			
Fire Fighting Equipment - Are there hose standpipes inside buildings?			
Fire Fighting Equipment - Are there mobile equipment and trained crews that can respond quickly?			
Fire Fighting Equipment - Do the deluge systems adequately protect small-diameter piping attached to vessels?			
Fire Fighting Equipment - Is equipment containing volatile flammable materials or materials above their auto ignition temperature protected by deluge systems?			
Fire Fighting Equipment - Is inert gas or steam installed for combustible reactor or absorber beds?			
Fire Fighting Equipment - Is snuffing steam installed for fired equipment?			
Fire Fighting Equipment - Is there adequate firefighting equipment?			
Fire Fighting Equipment - Is this adequate for high-piled storage areas?			
Fire Fighting Equipment - What automatic sprinklers are installed in buildings with combustible construction or contents?			
Fire Fighting Equipment - What firewater hydrants serve the area?			
Fire Fighting Equipment - What fixed or portable water cannons or monitor nozzles are installed for coverage of manufacturing facilities or storage facilities in open areas?			
Fire Fighting Equipment - What flammable liquid storage tank protection has been installed?			
Fire Fighting Equipment - What total flooding or local-application fire suppression systems have been installed?			
Fire Fighting Equipment - What type, size, location, and number of fire extinguishers are installed?			
Fire Fighting Techniques - Are fire fighting techniques defined for materials?			
Fire Fighting Techniques - Is preferred fire extinguishing method readily available in the area?			
Fire Fighting Techniques - Is technique usable in the work area?			
Fire Procedures - Have fire fighters been trained?			
Fire Procedures - To what extent should operators, maintenance workers, or contractors attempt to fight fires?			
Fire Procedures - What procedures are followed in the event of a fire?			
Fire Procedures - When were these procedures last practiced?			
Fire Procedures - Where is emergency command center, and how is it staffed?			
Fire Procedures - Who decides to c outside fire brigades?			
Fire Procedures - Who decides when to c the fire brigade?			
Firewater Supply - Are any alternate supplies available?			
Firewater Supply - Are there contaminants in the firewater supply that could damage firefighting equipment?			



EPC Master Checklist

Firewater Supply - Are there redundant firewater pumps with diverse drivers?			
Firewater Supply - How long will supplies meet the maximum demand?			
Firewater Supply - How often is equipment flushed out?			
Firewater Supply - What's the capability of firewater supplies?			
Firewater Supply - What's the maximum firewater demand?			
Flame Arrestors - Are there flame and detonation arrestors where appropriate?			
Flame Arrestors - Are they properly specified for the actual service conditions?			
Flame Arrestors - When they were last tested or inspected?			
How is process equipment protected from external fire?			
Ignition Sources - Are there ignition sources present?			
Ignition Sources - Are there mechanical spark sources?			
In confined areas, how is open-fired equipment prevented from igniting flammable releases?			
Is insulation installed on hot equipment and piping that could ignite a spill of any process material?			
Is load-bearing structural steel, which is exposed to potential flammable liquid or gas fires, fireproofed to a sufficient height above a fire-sustaining surface to protect it?			
Is odorant added to flammable gases used in enclosed areas?			
Testing - Are fire protection systems periodically tested?			
U/G Fire Mains - Are there any dead ends?			
U/G Fire Mains - Have the underground fire mains been extended or looped to supply additional sprinkler systems, hydrants, and monitor nozzles?			
U/G Fire Mains - What sectional control valves have been installed?			

Engineering - Instrumentation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any instruments, displays, or controls deliberately disabled during any phase of operation?			
Are automatic controls ever used in manual mode?			
Are instrument sensing lines adequately purged or heat traced to avoid plugging?			
Are instruments, displays, and controls promptly repaired after a malfunction?			
Are the instruments and controls installed on vendor-supplied equipment packages compatible and consistent with existing systems and operator experience?			
Are the means installed for testing and maintaining primary elements of alarm and interlock instrumentation without shutting down the process?			
Are there any sources of water that could drip into or spray onto sensitive control room equipment?			
Computer Control System - Are there backups for hardware components?			
Computer Control System - Can any output or group of outputs from the computer cause a hazard?			
Computer Control System - How is computer control software written and debugged?			
Computer Control System - How is computer control system configured?			
Computer Control System - How quickly can the backup be engaged?			
Computer Control System - If there is a software error, is backup computer also likely to fail because of the same error?			
Computer Control System - Is human action required?			
Computer Control System - Is there a computer with outputs to process devices? If so, is computer failure detection implemented?			
Computer Control System - Should extremely critical shutdown interlocks be hardwired instead?			
Does control system verify that operator inputs are within an acceptable range?			
Has the process safety function of instrumentation been considered integrally with the process control function throughout plant design?			
Have instruments critical to process safety been identified and listed with an explanation of their safety function and alarm set points?			
How are alarm set points and computer software protected from unauthorized changes?			
Is instrument grounding coordinated with cathodic protection for pipes, tanks, and structures?			
Is system completely free of instruments containing fluids that would react with process materials?			
Operator-Machine Interface - Are any alarms located in areas or buildings that are not normally staffed?			
Operator-Machine Interface - Are any process variables difficult to control with existing equipment?			
Operator-Machine Interface - Are controls accessible and easy to distinguish?			
Operator-Machine Interface - Are critical alarms immediately audible or visible to an operator?			
Operator-Machine Interface - Are operators installed with enough information to diagnose an upset when an alarm sounds?			
Operator-Machine Interface - Are operators overwhelmed by the number of alarms associated with an upset or emergency?			
Operator-Machine Interface - Are redundant signal or communication lines physically separated?			
Operator-Machine Interface - Are related displays and controls grouped together?			
Operator-Machine Interface - Are signal cables shielded or segregated from power			



EPC Master Checklist

cables?			
Operator-Machine Interface - Are the controls easy to use?			
Operator-Machine Interface - Are the displays adequately visible from relevant working positions?			
Operator-Machine Interface - Are there control loops in the process which is not connected into the computer control system?			
Operator-Machine Interface - Can operators easily tell what failure/alarm started the upset?			
Operator-Machine Interface - Do any controls violate strong populational stereotypes?			
Operator-Machine Interface - Do control panel layouts reflect the functional aspects of the process or equipment?			
Operator-Machine Interface - Do separate displays present information consistently?			
Operator-Machine Interface - Do the displays provide adequate feedback on operator actions?			
Operator-Machine Interface - Does control arrangement logically follow the normal sequence of operation?			
Operator-Machine Interface - Does operator-machine interface incorporate good human factors principles?			
Operator-Machine Interface - How do operators monitor and control from the control room?			
Operator-Machine Interface - How many manual adjustments must an operator perform during normal and emergency operations?			
Operator-Machine Interface - Is adequate information about normal and upset process conditions displayed in the control room?			
Operator-Machine Interface - Is any misleading information displayed, or is any display itself misleading?			
Operator-Machine Interface - Is information displayed in ways the operators understand?			
Operator-Machine Interface - Is it obvious to operators when an instrument is failed or bypassed?			
Operator-Machine Interface - Should an alarm prioritization system be implemented?			
Operator-Machine Interface - What kinds of calculations must operators perform, and how are they verified?			
Operator-Machine Interface - When adjacent controls have a similar appearance, what are the consequences if the incorrect control is used?			
Power Loss - Does UPS also support critical devices that may need to be actuated or does it only support information and alarm functions?			
Power Loss - Is it periodically tested under load?			
Power Loss - Is there an uninterruptible power supply for supporting the process control computer?			
Power Loss - What would be the consequences of a brief or extended loss of instrument power?			
Safety - Are partial failures also fail-safe?			
Safety - How would the failure be detected?			
Safety - If instruments fail simultaneously, is collective operation still fail-safe?			
Safety - In critical processes, are these first two methods of control backed up by a third, ultimate safety shutdown?			
Safety - Is every significant instrument or control device backed up by an independent instrument or control that operates in an entirely different manner?			
Safety - What has been done to minimize response time lag in instruments directly or indirectly significant to process safety?			
Safety - What would be the effect of a faulty sensor transmitter, indicator, alarm, or recorder?			
Sequence Controllers - Is there a check, together with alarms, at key steps before the next sequence changes?			
Sequence Controllers - Where sequence controllers are used, is there an automatic verify, together with alarms, at key steps after the controller has called for a change?			
What are the effects of atmospheric humidity and temperature extremes on instrumentation?			
What are the effects of atmospheric humidity and temperature extremes on process emissions?			
What emergency valves and controls can operators not reach quickly and safely while wearing appropriate protective clothing?			
What procedures have been established for testing and proving instrument functions and verifying their alarm set points are correct?			
What provision is made for process safety when an instrument is taken out of service for maintenance?			
What's being done to verify that instrument packages are properly installed, grounded, and designed for the environment and area electrical classification?			

Engineering – Internal Audit (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adhering to codes and standards?			
Are drawing transmittals following procedures?			
Are drawings being handled electronically and are there any problems?			
Are engineering budgets being adhered to?			
Are engineering costs being controlled to current budget?			



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Are internal design reviews being held regularly?			
Are internal design reviews turning up an inordinate amount of design change?			
Are project procedures adhered to without exception?			
Are required deliverables completed and issued?			
Are required estimates accurate and accepted by [Client]?			
Are the design reviews effective with documented and verification of changes?			
Are the relationships with [Client], vendors, subcontractors or field operations smooth and businesslike?			
Are there any organizational weaknesses?			
Are travel policies adhered to without exception?			
Are we adhering to basic data, project objectives and [Client] preferences?			
Are we applying the proper amount of innovation to the project?			
Are we controlling project to scope and cost budget?			
Are we documenting cost reductions?			
Are we doing quantity trending for early notification of concerns?			
Are we experiencing an inordinate amount of holds on drawings? Is cause being addressed by management?			
Are we experiencing continuity of personnel?			
Are we managing [Client] effectively for both company's benefit?			
Are we meeting stated commitments?			
Are we properly documenting work, calculations, meetings and decisions?			
Are we receiving IT support where needed?			
Are we responsible for environmental design and experiencing no concerns?			
Are we reviewing design for health, safety and environmental issues?			
Are we tracking quantity growth?			
Are we verifying design safety, health and environment requirements?			
Do we have a staffing plan to adequately support startup and commissioning, and or are doing so?			
Do we have adequate security to protect [Client]'s confidential information?			
Do we have adequate staffing?			
Does entire team understand the project expectations?			
Does entire team understand the project schedule?			
Does project have adequate meeting rooms?			
Have we been able to support construction in a way, so as not to adversely affect the building of the project?			
Have we prepared, monitored and are managing to a construction driven schedule?			
Have we reviewed the adequacy of office systems – computers, software, hardware, telephones, faxes, etc?			
Have we staffed the project with the proper administrative support?			
Is Change Management Process being followed without exception?			
Is constructability program being effective?			
Is corrective action being taken on schedule problems?			
Is cost tracking and forecasting being done and reported monthly?			
Is document reproduction following Document Control Process			
Is engineering adhering specifically to scopes of work?			
Is engineering adhering to the Document Control Process ?			
Is engineering adhering to the Procurement Process ?			
Is expertise of personnel what it needs to be?			
Is our office set up for maximizing integration and efficient production?			
Is our project income what was expected?			
Is our responsiveness time to questions and request for information within the stated guideline goals during the project kickoff?			
Is project adhering to the stated Quality Plan in the Project Execution Plan ?			
Is project communicating the project status and project issues in a timely manner to allow [Client] decisive action?			
Is project leadership and coordination effective?			
Is project using an active website? Is it functioning as expected?			
Is quality and accuracy of issued drawings and associated material at the zero defects level?			
Is quality high and project operating with a "getting it right the first time" approach?			
Is senior management involved in the guidance and direction of the project?			
Is technical competence of our personnel where it needs to be in disciplines?			
Is there a smooth flow of information among groups?			
Is there a true Team Spirit? (Groups supporting and helping each other)			
Is there any sacrificing of quality to meet schedules?			
Is there complete coordination among disciplines?			
Kickoff Process – Project kickoff communication of scope, budget schedule and contract			
Was an internal project kickoff meeting held to communicate scope, budget, schedule and contractual obligations at a minimum?			

Engineering - Maintenance (TOC)

Issue	Responsibility/Comments	Date	Complete
Adjacent Hazards - Accidental releases and spills?			
Adjacent Hazards - Emergency relief and blowdown?			
Adjacent Hazards - Fires and explosions?			

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Adjacent Hazards - Normal exhausts and vents?			
Adjacent Hazards - What hazards do adjacent units pose to maintenance workers?			
Cleaning - Are nozzles and manholes sized and located for safe cleanout, maintenance access, and emergency removal of people from vessels?			
Cleaning - How often is process equipment cleaned?			
Cleaning - What chemicals and maintenance equipment are used?			
Consider the consequences of a breakdown of each piece of equipment during operation. Can it be safely bypassed, isolated, drained, cleaned/purged, and repaired? How is overpressure protection installed while the equipment is isolated?			
Crane Usage - Are equipment/cable inspections and certifications current?			
Crane Usage - How are underground voids or piping positioned before a heavy lift is performed?			
Crane Usage - Is operator certification required?			
Crane Usage - What procedures govern crane/heavy equipment usage in an operating unit?			
Do platforms provide adequate clearance for safe maintenance of equipment?			
Is material control maintained for material and supplies to be used in the units?			
Preventative Maintenance - Do valves, agitators, etc., require regular greasing?			
Preventative Maintenance - Is vibration monitoring needed?			
Preventative Maintenance - Must lubricants be changed periodically?			
Preventative Maintenance - Must oil mist systems be verified for water, low spots, mist generator failure, etc.?			
Preventative Maintenance - Must seal oil and lube oil levels be monitored?			
Preventative Maintenance - What's the preventative maintenance schedule, and is it adequate to ensure the reliability of safety-critical equipment and instrumentation?			
Procedures - Are there written procedures for Blinding before maintenance or vessel entry?			
Procedures - Are there written procedures for Confined space or vessel entry?			
Procedures - Are there written procedures for contractor work?			
Procedures - Are there written procedures for Cranes and heavy lifts?			
Procedures - Are there written procedures for Digging and power excavation?			
Procedures - Are there written procedures for Entry into operating units?			
Procedures - Are there written procedures for Hot taps and stopples?			
Procedures - Are there written procedures for Lockout/tagout?			
Procedures - Are there written procedures for Opening process lines?			
Procedures - Are there written procedures for Pressure testing with compressible gases?			
Procedures - Are there written procedures for Use of supplied-air respiratory equipment?			
Procedures - Are there written procedures for Work in an inert atmosphere?			
Procedures - Are there written procedures for Work on energized electrical equipment?			
Procedures - Are written procedures available and followed for hot work?			
Shutdowns - Are other precautions necessary to protect operators, mechanics, and service personnel?			
Shutdowns - Are there provisions for blanking off lines into equipment that people may enter?			
Shutdowns - Is it necessary to shut down the process completely to safely repair a piece of equipment?			
Tools - Are special tools required to perform any tasks safely or efficiently?			
Tools - Are the right tools available and used when needed?			
Tools - What steps are taken to identify and provide special tools?			
What kind of special housekeeping is required?			
What process hazards are introduced by routine maintenance procedures?			
What provisions are made for spare machines or spare parts for critical machines?			

Engineering – Management and Policy Issues (TOC)

Issue	Responsibility/Comments	Date	Complete
Are engineering drawings or models up to date, including those related to environmental management permits?			
Contractor Control - Are there adequate controls on contractor personnel?			
Contractor Control - Are there different requirements for long-term and short-term contractors?			
Contractor Control - Do they have to meet the same safety standard required of company personnel?			
Design Changes - Are changes coordinated with operations so procedures and training materials can be updated?			
Design Changes - Are field changes by operations or maintenance personnel handled in the same way as engineering changes?			
Design Changes - Are there adequate controls on design changes?			
Is mutual aid network documented by formal agreements?			
Is there a policy that clearly establishes which individuals have the authority to stop work if safety requirements are not met?			
Safety Commitment - Are near misses discussed, and is any action taken to prevent recurrence?			
Safety Commitment - Are there clear procedures during emergencies for			



EPC Master Checklist

communications between workers and emergency response personnel, plant management, corporate management, and public authorities?			
Safety Commitment - Do safety discussions involve more than a review of injury statistics?			
Safety Commitment - Do supervisors and workers believe that safety has higher status with other business objectives in the organization?			
Safety Commitment - Do the investigations go into enough depth to identify the root causes of worker errors?			
Safety Commitment - Do workers understand these policies, and are they convinced of upper management's sincerity?			
Safety Commitment - Have supervisors and workers been specifically told to err on the safe side whenever they perceive a conflict between safety and production?			
Safety Commitment - How are managers held accountable for their health and safety record, and how do the rewards and penalties compare to those for production performance?			
Safety Commitment - How does the company promote a "safety first" approach?			
Safety Commitment - How Is human factors engineering deficiencies identified during the investigation of an incident corrected at the site of the original incident?			
Safety Commitment - Is health and safety regularly discussed in management meetings at levels?			
Safety Commitment - Is management of worker health and safety an essential part of a manager's daily activities?			
Safety Commitment - Is upper management's commitment to employee health and safety clear?			
Safety Commitment - What actions are taken if an injury occurs?			
Safety Commitment - What criteria and procedures exist for reporting and investigating accidents and near misses?			
Safety Commitment - What policy statements communicate senior management to employees?			
Safety Compliance - Do workers participate on the audit teams?			
Safety Compliance - Is there an audit program that regularly reviews safety compliance?			
Safety Compliance - Who sees and responds to audit reports?			
Substance Abuse - Are there programs for identifying and helping workers with substance abuse or mental health problems?			
Substance Abuse - what counseling support and professional advice is available to workers during periods of ill health or stress?			
Substance Abuse - What's the company policy on reassigning or terminating workers who are unable/unfit to perform their jobs?			
Testing - Does company policy require that safety-related equipment be tested periodically?			
Testing - What failures are tolerated until the next planned shutdown?			
Training Policy - Are training records kept?			
Training Policy - How are retraining needs identified?			
Training Policy - How are workers trained on new processes, equipment, and procedures?			
Training Policy - How is attainment of such objectives monitored?			
Training Policy - How is training effectiveness assessed?			
Training Policy - Is there a written training policy applicable to workers?			
Training Policy - What training is given to new workers?			
Training Policy - What training is given to workers changing jobs or taking additional responsibilities?			
Training Policy - What training is required before a worker can "step up" to substitute for an absent foreman or supervisor?			
Utility Maintenance - Are interfaces between different organizations recognized?			
Utility Maintenance - Are such worker disclosures treated as evidence of worker incompetence, as unwarranted criticism of management, or a valuable lesson to be shared and acted upon?			
Utility Maintenance - Are the responsibilities for utility system maintenance and operation clearly defined throughout the plant?			
Utility Maintenance - Are workers encouraged to ask supervisors for assistance?			
Utility Maintenance - Are workers encouraged to discuss potential human errors and near misses with their supervisors?			
Utility Maintenance - Are workers penalized for "unnecessary" shutdowns when they truly believe there is an emergency?			
Utility Maintenance - Do workers know when to seek assistance?			
What administrative control is necessary to ensure replacement of proper materials during construction/modification/maintenance to avoid excessive corrosion and to avoid producing hazardous compounds and reactants?			
What's the company policy toward compliance with process safety guidelines published by industry or trade groups such as the Chemical Manufacturers Association, the American Petroleum Institute, or the Chlorine Institute?			
Will a task force approach be used for engineering?			



EPC Master Checklist

Engineering - Operations (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adequate communications installed to operate the facility safely?			
Are approval of documents conducted for deliverables by originator, checker and lead Engineer/designer? Plans and major drawings by Project Manager			
Are changes approved per contractor Change Management Process? No work is done before approval!			
Are design and procurement schedules construction driven?			
Are design elements standardized?			
Are design installation details standardized for early purchase of bulk items?			
Are design reviews performed per plan?			
Are designs configured to enable efficient construction and use of efficient technologies			
Are designs configured to enable efficient construction?			
Are discipline activity plans updated?			
Are drawings checked for interference checks before releasing to field?			
Are early design decisions considering modularization / pre-assembly, construction automation and other major construction method options while they are still viable options?			
Are four-month staff assignment schedules maintained?			
Are guards designed for rotating equipment?			
Are inter-squad checking procedures followed on design activities?			
Are locations for safety showers and eyewashes established and approved?			
Are maximum and minimum levels of performance documented for each piece of equipment?			
Are module / preassembly designs prepared to facilitate fabrication, transport and installation?			
Are requisitions completed per contractor procedures?			
Are Scope of Work, deliverables, budgets and schedule milestones defined?			
Are there enough operators on each shift to perform the required routine and emergency tasks?			
Are tie-in locations identified with tie-in ID Tags and a detailed tie-in listing?			
Are types of bulk materials standardized to reduce the number of different sizes and / or materials?			
Are underground utility corridors located to eliminate or minimize the affect of construction of deep foundations?			
Are we using Master Specifications for entire project, with specific package information for each piece of equipment?			
Catastrophic Consequences - Have critical jobs and tasks been identified?			
Catastrophic Consequences - Have the mental and physical aspects of such jobs been analyzed for both routine and emergency activities?			
Catastrophic Consequences - What has been done to reduce the likelihood and/or consequences of potential human errors in the performance of these jobs?			
Catastrophic Consequences - What human errors may have catastrophic consequences?			
Checklists - Are any instructions embedded in explanatory notes?			
Checklists - Are checklists used for critical procedures?			
Checklists - Are the steps in the correct sequence?			
Checklists - Do steps requiring control actions also specify the expected system response?			
Checklists - Is only one action specified per numbered step?			
Did design or vendor specify on drawings the lifting and ground lug removal plan if required?			
Do designs facilitate construction and field productivity under adverse weather conditions			
Do the pump trim drawings reflect the seal water requirements and type of service connection required?			
Do vessel ladder and platform drawings support the installation before erection of vessel?			
Does [Client] have a "clean design" manual or guide with both written and graphic descriptions of standard clean design details?			
Does design facilitate construction under adverse weather conditions?			
Does design promote construction accessibility of personnel, material and equipment?			
Does design promote construction accessibility of personnel, material and equipment			
Does design schedule support the ordering of underground valves and hydrants early? Completion of U/G Construction priority			
Does engineering and fabrication of large transfer lines, slide valves and like items support the schedule installation of the associated structure and vessel?			
Does engineering design utilize specifications of HDPE, fiberglass and plastic piping weight advantages for ease of installation?			
Does equipment list include requirements for painting, insulation and fireproofing?			
Does equipment list reflect "furnished by" and "installed by" fields for future projects information			
Does project have a schedule to provide engineering in supplier's facilities to assure fabrication approvals?			
Has a HAZOP review been conducted per contractor safety requirements?			
Has cooling tower material been analyzed for cost and schedule?			

EPC Master Checklist

Has design maximized ground level construction?			
Has design maximized stairs access to areas requiring routine maintenance?			
Has design provided adequate platforms on equipment to facilitate routine maintenance requirements?			
Has each piece of equipment been reviewed for suggested spare parts?			
Has engineering established clear coordinates on piping and electrical design drawings for fire protection piping and sprinklers?			
Has engineering identified requirements for temporary strainers?			
Has engineering performed a final verification of piping nozzle locations prior to drawing approval and release to fabricate?			
Has engineering provided an isometric issue forecast schedule?			
Has engineering provided specifications and criteria for NDE requirements with construction and [Client] input?			
Has engineering reviewed the need for blanket order listing?			
Has engineering reviewed the welding and non-destructive examination requirements that are imposed on supplier components for compatibility with project's welding and NDE Standards?			
Has equipment layout been reviewed and approved for most efficient operations?			
Has minor equipment been standardized? Items like controls, electrical components, valves, tubing fittings, small pumps, hydraulic motors and couplings?			
Has process engineer identified panel locations with module boundary?			
Has the as built drawing procedure, scope and responsibility been defined?			
Has the drawing transmittal procedure been implemented according to contractors' Design Process ?			
Has the engineering team reviewed the project schedule to make certain that they buy into it?			
Has the project verified with plant operations and maintenance the final locations for control/emergency stop stations?			
Have ADA issues been reviewed and implemented?			
Have data books and plant manuals been finalized, assembled and distributed?			
Have equipment arrangements been reviewed and approved by [Client] operations?			
Have equipment, control cabinets, valves, power units and filters been reviewed for accessibility in ongoing maintenance?			
Have maintenance requirements been set?			
Have plant maintenance reviews been scheduled? Preferably early in the design process?			
Have technical reviews been completed by Sr. Project Engineer / Architect?			
Have the Design Processes been issued according to contractors procedures.			
Have the lubrication specifications been developed?			
Have we defined boundaries for the incoming power and its location?			
Have we maximized the use of in-line pumps?			
Have we obtained local codes and restrictions?			
Have we performed cost justification analysis on carbon steel tanks with interior coating prior to procuring?			
Have we taken into consideration the insulation thickness and weight when design lifting lugs on equipment?			
How do workers demonstrate their knowledge before being owed to work independently?			
How does engineering ensure that hazardous operation areas have completed any special design for additional valving or flanging for safety reasons?			
How is design progress being measured?			
How is quality of design being checked to ensure the quality of documents meets the deliverable standards and are ready for Bid/Construction when issued?			
How thorough is operators' knowledge of the process chemistry and potential undesired reactions?			
If [Client] does not have a "clean design" manual or guide are we required to develop one?			
If this is an existing plant, have we received drawings showing locations of underground utilities?			
Is a plant map available showing plot and surrounding area?			
Is area required for tube bundle removal clearly indicated on the equipment arrangement, mechanical and piping drawings?			
Is checking conducted on deliverables, prior to being issued to [Client] for approval and in accordance w/office checking procedures?			
Is construction attending regular design progress review meetings? Review should be of drawings, specification, P&IDs, wiring reports, instrument index and scope of work for suitability to construction use and field installation			
Is construction efficiency considered in specification development?			
Is design and construction taking into consideration the findings of a feasibility plan?			
Is design of the control rooms, rack rooms, and MCC rooms HVAC scheduled for early release to support the environmental control of these rooms prior to installing DCS and variable speed drive cabinets?			
Is design verification performed per plan with squad checks?			
Is drainage system for skid-mounted equipment included in design drawings and specifications?			
Is drawing index issued and how often is it updated?			
Is engineering organization been developed and approved?			
Is engineering proceeding with design of physically large systems early?			



EPC Master Checklist

Is engineering producing cross sections of the building early to show pipe racks, large ducts, cable tray, etc. to confirm the owed spacing is appropriate?			
Is engineering supplying interface drawings to multiple supplier equipment with individual vendor requirements?			
Is equipment left unattended under automatic control?			
Is numbering sequence of P&IDs consistent with [Client] standards and does not reuse existing Plant Record Drawing numbers?			
Is process difficult to control?			
Is shop drawing turnaround time defined?			
Is site level and clear, if not, do we have good description with any problems defined?			
Is there a drawing needs list developed and maintained?			
Is there a freeze date on technology?			
Is there a space plan approach to the project to minimize interferences, congestion and enhance constructability?			
Is there a system to monitor design review comment incorporation into final drawings?			
Is there an engineering review schedule issued?			
Labeling - Are the labels accurate?			
Labeling - Does labeling program include components that are mentioned in the procedures even if they are not assigned an equipment number?			
Labeling - Is -important equipment clearly and unambiguously labeled with name, number, and contents?			
Labeling - Who's responsible for maintaining and updating the labels?			
Loading/Unloading Ops - Are there physical means to prevent reversed connections or connections to the wrong tank?			
Loading/Unloading Ops - How are hookups performed?			
Loading/Unloading Ops - How is raw material or product composition verified?			
Loading/Unloading Ops - How is surveillance or supervision maintained?			
Loading/Unloading Ops - How is training/familiarization conducted for company and non-company personnel involved in these operations?			
Loading/Unloading Ops - How is transport container grounded/bonded?			
Loading/Unloading Ops - Is composition verified before any material transfer takes place?			
Loading/Unloading Ops - Is electrical continuity verified?			
Loading/Unloading Ops - What loading and unloading operations are performed?			
Loading/Unloading Ops - Who performs these operations?			
Operating Limits - Can operators detect and respond to upsets before safety limits are exceeded, or are automatic systems installed?			
Operating Limits - Do the procedures specify safe operating limits for materials and operations?			
Operating Limits - How quickly could safety limits be exceeded?			
Operating Limits - What process variables do, or could, approach those limits?			
Operator Practices - Do operator practices always comply with written procedures?			
Operator Practices - Does such authorization include a review of the safety implications of the change or deviation?			
Operator Practices - How are differences detected and resolved?			
Operator Practices - Who can authorize changes and deviations from the written procedures?			
Procedures - Are cautions and warnings clearly stated in prominent locations?			
Procedures - Are diagrams, photographs, drawings, etc., used to clarify the written text?			
Procedures - Are known errors owed to remain uncorrected?			
Procedures - Are procedures written so workers can understand them, considering their education, background, experience, language, etc.?			
Procedures - Are there too many abbreviations and references to other procedures?			
Procedures - Do the operators themselves help review and revise the procedures? How often?			
Procedures - Does procedure nomenclature match equipment labels?			
Procedures - Have the operating procedures been appropriately revised and have operators been trained in the new procedures?			
Procedures - How are specific, up-to-date procedures maintained?			
Procedures - Is a complete, current set of procedures for normal operations, start-ups, shutdowns, upsets, and emergencies available for operators to use?			
Procedures - Is a step-by-step format used?			
Procedures - What process equipment or parameters have been changed?			
Shifts - Are shift rotation schedules set to minimize the disruption of workers' circadian rhythms?			
Shifts - How are problems with worker fatigue resolved?			
Shifts - Is there a plan for rotating workers during extended emergencies?			
Shifts - What's the maximum allowable overtime for a worker, and is limit enforced?			
Training - How are new operating personnel trained on initial operations, and how are experienced operating personnel kept up to date?			
Training - Is there regular training on emergency procedures, including drills on simulated emergencies?			
TV Cameras - Should television cameras be installed to watch flare tips?			
TV Cameras - Should television cameras be installed to watch for intruders?			
TV Cameras - Should television cameras be installed to watch loading/unloading racks?			
TV Cameras - Should television cameras be installed to watch process material			



EPC Master Checklist

releases?			
Utility System Failures - Are load-shedding priorities defined?			
Utility System Failures - Are there backup electrical supplies?			
Utility System Failures - Can the steam system operate without electrical power?			
Utility System Failures - How are utility system failures handled?			
Utility System Failures - Is there a plant-wide response procedure?			
Utility System Failures - Is there at least one boiler that can start without steam?			
Verify that circulating water and other piping is designed for ease of removal?			
Verify that instrumentation and operation valves are outside noise enclosures?			
Verify that the space for shower, locker, change and restroom facilities for operations personnel is adequate?			
What procedure is developed to insure contractor as built accuracy and for record drawings?			
What procedures or operations must be monitored by process engineers or other technically trained personnel?			
What special clean-up, purging, or draining requirements are there before start-up?			
What's the elevation of the water table?			
When referencing codes, do we reference specific portions of a code rather than the entire code?			
Who expedites shop drawings?			
Who makes up the equipment files?			
Who provides code reviews with local/state authorities?			
Who's in control of design quality to ensure that suppliers are getting quality engineering drawings?			
Who's responsible for expediting suppliers operation, installation and maintenance manuals for packaged systems, pumps, compressors, agitators and other rotating equipment to ensure availability prior to receipt of the equipment?			
Who's responsible for space planning and layout?			
Who's responsible for spare parts listing?			
Who's responsible for verification review of interface between vendor and construction scopes of work in Equipment Packages?			
Who's responsible for verifying the interface between vendor and construction for multiple flange sets or isolation valves between Vendor design and Engineer?			
Who's responsible for verifying the interface between vendor and construction for termination points for electrical, instrumentation and piping?			
Will [Client] approve and sign off on drawings? If so which ones and at what percent complete?			
Will [Client] supply process design or a third party?			
Will computer modeling be used for constructability? Who'll provide?			
Will specifications for vessel alignment/plumbness/leveling be ready early in the project?			
Will the design support the early installation of oil mist systems so that rotating equipment can be run prior to mechanical and electrical completion when needed?			
Will there be any special drawing control required such as P&ID's on a [Client]-designed system?			

Engineering – Personnel Safety (TOC)

Issue	Responsibility/Comments	Date	Complete
Alarm System - Are emergency communications devices readily available in areas where workers may need to summon help?			
Alarm System - Is there an alarm system for medical emergencies?			
Are doors and windows hung to avoid projecting into or blocking walkways and exits?			
Are emergency stop switches and/or cables installed for equipment? Does equipment stop quickly enough?			
Are employees who work atop railroad cars and trucks protected against falls?			
Are flammable liquid tank car and tank truck loading and unloading docks bonded or grounded?			
Are material loading/unloading operations continuously monitored by an operator?			
Are positive disconnects and interlocks being installed for lockout of energy sources?			
Are railroad car puller control stations fully protected against broken cable whiplash? What will protect the operator from being caught between a cable or rope and the capstan or cable drum?			
Are roadways laid out with consideration for the safe movement of pedestrians, vehicles, and emergency equipment?			
Are safe means installed on loading platforms for access to work areas of tank cars and trucks?			
Are steam, water, air, electrical, and other utility outlets arranged to keep aisles and operating floor areas clear of hoses and cables?			
Are there any confined or partially confined areas where inert gas leaks could collect and asphyxiate workers?			
Are there at least two exits from hazardous work areas?			
Are utility connections clearly and unambiguously labeled? If a color-coding scheme is used, are pipes the proper color?			
Can the process be better designed to minimize or eliminate exposure to toxic substances?			
Can workers carry hazardous substances home on contaminated clothing?			
Chemical Hazards - Do we have mitigation plan for are special protective measures			



EPC Master Checklist

required?			
Chemical Hazards - Do we have mitigation plan for Asphyxiants?			
Chemical Hazards - Do we have mitigation plan for Carcinogens?			
Chemical Hazards - Do we have mitigation plan for Charging raw materials?			
Chemical Hazards - Do we have mitigation plan for Cleaning filters or strainers?			
Chemical Hazards - Do we have mitigation plan for collecting samples?			
Chemical Hazards - Do we have mitigation plan for Draining/venting wastes?			
Chemical Hazards - Do we have mitigation plan for Gauging tanks, vessels, or reservoirs?			
Chemical Hazards - Do we have mitigation plan for Irritants?			
Chemical Hazards - Do we have mitigation plan for Loading/unloading trucks, railcars, or drums?			
Chemical Hazards - Do we have mitigation plan for Mutagens?			
Chemical Hazards - Do we have mitigation plan for Poisons?			
Chemical Hazards - Do we have mitigation plan for Purging/draining process chemicals from lines and vessels?			
Chemical Hazards - Do we have mitigation plan for Teratogens?			
Chemical Hazards - Do we have mitigation plan for What chemical hazards are workers exposed to, and how are they mitigated?			
Chemical Hazards - Do we have mitigation plan for withdrawing or packaging products?			
Controls Protection - Is control room structure blast resistant?			
Controls Protection - Where operations are potentially hazardous from the standpoints of fire and explosion, are controls housed in separate structures?			
Electrical Hazard - Is arcing / electrical explosion?			
Electrical Hazard - Is burn a potential hazard?			
Electrical Hazard - Is shock a potential hazard?			
Electrical Hazard - Is unexpected energizing?			
Elevators - Are elevators equipped with shaftway door interlocks and car gate contacts?			
Emergency Showers and Eyebaths - Are emergency showers and eyebaths installed?			
Emergency Showers and Eyebaths - In cold climates, is tempered water supplied, or Is shower enclosed so workers will not suffer exposure in cold weather?			
Emergency Showers and Eyebaths - Is water flow alarmed in the control room?			
Exits - Are sufficient general exit and escape routes available from operating areas, shops, laboratories, and offices?			
Exits -Are alternate means of escape from roofs installed?			
Exits -Are the exits appropriately marked?			
Exits -Is protection installed to persons using the escape routes?			
Has a safe storage and dispensing location for flammable liquid drums been installed?			
Hoists - Are free-swinging hoists avoided?			
Hoists - Are hoists equipped with safety hooks and limit switches, if motorized?			
Hoists - Do cranes, hoists, monorails, hooks, jacks, and slings conform to applicable design standards and guidelines?			
How is high pressure vented from the area?			
Is every effort being made to handle materials mechanically rather than manually?			
Is safe access installed for employees who work atop storage tanks?			
Is structural steel grounded?			
Is yard lighting adequate?			
Lighting - How good is lighting system?			
Lighting - Is lighting system adequate for escape lighting during a fire?			
Lighting - Is lighting system adequate for routine maintenance?			
Lighting - Is lighting system adequate for safe normal operation?			
Lighting - Is lighting system adequate for shutdown during a power failure?			
Mechanical Hazards - Are there ejected parts or fragments?			
Mechanical Hazards - Are there falling or toppling objects?			
Mechanical Hazards - Are there heavy weights to be lifted?			
Mechanical Hazards - Are there obstacles likely to cause head injury or tripping?			
Mechanical Hazards - Are there sharp edges or points?			
Mechanical Hazards - Are there slippery surfaces?			
Mechanical Hazards - Are there unexpected movements of unsecured objects or ruptured hoses?			
Mechanical Hazards - Are there unguarded moving equipment?			
Mechanical Hazards - Are there unguarded or unstable platforms/ladders?			
Mechanical Hazards - Are there unguarded pinch points/nips?			
Mechanical Hazards - What mechanical hazards are workers exposed to, and how are they mitigated?			
Operator Protection - Are combustible materials near hot process equipment?			
Operator Protection - Are there flammable conditions in process equipment?			
Operator Protection - Could there be spills/releases of flammables or combustibles?			
Operator Protection - Does control room installed a safe haven during accidents, protecting operators from potential fires, explosions, and toxic releases?			
Operator Protection - Is there potential for accumulation of flammables or combustibles?			
Operator Protection - Is there potential for Cleaning solvents?			
Operator Protection - Is there potential for Ignition sources?			
Operator Protection - Is there potential for Strong oxidizers?			



EPC Master Checklist

Operator Protection - What are the evacuation plans?			
Operator Protection - What fire and explosion hazards are workers exposed to, and how are the hazards mitigated?			
Operator Protection - What's the design basis for the protection?			
PPE - For major spills and fires?			
PPE - For minor spills?			
PPE - For Process upsets?			
PPE - Is appropriate personal protective equipment available and located accessibly for normal operations?			
PPE - Is personal protective equipment required for Back protection?			
PPE - Is personal protective equipment required for Ear protection?			
PPE - Is personal protective equipment required for Eye protection?			
PPE - Is personal protective equipment required for Face protection?			
PPE - Is personal protective equipment required for Hand protection?			
PPE - Is personal protective equipment required for head protection?			
PPE - Is personal protective equipment required for respiratory protection?			
PPE - Is personal protective equipment required for skin/body protection?			
PPE - Is personal protective equipment required for Toe/Foot protection?			
Pressure Hazards - Are there compressed air tools?			
Pressure Hazards - Are there potential blowing particulates?			
Pressure Hazards - Are there potential container or equipment ruptures?			
Pressure Hazards - Are there potential discharges from vents or relief devices?			
Pressure Hazards - Are there potential high-pressure gas or steam leaks?			
Pressure Hazards - Are there potential hydraulic hammers?			
Pressure Hazards - Are there potential Vacuums?			
Pressure Hazards - What pressure hazards are workers exposed to, and how are they mitigated?			
Radiation - Do they include ionizing radiation?			
Radiation - Does hazard include High intensity visible light?			
Radiation - Does hazard include Infrared radiation?			
Radiation - Does hazard include Intense magnetic fields?			
Radiation - Does hazard include Laser beams?			
Radiation - Does hazard include Microwave radiation?			
Radiation - Does hazard include Ultraviolet light?			
Radiation - What radiation hazards are workers exposed to, and how are they mitigated?			
Temperature Hazards - Are there temperature hazards for Cold flashing liquids or vapors?			
Temperature Hazards - Are there temperature hazards for Extreme ambient temperatures?			
Temperature Hazards - Are there temperature hazards for Heavy or nonporous protective clothes?			
Temperature Hazards - Are there temperature hazards for Hot exhaust gases?			
Temperature Hazards - Are there temperature hazards for hot surfaces?			
Temperature Hazards - Are there temperature hazards for Refrigerated or cryogenic surfaces?			
Temperature Hazards - Are there temperature hazards for Steam/condensate blowdown?			
Temperature Hazards - What temperature hazards are worker exposed to, and how are they mitigated?			
Ventilation - Are air intakes well clear of sources of harmful contaminants?			
Ventilation - How was the adequacy of ventilation determined for the current activities?			
Ventilation - Is adequate general and local ventilation furnished for hazardous fumes, vapors, dust, and excessive heat?			
Vents - Are vents above the highest liquid level possible?			
Vents - Are vents located so that discharges, including liquids, do not endanger personnel, public, or property?			
Vibration Hazard - Are there high levels of noise?			
Vibration Hazard - Are there sonic flow vibrations?			
Vibration Hazard - Are there structural vibrations?			
Vibration Hazard - Are there vibrating tools or material handling equipment?			
Vibration Hazard - What vibration hazards are workers exposed to, and how are they mitigated?			
What first aid and medical treatment are required for unusual exposure? Have personnel who may be involved been notified of any special hazards or precautions?			
What standards are being followed in the design of stairways, platforms, ramps, and fixed ladders?			
Will personnel require medical surveillance or air monitoring for radiation, biological, or chemical contaminants?			
Worker Notification - Are appropriate warning signs and labels posted?			
Worker Notification - Are medical personnel aware of the hazards and trained/equipped to render appropriate treatment?			
Worker Notification - Have workers been notified of the hazards, and are material safety data sheets available?			



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Engineering – Piping and Valves (TOC)

Issue	Responsibility/Comments	Date	Complete
Are battery limit block valves easily accessible in an emergency?			
Are bellows, hoses, and other flexible piping connections necessary? Could the piping system be redesigned to eliminate them?			
Are chain-operators for valves adequately supported and sized to minimize the likelihood of valve stem breakage?			
Are controllers and control valves readily accessible for maintenance?			
Are critical isolation valve actuators powerful enough to close the valves under worst-case differential pressure conditions in the event of a rupture?			
Are piping systems installed with freeze protection, particularly cold water lines, instrument connections, and lines in dead-end service such as piping at standby pumps?			
Are provisions made for flushing out piping during start-up and shutdown?			
Are spray guards installed on pipe flanges in areas where a spraying leak could injure operators or start fires?			
Are the contents of lines identified?			
Are there manifolds on any venting or draining systems and, if so, are there any hazards associated with the manifolds?			
Are there remote shutoff devices on off-site pipelines that feed into the unit or storage tanks?			
Block/Bleed Valves - Are block valves or double block and bleed valves required because of high process temperatures?			
Block/Bleed Valves - Are the need for worker protection during maintenance on operating systems?			
Block/Bleed Valves - Are the needed because of high process pressures?			
Block/Bleed Valves - Are the needed because the process material is likely to erode or damage valve internals?			
Block/Bleed Valves - Are they needed because the process material is likely to collect on the valve seat?			
Bypass Valves - Can bypass valves be quickly opened by operators?			
Bypass Valves - Is bypass piping arranged so it will not collect water and debris?			
Bypass Valves - Is there a current log of open bypass valves kept in the control room so operators can ensure they are reclosed if necessary in an emergency?			
Bypass Valves - What bypass valves are routinely opened to increase flow, and will properly sized control valves be installed?			
Bypass Valves - What hazards may result if the bypass is opened?			
Can piping sizes or lengths be reduced to minimize hazardous material inventories?			
Can the safety function of each automatically controlled valve be tested while the unit is operating?			
Control Valve Malfunction - Are upstream vessels between a pressure source and the control valve designed for the maximum pressure when the control valve closes?			
Control Valve Malfunction - Is other equipment on the same circuit?			
Control Valve Malfunction - Is there any equipment whose material selection makes it subject to rapid deterioration or failure if any specific mis-operation or failure of the control valve occurs?			
Control Valve Malfunction - Is three-way valve used in a pressure-relieving path the equivalent of a fully open port in valve positions?			
Control Valve Malfunction - Some piping's class decreases after the control valve.			
Control Valve Malfunction - Will control valve malfunction result in exceeding the design limits of equipment or piping?			
Control Valve Malfunction - Will the reactor temperature run away?			
Critical Valves - Do control room displays directly indicate the valve position, or do they indicate some other parameter, such as actuator position or torque, application of power to the actuator, or initiation of a control signal to the actuator?			
Critical Valves - How are the positions of critical valves controlled?			
Critical Valves - How are the positions of critical valves indicated to operators?			
Critical Valves - Is position of non-rising stem valves readily apparent to the operators?			
Have plastic or plastic-lined piping systems been adequately grounded to avoid static buildup?			
Have relief devices been installed in piping runs where thermal expansion of trapped fluids would separate flanges or damage gaskets?			
Hazard Flow Protection - Are process piping connections to utility systems adequately protected against potentially hazardous flows?			
Hazard Flow Protection - Are there disconnects with suitable blinds or plugs for temporary or infrequently used utility connections?			
Hazard Flow Protection - Are there double blocks and bleeds for permanent utility connections?			
Hazard Flow Protection - Are there valves or other devices preventing backflow into the utility supply?			
How will control valves react to loss of control medium or signal? Avoid over pressuring the upstream or downstream equipment?			
How will control valves react to loss of control medium or signal? Avoid overcooling?			
How will control valves react to loss of control medium or signal? Do the control valves reduce heat input?			
How will control valves react to loss of control medium or signal? Ensure adequate			

EPC Master Checklist

flow at compressors or pumps?			
How will control valves react to loss of control medium or signal? Increase heat removal?			
How will control valves react to loss of control medium or signal? Isolate the unit?			
How will control valves react to loss of control medium or signal? Maintain or increase furnace tube flow?			
How will control valves react to loss of control medium or signal? Reduce or stop input of reactants?			
How will control valves react to loss of control medium or signal? Reduce or stop makeup to a recirculating system?			
How will control valves react to loss of control medium or signal? Reduce pressure? Is piping insulation trap leaking material and/or reacting exothermically with it?			
Is there provision in the design for a single control valve to fail in the worst possible position?			
Piping Failure - Are piping elbows and tees designed to minimize metal loss, and are they periodically inspected?			
Piping Failure - Are there flexible connections that could distort or crack?			
Piping Failure - Could a process upset cause corrosive material carry-over in the piping, or could dense corrosive materials accumulated in valve seats, drain nipples, etc.?			
Piping Failure - Could accumulated water freeze in low points or in dead-end or intermittent service lines?			
Piping Failure - Could cryogenic liquid carry-over chill the piping below its design temperature?			
Piping Failure - Could heat tracing promote an exothermic reaction in the piping, causing solids to build up in the piping, or promote localized corrosion in the piping?			
Piping Failure - Could rapid valve closure or two-phase flow cause hydraulic hammer in the piping?			
Piping Failure - Could the pipe lining be collapsed by vacuum conditions?			
Piping Failure - In high temperature reducing service, could metal dusting cause catastrophic failure?			
Piping Failure - Is piping protected by suitable chemical addition?			
Piping Failure - Is piping vulnerable to erosion?			
Piping Failure - Is piping vulnerable to stress corrosion cracking?			
Piping Failure - Should the piping be stress relieved?			
Piping Failure - Should valve opening/closing rates be dampened to avoid piping damage?			
Piping Failure - Would flashing liquids auto refrigerate the piping below its design temperature?			
Piping Specification - Does it address Cyclical conditions?			
Piping Specification - Does it address Excess pressure?			
Piping Specification - Does it address Low temperature?			
Piping Specification - Does it address Normal pressure and temperature?			
Piping Specification - Does it address the piping particularly vulnerable to external corrosion because of its design, location, or environment?			
Piping Specification - Does it have compatibility with cleaning materials and methods?			
Piping Specification - Is piping specification suitable for the process conditions considering: compatibility with process materials and contaminants?			
Thermal Expansion and Vibration - Are piping systems adequately supported and guided?			
Thermal Expansion and Vibration - Will any cast-iron valves be subjected to excessive stresses that could fracture them?			
Thermal Expansion and Vibration - Will pipe linings crack because of differential thermal expansion?			
Upon a plant-wide or unit-wide loss of control medium or signal, which valves should fail to a position that is different from their normal failure positions? How were the conflicts resolved?			
What are the hazards of plugged lines?			
What are the provisions for trapping and draining steam piping?			

Engineering – Process / Layout (TOC)

Issue	Responsibility/Comments	Date	Complete
Are access roads well engineered to avoid sharp curves?			
Are operating units and the equipment within units spaced to minimize potential damage from fires or explosions in adjacent areas and to allow access for firefighting activities?			
Are there open ditches, pits, sumps, or pockets where inert, toxic, or flammable vapors could collect?			
Are there safe exit routes?			
Are traffic signs installed?			
Are vehicle barriers installed to prevent impact to critical equipment adjacent to high traffic areas?			
Can Airborne particulates affect the site?			
Can Drought affect the site?			
Can Earth movement affect the site?			
Can Extreme temperatures affect the site?			
Can Flooding affect the site?			

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Can Fog affect the site?			
Can high winds affect the site?			
Can Lightening affect the site?			
Can Meteorite affect the site?			
Can Natural fires affect the site?			
Can Releases from adjacent plants affect the site?			
Can Sabotage/terrorism/war affect the site?			
Can Snow/ice affect the site?			
Can the unit be built and maintained without lifting heavy items over operating equipment and piping?			
Can the unit be located to minimize the need for off-site or intra-site transportation of hazardous materials?			
Can Utility failures from outside sources affect the site?			
Could access roads for emergency vehicles, be blocked by trains, highway congestion, etc.?			
Has equipment been adequately spaced and located to permit anticipated maintenance?			
Is temporary storage installed for raw materials and for finished products at appropriate locations?			
Is there adequate access for emergency vehicles?			
Is vehicular traffic appropriately restricted from areas where pedestrians could be injured or equipment damaged?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Contamination from spills or runoff?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Contamination of utilities?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Noise?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Overpressure from explosions?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Thermal radiation from fires?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from toxic, corrosive, or flammable sprays, fumes, mists, or vapors?			
Public Exposure - What hazards does this unit pose to the public or to workers in the control room, adjacent units, or nearby office or shop areas from Transportation of hazardous materials from other sites?			
Should there be concrete bulkheads, barricades, or berms installed to protect adjacent personnel and equipment from explosion hazards?			
What expansion or modification plans are there for the facility?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Contamination of utilities?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Contamination?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Flooding?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Impacts?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Noise?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Overpressure from explosions?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from Thermal radiation from fires?			
What hazards do adjacent facilities pose to personnel or equipment in the unit from toxic, corrosive, or flammable sprays, fumes, mists, or vapors?			
What provisions have been made for relieving explosions in buildings or operating areas?			

Engineering – Process Materials and Flowsheet (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any materials prone to form vapor clouds?			
Can compounds that are pyrophoric or sensitive to impact/shock precipitate out of the solution or form if the solution dries?			
Critical Need - Does shutdown of this unit require other units to be shut down as well?			
Critical Need - Is unit critical to overall facility operations on a throughput or value-added basis?			
Experience - How much experience does the facility and company have with the process? If limited, is there substantial industry experience?			
Experience - Is company a member of industry groups that share experience with particular chemicals or processes?			
Hazardous Materials - Can hazardous materials be eliminated?			



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Hazardous Materials - Can hazardous materials be fed as a gas instead of a liquid?			
Hazardous Materials - Can hazardous raw materials be stored in diluted form?			
Hazardous Materials - Can the number or size of tanks be reduced?			
Hazardous Materials - Has processing equipment been selected and designed to minimize inventory?			
Hazardous Materials - Have alternative processes with less toxic/reactive/flammable raw materials, intermediates, or by-products been evaluated?			
Hazardous Materials - Is it possible to reduce storage of hazardous intermediates by processing the materials into their final form as they are produced?			
Hazardous Waste Minimization - Can hazardous by-products be extracted to reduce the over volume of hazardous waste?			
Hazardous Waste Minimization - Can hazardous wastes be segregated from non-hazardous wastes?			
Hazardous Waste Minimization - Can solvents, diluents, or "carriers" be recycled?			
Hazardous Waste Minimization - Can useful by-products be recovered from waste streams?			
Hazardous Waste Minimization - Can waste streams be recycled?			
Hazardous Waste Minimization - Have washing operations been optimized to reduce the volume of wastewater?			
Hazardous Waste Minimization - If not, can they be minimized or eliminated?			
In heat-integrated units, what provisions are made to maintain temperature control when flow through one or more pathways stops?			
In view of process changes since the last process safety review, how adequate is size of other process equipment for relief and flare systems?			
In view of process changes since the last process safety review, how adequate is size of other process equipment for vents and drains?			
Is any stored material incompatible with other chemicals in the area?			
Material Storage - Are any large inventories of flammables or toxics stored inside buildings?			
Material Storage - Are flammable or toxic materials stored at temperatures above their atmospheric boiling point?			
Material Storage - Are inhibitors needed?			
Material Storage - Are potentially explosive dusts stored in large bins?			
Material Storage - Are refrigerated or cryogenic storage tanks used to reduce storage pressures?			
Material Storage - How is inhibitor effectiveness maintained?			
Raw Material Identification - Are there hazards associated with contamination with common materials such as rust, air, water, oil, cleaning agents, or metals?			
Raw Material Identification - Are there materials used that could be easily mistaken for each other?			
Safer Conditions - Can process steps be carried out in a series of vessels to reduce the complexity and number of feed streams, utilities, and auxiliary systems?			
Safer Conditions - Can reaction conditions be made less severe by using or improving a catalyst or by increasing recycle flows to compensate for lower yields?			
Safer Conditions - Can the supply pressure of raw materials be kept below the working pressure of vessels receiving them?			
What are the Acute toxic properties and exposure limits?			
What are the Chronic toxic properties and exposure limits?			
What are the Combustion properties?			
What are the Environmental properties?			
What are the most severe credible incidents that can occur?			
What are the Physical properties?			
What are the properties of the process materials?			
What are the Reactive properties?			
What changes have been made in process equipment or operating parameters since the previous safety review?			
What changes have occurred in the composition of raw materials, intermediates, or products? How has the process been changed to accommodate these differences?			
What data are available or should be obtained on the amount and rate of heat and gas evolution during reaction or decomposition of any materials?			
What has been done to ensure that the materials of construction are compatible with the chemical process materials involved?			
What hazardous reactions develop because of abnormal flow rates?			
What hazardous reactions develop because of abnormal process conditions?			
What hazardous reactions develop because of foreign materials?			
What hazardous reactions develop because of impact or shock?			
What hazardous reactions develop because of improper storage?			
What hazardous reactions develop because of mechanical failure or improper operation?			
What hazardous reactions develop because of missing ingredients or disproportioned reactants or catalysts?			
What hazardous reactions develop because of sudden or gradual blockage or buildup in equipment?			
What hazardous reactions develop because of utility failure?			
What hazards are created by the loss of each feed, and by simultaneous loss of two or more feeds?			
What hazards result from loss of each utility and from simultaneous loss of two or more utilities such as electricity for Refrigerant/brine?			



EPC Master Checklist

What hazards result from loss of each utility and from simultaneous loss of two or more utilities such as electricity for Ventilation?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Cooling water?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Deionized water?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Fuel gas/oil?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for High, medium, or low-pressure steam?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Inert gas?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Instrument air?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Instrument electric power?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Natural gas/pilot gas?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Plant air?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Process drain/sewer?			
What hazards result from loss of each utility, and from simultaneous loss of two or more utilities such as electricity for Process water?			
What materials are hazardous?			
What provision is made for rapid passivation or disposal of reactants if required?			
What provisions are made for preventing runaway reactions and for quenching, short stopping, dumping, or venting an existing runaway?			
What raw materials or process materials can be adversely affected by extreme weather conditions?			
What safety margins have been narrowed by design or operating changes?			
What unwanted hazardous reactions or decompositions can develop because overheating residual material in equipment?			
What's the potential for external fire?			
Which materials are acutely toxic?			
Which materials are chronically toxic, carcinogenic, mutagenic, or teratogenic?			
Which materials are flammable?			
Which materials are unstable, shock-sensitive, or pyrophoric?			
Which materials have release limits specified by law or regulation?			
Which ones are combustible?			

Engineering – Site Analysis (TOC)

Issue	Responsibility/Comments	Date	Complete
Are there any blockages to the site for accessibility?			
Are there any existing structures or utilities on the site?			
Are there any known archeological issues?			
Are there any limitations on use from legislative enactments, ordinances, or regulations?			
Are there any mining rights impacting the project?			
Are there any significant restrictions in the building area?			
Are there historic preservation requirements?			
Are we aware of existing easements / right of ways?			
Do we have a geotechnical (soil, rock, presence of toxic substances / geothermal / underground features) report and are there any concerns?			
Do we have a site survey (boundaries, restrictions, size, topography, utilities, easements, etc)? Alternatively, does one need to be done? Who's responsibility?			
Do we have or need aerial photography of the site?			
Do we have topography information on project site?			
Do we know if the location has any restrictions for context, land use, city plans, neighborhood, etc.?			
Do we know municipality requirements? (codes, zoning, planning)			
Do we know the procedure for re-zoning if required?			
Do we know what the air/environmental quality agency requirements are?			
Does [Client] own adjacent property of have options to?			
Has a traffic analysis (volume, capacity, public transit, etc.) been completed?			
Is there a drainage concern on the site?			
Is there a preference for landscape material (existing and required)?			
Is there a requirement for a catchment area?			
Is there a requirement for cable TV?			
Is there a requirement for electricity?			
Is there a requirement for natural gas?			
Is there a requirement for sewers?			
Is there a requirement for storm drainage?			
Is there a requirement for telephones?			
Is there a requirement for water (potable and non-potable)?			
Is there building material restriction (i.e.: reflective glass, metal panel, colors, and			



EPC Master Checklist

types)?			
Is there land acquisition potential?			
What are external development costs (infrastructure required, availability of utilities)?			
What are minimum walking distances?			
What are restrictions and covenants at the project location?			
What are the development plan requirements from city and county?			
What are the flood control / flood plain boundaries / flood plain alteration requirements?			
What are the height and area restrictions (FAR.; GAC.)?			
What are the set back requirements?			
What are water rights?			
What are wetlands requirements?			
What are zoning regulations?			
What type of lighting (intensity, height, and type) is required?			
What's land cost, or is this separated to [Client] financials?			
What's required visibility to and from the site?			
What's water retention requirement?			
Will permanent parking be needed? Is there enough temporary parking during construction?			
Will the project be considered a nuisance because of noise, smoke, dust, etc.?			
Will there be a neighborhood impact?			

Equipment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are base plates designed with adequate size and number of ports for proper grouting?			
Are certified drawings located in the field?			
Are cleaning, lubrication, adjustment and packing completed per specification?			
Are equipment vendors / suppliers required on site for erection assistance and start-up assistance?			
Are equipment vendors required to reference the Master Equipment List in their documentation?			
Are equipment vendors required to tag equipment according Master Equipment Numbering system prior to shipping?			
Are hot and cold alignment tolerances defined on drawings or specifications?			
Are oil level sight gauges positioned for easy operator viewing and access?			
Are piping and instrument items related to vessel trim specified on drawings, including any initial bulk purchases?			
Are scheduled durations verified by both engineering and the contractor?			
Are system limits defined?			
Are vessels with cyclones being engineered so that cyclones can be installed into the head at ground level and lifted as a complete assembly?			
Are we receiving vendor prints and Is field getting copies?			
Do equipment supplier specifications include required specifications? Do not reference other specification, but list in applicable equipment specification.			
Do heat exchangers include lifting lugs and removable heads installed during fabrication?			
Do we have a lubrication plan for equipment based on manufacturer's specifications?			
Do we have equipment delivery schedule and weights?			
Do we have equipment listing by purchase order?			
Do we have test procedures for overhead cranes?			
Do we know if there is any leave out steel or siding?			
Does design of vessel electrics support the installation in conjunction with vessel and piping work?			
Does equipment layout allow adequate space to isolate one piece of equipment for maintenance activities while nearby equipment remains in service?			
Does project have a formalized shop inspection program developed and operational?			
Does project have one well-defined document that includes equipment specifications?			
Does supplier furnish equipment guards?			
Has final alignment and rotation been completed?			
Has the project identified equipment that expands, to allow for clear conduit routing and expansion joint location requirements?			
Has there been agreement on Master Equipment Numbering system with [Client] prior to ordering equipment?			
Have arrangements been made for personnel training on equipment through the manufacturer at the time of purchase?			
Have scopes of work in equipment packages been reviewed for interface between vendor and subcontractor?			
Have we analyzed the need for any special shipping requirements for equipment?			
Is a schedule developed for lubrication and rotation of long-term storage items?			
Is an equipment checklist developed?			
Is assembly acceptable?			
Is complete analysis of each piece of equipment complete regarding long-term repair costs and potential downtime, versus capital costs?			
Is elevation correct?			
Is Grouting Procedure in contractors procedures implemented?			
Is insulation completed per specification?			



EPC Master Checklist

Is Optical equipment ordered and received?			
Is orientation correct?			
Is project maximizing equipment pre-assembly prior to setting?			
Is project maximizing standard manufactured equipment whenever possible, versus specialized? Usually reduces cost and has better delivery.			
Is project using anchor bolt/base plate templates supplied by the vessel fabricator to facilitate accurate placement?			
Is rotating equipment being turned on regular basis to prevent bearing damage?			
Is setting and alignment criteria determined for types of equipment?			
Is shimming and grouting completed per specifications?			
Is there a special procedure needed to get [Client] purchased equipment from warehouse?			
Is turnover procedure developed?			
Is vessel closure permit completed and attached to this document?			
Was a rigging and handling plan completed for setting this piece of equipment?			
What are anchor bolt tolerances?			
What shim stock is acceptable?			
Who approves final alignment and tolerance?			
Who confirms calibration of the equipment?			
Who does grouting, if required?			
Who installs the equipment pads and or supports?			
Who unloads equipment?			
Who verifies anchor bolt locations?			
Who's responsible for equipment maintenance program after equipment is installed?			
Who's responsible for equipment maintenance program while equipment is being stored?			
Who's responsible for examining equipment upon delivery for specification compliance, shipping damage and proper storage?			
Who's responsible for inspecting equipment?			
Who's responsible for the rigging of equipment?			
Will the specification for lab equipment be complete for early delivery?			

Equipment - Electronic (TOC)

Issue	Responsibility/Comments	Date	Complete
Has electronic equipment been tested per manufacturer's instructions?			
Is inspection complete for loose wiring connections?			
Is inspection for damaged and missing parts complete?			
Is there a record of item number of UPS system of which this equipment is part of?			
Verify there are no loose nuts and bolts?			
Verify there is no dirt and foreign materials in installation?			

Equipment - Blower and Fan (TOC)

Issue	Responsibility/Comments	Date	Complete
Are blower and driver final aligned per rotating equipment alignment record?			
Are blower and driver level per rotating equipment alignment record?			
Are foundation bolts tight?			
Are jacking bolts removed?			
Are nozzle and ductwork orientation been verified?			
Are seals installed?			
Do parts and bearings have lubrication?			
Does shaft rotate freely?			
Has driver rotation been verified? Coupling must be open.			
Has grounding been verified?			
Has rotation been checked by hand to make certain there is no interference or binding? This will pre-lube sleeve type bearings.			
Has the insulation required for noise attenuation been checked?			
Have larger motors been checked for any sleeve bearing movement?			
Is bearing lube oil system cleaned and operable?			
Is blower level on the foundation?			
Is coupling guard installed and secured?			
Is coupling installed?			
Is driver alignment verified?			
Is driver direction of rotation correct?			
Is driver run-in complete vibration and temperature acceptable?			
Is grounding strap installed?			
Is grouting complete without voids?			
Is piping connected to blower without stress?			
Is seal oil system cleaned and operable?			
Is soft foot checked and acceptable?			
Is suction screen installed and clean?			
Is there any conflict between manufacturer's recommendation for installation and this procedure?			

EPC Master Checklist

Equipment - Boilers, Columns and Vessels (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bolts tight?			
Are permanent gaskets installed?			
Are shims / Jackscrews removed?			
Are specified bolts and washer installed and torqued with documented records?			
Has nameplate been checked and verified?			
Have openings been closed?			
Is equipment grounded?			
Is equipment oriented properly?			
Is equipment plumb?			

Equipment – Centrifugal Pump (TOC)

Issue	Responsibility/Comments	Date	Complete
Are foundation bolts tight and jack bolts removed?			
Are pump and driver coupling hubs run-out acceptable?			
Are pump and driver level?			
Are pump and driver pre-aligned?			
Are pump flanges adequately covered?			
Are temporary suction screens in place when required?			
Do we have proper flushing material?			
Does shaft rotate freely?			
Has piping for flushing (in and out) been verified?			
Has pump and driver final alignment been verified?			
Have we hand rotated driver to verify the coupling does not contact coupling guard?			
Is baseplate level and correctly shimmed?			
Is coupling guard installed and secured?			
Is coupling installed?			
Is driver direction of rotation correct?			
Is driver run-in complete vibration and temperature acceptable?			
Is electrical grounding complete?			
Is grounding strap installed?			
Is grouting complete without voids?			
Is oil level to the recommended capacity?			
Is oil mist tubing and accessories installed?			
Is piping connected to pump without stress?			
Is Release for Grout form completed?			
Is seal panel installed correctly?			
Is soft foot checked and acceptable?			
Is suction screen installed and clean?			
Is there adequate space to remove the pump?			
Is vent and drain piping installed?			
Verify rotation? Coupling must be open			
Verify that the baseplate is not warped or damaged during transport or storage?			
Verify that the shaft is not binding?			
Verify that there is no sleeve bearing movement on larger motors?			
Verify that valves are open on lubricating systems?			
Verify that we are removing pump plugs, add thread compound and reinstall?			
Verify that we have proper lubrication on driver, coupling and pump?			
Verify the correctness of nozzle orientation?			
Verify the final alignment of pump, subsequent to piping installation?			
Verify the piping has flanges or unions so that the pump can be removed?			
Verify the pump is level on the foundation?			
Verify the type of mechanical seal?			
Verify there is no conflict between manufacturer's recommendations on the installation project procedure?			

Equipment - Compressor (TOC)

Issue	Responsibility/Comments	Date	Complete
Are compressor and driver in final alignment?			
Are compressor and driver level?			
Are foundation bolts tight, jack bolts removed?			
Are piping systems and valves for compressor accessible for maintenance?			
Are seals installed per specification?			
Check that the bearing lubrication system is clean and operable			
Does shaft rotate freely?			
Have we hand rotated driver to see that coupling does not contact the coupling guard?			
Have we used the proper type of mechanical seal?			
Is bearing lube oil system cleaned and operable?			
Is compressor alignment complete after piping is installed and tested?			
Is compressor level on the foundation?			
Is coupling guard installed and secured?			
Is coupling installed?			

EPC Master Checklist

Is driver direction of rotation correct?			
Is driver run-in complete vibration and temperature acceptable?			
Is electrical grounding complete?			
Is grounding strap installed?			
Is grout release documented?			
Is grouting complete without voids?			
Is instrumentation complete?			
Is oil level adjusted to the recommended capacity?			
Is piping connected to compressor without stress?			
Is seal oil system cleaned and operable?			
Is soft foot checked and acceptable?			
Is suction screen installed and clean?			
Is there adequate space to remove the compressor?			
Use Rotating Equipment Alignment Record to document alignments?			
Verify compressor suction bottles and piping for cleanliness in accordance with project specifications and manufacturer's recommendations?			
Verify that the base plate has not warped or damaged during transport or storage?			
Verify the alignment from driver to compressor?			
Verify the cooling system is operable?			
Verify the direction of rotation? The coupling must be open			
Verify the nozzle orientation?			
Verify the position of the valves in the lubrication system?			
Verify the seal lube system is operable?			
Verify the shaft is not binding?			
Verify the temporary suction screens are in place?			
Verify there is no conflict between manufacturer's recommendations on the installation project procedure? Engineering must resolve any conflict.			
Verify there is no sleeve bearing movement on larger motors?			
Verify we are removing pump plugs, add thread compound and reinstall?			

Equipment - Exchanger (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts tight?			
Are lateral jackscrews installed?			
Are scrubbers installed?			
Are shims installed and set?			
Are slide plate assemblies installed?			
Has elevation been verified?			
Has foundation been accepted by civil inspector?			
Is exchanger released for insulation?			
Is final closure inspection complete?			
Is fireproofing complete?			
Is grounding complete?			
Is insulation completed per specification?			
Is orientation correct?			
Is plumbness verified?			
Is pressure test complete?			
Is shear pin assembly installed correctly?			
Is slide plate material correct?			
Is structure accepted by civil inspector?			
Verify that piping is bolted without stress?			
Was purge maintained?			

Equipment - Fans (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts tightened to specification?			
Are bearing baseplates grouted and foundation bolts tight?			
Are bearing housings set on elevation and centerline?			
Are belt tensions and alignment correct?			
Are coatings complete?			
Are external attachments installed correctly?			
Are fan internal clearances acceptable?			
Are shaft seals installed?			
Do we have an approved means for media disposal?			
Do you have release for grout?			
Does filter have any damage from installation?			
Has elevation been verified?			
Has equipment been released for grouting?			
Has orientation been verified?			
Is cleanliness inspection complete?			
Is coupling installed with guard secured?			
Is driver aligned to fan rotor?			
Is driver direction of rotation correct?			
Is driver run-in complete vibration and temperature acceptable?			

EPC Master Checklist

Is fan damper linkage set and operable?			
Is fan housing drain valves installed if required?			
Is fan rotor set and level?			
Is foundation accepted by civil inspector?			
Is grouting complete without voids?			
Is installation of filter elements correct?			
Is insulation completed per specification?			
Is leak test completed and equipment is free of leaks?			
Is lube oil system clean and operable?			
Is plumbness verified?			
Is sheave alignment correct?			
Is structure accepted by civil inspector?			
Is united shimmed and set?			
Is vane control linkage set and operable?			

Equipment – Fired Heaters (TOC)

Issue	Responsibility/Comments	Date	Complete
Are burner and burner piping installation complete?			
Are filler materials per specification?			
Are openings closed?			
Are platforms, ladders and handrails installed correctly?			
Are test gaskets installed?			
Are the PI locations correct?			
Are tubing anchors and supports complete?			
Are welding procedures in place and being used for installation?			
Do we have an approved means for media disposal?			
Do we have panel material certifications?			
Do we have refractory anchor material certifications?			
Do we have the correct flush media or dry out?			
Do we have tubing material certifications?			
Have internals been verified?			
Have we determined the fill point location?			
Have we determined the test holding time?			
Have welder qualifications been confirmed?			
Is bolting torquing per specification?			
Is cleaning per specification for painting?			
Is convection section complete?			
Is drain pint location correct?			
Is orientation of nozzles, couplings, thermocouples, flanges and doors verified?			
Is packing installation complete?			
Is radiant section installed?			
Is refractory anchor placement correct?			
Is refractory installation complete?			
Is stack and damper installation complete?			
Is surface preparation for painting per specification?			
Is unit cleaned out internally?			
Is unit completely painted?			
Is unit set vertically and correct elevation per design?			
Is vent open prior to filling?			
What's the media temperature during testing?			
What's the PI calibration date?			
What's the test media?			
What's the test pressure?			

Equipment - Furnace (TOC)

Issue	Responsibility/Comments	Date	Complete
Are AIG baffles installed correctly?			
Are AIG lance assembly plates installed correctly?			
Are fan motor and dampers verified for correct installation?			
Are support brackets properly welded at the correct elevations?			
Are supports are properly placed?			
Are supports, gaskets, bolts, nuts, washers the correct material and tightened per specification?			
Are the seal boots properly installed on furnace tubes?			
Has final closure inspection been performed?			
Has proper closure of catalyst loading door been verified?			
Has refractory been inspected for damage?			
Have lifting lugs been visual checked prior to use?			
Have the catalyst trolley beams been removed and properly stored?			
Have welds at field splices been verified to specifications? Visually inspect seal weld at field splice			
Is connection of fan module to breech module steel at the proper elevation and level?			
Is damper position versus indicator in the proper position?			
Is expansion joint adjacent to modules properly installed?			

EPC Master Checklist

Is fan module verified for completeness prior to lifting?			
Is horizontal transport and proper vertical turning verified?			
Is installation of catalyst sealing material completed prior to catalyst placement?			
Is new module placement verified for plumbness, squareness, and alignment?			
Is placement of ceramic fiber on flange at field splice completed prior to setting module?			
Is refractory installed correctly at field splice?			
Is structural steel properly installed?			
Is temporary protection installed over installed furnace tubes?			
Verify bolting to breeching module for correct material and tightness?			
Verify catalyst condition prior to lifting to furnace?			
Verify cleanliness prior to closing loading door?			
Verify elevation and level flange at previous module at field splice?			

Equipment – Gas Detection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are conduit, fittings, and seals installed correctly?			
Are electrical terminations correct?			
Are purge systems installed per drawings?			
Are remote mounted sensors installation correct?			
Are tube fittings made up properly?			
Are wires tagged correctly?			
Is detection sensor elevation and location correct?			
Is device free of damage?			
Is device per specifications?			
Is grounding complete?			
Is indicator free of obstruction?			
Is leak testing complete?			
Is location and installation per drawing?			
Is location correct?			
Is permanent deification installed?			
Is sensor free of obstructed?			
Is tubing installed correctly for slope and support?			
Is wire color-coded correctly?			

Equipment – Gear Set (TOC)

Issue	Responsibility/Comments	Date	Complete
Are coupling guards installed and secured?			
Are dowel pins installed?			
Are gear teeth and internals cleaned and acceptable?			
Is cleanliness of oil piping, spray nozzles, orifices, and bearings acceptable?			
Is driver direction of rotation correct?			
Is driver to gear alignment verified?			
Is gear to driver alignment verified?			
Is gear unit level with base and foundation?			
Is input coupling installed?			
Is internal alignment acceptable?			
Is lube oil system clean and operable?			
Is output coupling installed?			
Is soft foot checked and acceptable?			

Equipment – Heat Exchangers (TOC)

Issue	Responsibility/Comments	Date	Complete
Has piping has been verified for strain?			
Have permanent gaskets been installed?			
Have the proper bolts and washers been used?			
Is bolt torquing acceptable?			
Is internal lighting correct?			
Is a gas blanket required?			
Is insulation acceptable?			
Is level correct?			
Is nameplate correct?			
Is orientation correct?			
Is painting acceptable?			
IS PI location correct?			
Is SS holding time correct?			
Is SS pressure correct?			
Is TS pressure correct?			
Is unit free on slide end?			
Is unit Grounded?			
Is vent open?			
What gas is used?			
What's drain point location?			



EPC Master Checklist

What's fill point location?			
What's flush media?			
What's means for media disposal?			
What's media material?			
What's media temperature?			
When is PI calibration due?			
Where is disposal area?			

Equipment – Mixer (TOC)

Issue	Responsibility/Comments	Date	Complete
Are shafts straight?			
Is bearing house flushed and lubed?			
Is coupling cleaned and closed?			
Is coupling guard installed and secured?			
Is driver direction of rotation correct?			
Is driver dowelled in place per specification?			
Is grounding strap installed?			
Is lubricator operable?			
Is mechanical seal or packing installed?			
Is mounting flange level?			
Is seal fluid system operable?			
Is shaft plumb?			
Is shaft rotates freely by hand?			

Equipment – Overhead Crane (TOC)

Issue	Responsibility/Comments	Date	Complete
Are brakes fully functional?			
Are communications remote / radio functional?			
Are controls properly marked?			
Are lever type controllers functional?			
Are lower block and hook function?			
Are safety guards in place for safe operation?			
Are walkways / ladders / handrails installed and in safe working condition?			
Does push button have proper support?			
Have you verified there are no loose parts?			
Is bridge travel functioning as needed?			
Is electrical disconnect functional?			
Is general appearance good?			
Is hoist travel functional?			
Is hook safety latch operable?			
Is limit switch functional?			
Is pushbutton station functional?			
Is trolley travel functional?			
Is wire rope and reeving functional?			

Equipment – Power Transformer (TOC)

Issue	Responsibility/Comments	Date	Complete
Are case, cooling fins, and switch verified for NO oil leakage?			
Are the transformer rating, impedance, and taps verified?			
Are valves, fittings, and gasket surfaces verified for NO oil leakage?			
Did we witness insulation resistance test of transformer windings?			
Did we witness test of ground resistance of transformer turns ratio test of each winding and tap settings?			
Have no-load and full-load voltages for primary and secondary voltages been verified?			
Have required tests as specified by manufacturer been completed?			
Is breakdown voltage test insulating liquid completed?			
Is dielectric strength of insulating liquid samples from transformer verified?			
Is PCB labeling verified?			
Is phase identification of bus duct and cables verified?			
Is primary switch nameplate rating verified?			
Is secondary terminal box for weatherproofing been verified?			
Is tap changer position setting verified?			
Is transformer unit verified for standard items and specified auxiliary equipment?			
Is visual/mechanical inspection of transformer satisfactory?			
Verify plug arrangement and termination details for primary windings?			

Equipment – Pressure Vessel (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts tightened to specification?			
Are catalyst and/or packing loaded?			
Are internals installed and verified?			
Has elevation been verified?			

EPC Master Checklist

Has unit been pressure tested?			
Is final closure inspection complete?			
Is fireproofing complete?			
Is foundation accepted by civil inspector?			
Is grounding complete?			
Is grouting complete without voids?			
Is insulation completed per specification?			
Is orientation verified?			
Is plumbness verified?			
Is protective coating complete?			
Is structure accepted by civil inspector?			
Is unit released for fireproofing?			
Is unit released for insulation?			
Is unit shimmed properly and set?			
Is vessel released for grout?			

Equipment – Process Analyzer (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bulkhead fittings permanently identified?			
Are calibration connections permanently identified?			
Are color codes correct?			
Are conduit and seals installed correctly?			
Are electrical terminations per specification?			
Are electrically heated sample systems installed correctly?			
Are HVAC vents installed per design?			
Are leak test non-continuous tubing runs acceptable?			
Are purge systems installed per drawings?			
Are seals installed per specification?			
Are terminations and labeling correct at source and shelter?			
Are tube fittings made up properly?			
Are tube fittings properly gauged?			
Are tubing bundles properly supported and tied down?			
Are tubing valves permanently tagged?			
Is analyzer installed per design and in correct location?			
Is analyzer per specification sheet?			
Is bottle rack installed per design?			
Is gas detection installed per design?			
Is gas detection system tagged correctly?			
Is insulation installed correctly?			
Is permanent identification installed?			
Is sample system free of damage?			
Is sample system installed per design?			
Is shelter free of damage?			
Is shelter power, signal and grounding per design?			
Is shelter slab per design including drains and grounding?			
Is tubing installed per specification?			
Is tubing properly supported between bottle and shelter?			
Is tubing straight, bent correctly, de-burred, and accessible?			
Is wire color-coded correctly?			

Equipment – Reciprocating Compressor (TOC)

Issue	Responsibility/Comments	Date	Complete
Are crosshead and cylinder housings level?			
Are sole plates on elevation, centerline and level?			
Is Compressor released for grout?			
Is connecting rod bearing clearance verified, acceptable and documented?			
Is crankshaft web deflection verified and acceptable and documented?			
Is driver grouting complete?			
Is driver in final alignment?			
Is driver pre-aligned?			
Is grouting complete without voids?			
Is mainframe level?			

Equipment – Reciprocating Pump (TOC)

Issue	Responsibility/Comments	Date	Complete
Are you following manufacturer's recommendations on the installation of the pump?			
Is proper type of lubrication being used?			
Is electrical grounding verified?			
Is level of pump verified?			
Verify motor rotation with coupling open?			
Verify that the baseplate has not been warped or damaged during transport or storage?			
Verify that the lubricator is functioning?			

EPC Master Checklist

Verify the belt, gears and coupling for tightness?			
Verify the lubricator tubing?			
Verify the nozzle orientation?			
Verify the temporary suction screens are in place?			

Equipment – Rotating Equipment Pre-Start (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bearing housings flushed and lubed?			
Are dowels installed prior to starting pumps?			
Are gland educators operable?			
Are hand valves operable for open and closed?			
Are hot alignment checks performed?			
Are oil rings installed and free?			
Are steam traps and blow-down lines operable?			
Are turbine rpm's verified?			
Are vent and drains correct?			
Are vents and drains correct?			
Does shaft rotate freely by hand?			
Has driver direction of rotation been verified?			
Has hot piping check been performed?			
Have we completed hot piping performance before starting pumps?			
Is auxiliary pump start pressure psi correct and verified?			
Is carbon packing installed per specification?			
Is coupling greased and made-up?			
Is coupling guard installed?			
Is coupling lubed and closed?			
Is direction of rotation correct?			
Is drive shaft aligned?			
Is driver direction of rotation correct			
Is equipment to be hot aligned?			
Is exhaust relief valve installed upstream of exhaust block valve?			
Is governor system free and operable?			
Is ground strap installed?			
Is hand trip satisfactory?			
Is hot piping verification complete?			
Is low lube oil trip working?			
Is low lube pressure psi – list pressure in remarks section?			
Is lube set commissioned?			
Is lube set flushed and clean?			
Is mechanical safety equipment connected and operable?			
Is mechanical seal/packing installed?			
Is overspeed trip working?			
Is sealy system operable?			
Is sentinel valve removed and plugged?			
Is steam strainer installed?			
Is steam supply line well blown-down?			
Is suction screen installed and clean?			
Lube Set - Are seal systems operable?			
Lube Set - Are the Sealy systems operable?			
Lube Set - Does shaft rotate freely?			
Lube Set - Has auxiliary pumps starting psi been verified?			
Lube Set - Has commissioning been completed?			
Lube Set - Has low lube pressure psi been verified?			
Lube Set - Is auxiliary pump starting psi correct?			
Lube Set - Is coupling guard installed and secured?			
Lube Set - Is grounding strap installed?			
Lube Set - Is hot alignment required?			
Lube Set - Is low lube psi pressure set?			
Lube Set - Is lube set commissioned?			
Lube Set - Is lube set flushed?			
Lube Set - Is suction screen installed and clean?			
Oilers - Are bearing housings flushed and lubed?			
Oilers - Are oil rings installed and free?			
Turbines - Are dowels installed?			
Turbines - Are gland educators operable?			
Turbines - Are hand valves operable?			
Turbines - Are low lube trip settings documented?			
Turbines - Are speed trip settings documented?			
Turbines - Are steam traps, lowdown lines operable, and piped properly?			
Turbines - Has hot piping check been performed?			
Turbines - Have hot alignment checks been performed?			
Turbines - Is carbon packing installed?			
Turbines - Is coupling greased and made up?			
Turbines - Is direction of rotation correct?			
Turbines - Is exhaust relief valve installed upstream of exhaust block valve?			



EPC Master Checklist

Turbines - Is governor system free and operable?			
Turbines - Is hand trip satisfactory?			
Turbines - Is hot alignment performance verified?			
Turbines - Is hot piping performance verified?			
Turbines - Is mechanical safety equipment connected and operable?			
Turbines - Is sentinel valve removed and plugged?			
Turbines - Is steam strainer installed?			
Turbines - Is steam supply line blown down?			

Equipment – Skid Mounted Equipment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anodes installed?			
Are bolted and screwed connections at the required tightness?			
Are chemical injection points installed per specification?			
Are instrument valves installed?			
Are ladders and platforms installed per specification?			
Are PI's / PT's installed per specification?			
Are safety valves tested and installed?			
Are sensors installed per specification?			
Are TE's and TI's installed per specification?			
Are valve handles installed and operable?			
Has elevation been verified?			
Has orientation been verified?			
Has plumbness been verified?			
Has unit been pressure testes and test documented?			
Is foundation / structure accepted by civil inspector?			
Is grounding complete?			
Was the receiving inspection completed?			

Equipment – Stack (TOC)

Issue	Responsibility/Comments	Date	Complete
Are access doors functional?			
Are anchor bolts tightened to proper tightness?			
Are external attachments installed and verified?			
Are flue ducts complete?			
Are guy wires tensioned to the proper level?			
Are internal coatings completed and verified with no damage?			
Are platforms and ladders completed and verified for safety?			
Are warning lights installed and operable?			
Is elevation correct?			
Is fireproofing complete?			
Is foundation accepted by civil inspector?			
Is grounding complete?			
Is grouting complete without voids?			
Is insulation completed per specification?			
Is orientation verified?			
Is piping complete?			
Is stack plumb?			
Is stack released for grouting?			
Is structure accepted by civil inspector?			
Is touch up painting complete?			
Is unit shimmed and set?			

Equipment – Sundyne Pump (TOC)

Issue	Responsibility/Comments	Date	Complete
Are vents and drains piped correctly?			
Is cooling water piping installed correctly?			
Is coupling or spline installed per specification?			
Is driver aligned (coupling drive)? Attach rotating equipment alignment record			
Is driver direction of rotation correct with coupling or spline removed?			
Is grouting complete without voids?			
Is guard installed and secured?			
Is lubrication performed per manufacturer's recommendation?			
Is pipe aligned to pump flanges without stress?			
Is pump released for grout?			
Is pump set and bolted to soleplate?			
Is seal piping installed correctly?			
Is soleplate level?			
Is suction screen installed and clean?			

EPC Master Checklist

Equipment – Switch Gear (Above 600 volts) (TOC)

Issue	Responsibility/Comments	Date	Complete
Are blocking and jumpers and shipping brackets removed?			
Are breakers and contact surfaces verified for cleanliness, smoothness, and proper lubrication?			
Are draw out and elevating mechanisms operable?			
Are electrical and mechanical connections including relay terminals verified for tightness?			
Are operations of shutter devices verified?			
Are supports inspected for cleanliness and tightness?			
Has buss been checked for tightness and torque?			
Has control wiring performance test been completed?			
Has manual and electrical operation of circuit breaker been verified?			
Has visual and mechanical inspected been completed for damage, tightness of mechanical, wire, and torque connections?			
Have breaker parts been lubricated?			
Have fuses and overload relays been verified for proper sizing and rating?			
Have we compared nameplate with one-line diagrams/specification?			
Have we tested, adjusted, and verified protective device/relay settings?			
Have we witnessed performance operations per specification?			
Is buss bar connections and torquing per specification?			
Is buss bar meggered; phase to phase to ground?			
Is ground to switchgear ground buss verified?			
Is switchgear in proper alignment and levelness?			
Is unit verified proper setting and anchorage?			

Equipment – Tanks and Vessels (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts tightened per specification?			
Are fire protection and containment requirements established?			
Are grouting requirements defined?			
Are internals installed?			
Are load requirements double-checked?			
Are tanks pickled or passivated?			
Are x-rays on welds required?			
Did we get the release for grout?			
Do we have release for insulation?			
Does design meet state, local and federal codes?			
Has unit been pressure tested? (In field)			
How are nozzle locations identified?			
If underground, is flotation prevented?			
Is a dike required?			
Is a dual tank required?			
Is a permit required?			
Is elevation correct?			
Is final closure inspection complete?			
Is foundation accepted by civil inspector?			
Is grounding complete?			
Is grouting complete without voids?			
Is insulation completed per specification?			
Is orientation correct?			
Is protective coating complete?			
Is structure accepted by civil inspector?			
Is tank plumb?			
What are tolerances of nozzle locations?			
Who approves design?			
Who designs tanks - Engineer or subcontractor?			
Who makes certain of the water supply?			
Who provides and installs blinds and valves?			
Who'll do the foundation work?			
Who'll do the inspection?			
Who'll inst tanks, the contractor or subcontractor?			
Who's responsible for painting of the tanks and final cleaning?			
Who's responsible for the hydro testing and drainage of the tank?			
Will any alternatives be accepted by fabricators and installers?			

Equipment – Towers and Columns (TOC)

Issue	Responsibility/Comments	Date	Complete
Are engineered components secured per drawings?			
Are mill test reports of materials used for pressure parts to ensure compliance with material specifications completed?			
Are sliding ends of heat exchanger supports free to slide?			
Are specified lifting lugs or attachments being used?			

EPC Master Checklist

Are temporary shipping supports removed, if not required, before erection?			
Are we following the vessel closure procedure as outlined in the vessel closure certificate when vessel is complete?			
Do we have lifting calculation submitted and approved by contractor's rigging engineer for unusually large or heavy lifts?			
Do we have special cleaning procedures when vessel is used for oxygen service?			
Does vessel or tower require an ASME Code Stamp?			
Has silicone gel dryness disposition been completed?			
Have we documented out-of-tolerance dimensions on a Non-Conformance Report form and initiated corrective action?			
Have we examined gaskets and bolting material to assure proper type and size?			
Have we marked actual measurements on one print, if different from approved drawings?			
Have we performed random verification on back gouging on pressure resisting welds to assure sound weld joints?			
Have we witnessed final pressure tests?			
Have we witnessed functional tests or other special tests specified by purchase order?			
Have we witnessed in-process non-destructive examinations, such as radiography, magnetic particle, liquid penetrant and ultrasonic?			
Have we witnessed other non-destructive tests or examine certified test reports as specified?			
Have we, when specified, specified interior of carbon steel vessels with a rust preventive coating or sealing against moisture?			
Have we, where required by specifications, verified surface preparation and paint preparation, type, coverage, thickness and color per specification by drawings or purchase order?			
If the item was in temporary storage, Verify there is no damage and assured temporary support attachments, are removed, per specification, before erection?			
Is internal coating free of damage?			
Is proper preheat applied when required by welding procedure?			
Is welder identification stamping in accordance with specification requirements?			
Verify dimensions and orientations are within tolerances specified on drawings and standards?			
Verify filler metal to assure it is in accordance with approved procedures and specifications?			
Verify installation of each individual tray, assuring installation of proper configuration in proper location, levelness, bolting, sealing, orientation, flow direction, etc.?			
Verify materials, especially pressure parts, for finish, damage, lamination, cracks, scars, excessive pitting?			
Verify prior to the start of fabrication, that welding procedures, welders and welder operators are qualified in accordance with the applicable code?			
Verify proper recording, documentation, and storage of film?			
Verify recorded code-stamping data on heads with welded seams?			
Verify records and reports retention?			
Verify that boltholes in double base rings are properly aligned?			
Verify that boltholes in flanges and anchor boltholes, unless otherwise specified, straddle the centerline?			
Verify that drain connections are ground flush with the inside contour of the vessel?			
Verify that foreign material is removed from interior of vessel?			
Verify that pressure part materials are marked for proper identification?			
Verify that skirts are vented and have access openings, where required?			
Verify that subcontractor has the capability, and retains records and examinations, per specification by ASME?			
Verify that the joint design being employed is in accordance with procedures and specifications?			
Verify that the proper radius is ground on the inside corners of openings?			
Verify that vessel is completely drained of water?			
Verify the alignment of longitudinal circumferential joints for compliance with code tolerances?			
Verify the beveling of heads and plates for welding?			
Verify the current calibration of non-destructive test equipment or gauges used in pressure tests?			
Verify the dimensions of special flanges fabricate from plat or forging?			
Verify the fit-up of head to shell and other attachments to the vessel?			
Verify the grounding lug, nameplates, and other attachments?			
Verify the location, spacing, and particularly the levelness, of tray support rings?			
Verify the painting or insulation before erection?			
Verify the pipe and fittings for proper type, schedules, material, and ratings?			
Verify the reinforcing rings installation?			
Verify the standard flanges for identification type and rating?			
Verify there is no loose miscellaneous hardware?			
Verify transfer of marking on pieces cut from plate?			
Verify trays for proper material and conformance to drawings?			
Verify welds for defects, weld contour, height or reinforcement, mismatch, and size of fillets?			



EPC Master Checklist

Equipment - Turbine (TOC)

Issue	Responsibility/Comments	Date	Complete
Are bearings flushed and re-lubed?			
Are shipping bolts on tube headers removed?			
Are the vents and drains properly piped?			
Is alignment from the turbine to the driver equipment verified?			
Is governor verified to be operable?			
Is relief valve in the exhaust line operable?			
Is grounding complete?			
Is insulation proper?			
Is lubrication verified?			
Is overspeed trip operable?			
Is packing properly installed? Bolting should be finger tight.			
Is strainer in the supply line installed?			
Is turbine level?			
Was the steam system blown clean in accordance with startup procedures?			

Equipment – Vertical Can Pump (TOC)

Issue	Responsibility/Comments	Date	Complete
Are coupling hubs run-out acceptable?			
Is coupling guard installed and secure?			
Is coupling installed with correct impeller lift/document lift?			
Is driver aligned to pump?			
Is driver direction of rotation correct?			
Is foundation sole plate or can flange face set level?			
Is grouting complete without voids?			
Is mechanical seal installed?			
Is piping connected to pump without stress?			
Is pit liner (Sleeve) plumb?			
Is pump installed with proper gaskets into can/vessel?			
Is seal and vent piping installed correctly?			
Is suction screen installed and clean?			

Estimating (TOC)

Issue	Responsibility/Comments	Date	Complete
Are allowances for unforeseen provided for in estimates?			
Are deviations from the estimate plan that might have impact on the verify estimate accuracy identified in the verify estimate plan?			
Are deviations from the verify estimate plan that might have impact on the estimate accuracy identified?			
Are estimate parameters been defined? Is there any [Client] implications?			
Are estimating requirements defined?			
Are required records per contractors procedures retained in the Estimate file?			
Are take-offs spot-checked by project estimator?			
Are the estimators set up with the engineering entity and appropriate visits to the facility, similar facility or design house arranged?			
Are the verify estimates generated in accordance with the requirements identified in the work breakdown structure?			
Are there any unusual deliverables required?			
Are there costs in the estimate reflecting contractual risks?			
Did construction have significant participation in estimate and proposal development?			
Do we have workhours / units by discipline available?			
Do you have brief summation of proposal/study history?			
Do you have description for approach for estimating, planning and executing project?			
Do you have overview of project and scope?			
Do you have schedule buy-in by engineering?			
Does each basis of estimate include the minimum information required per contractor's procedures?			
Does estimate plan include the minimum information required per contractor procedures?			
Estimates need to be produced from detailed effort hour approach to effective resource load the schedule?			
Has a "Conceptually Defined Estimate" or FCE (First check Estimate) been generated for the project?			
Has a Project Controls Execution Plan been approved by the Project Manager wherein specific Estimating execution issues are addressed, including but not limited to: Project Coding requirements, Estimate Plans, and Risk Analysis?			
Has an Estimate Plan been prepared and reviewed with PCM (Project Control Management) and PM (Project Management) for the project?			
Has an Estimated Margin Analysis been prepared and readied for Management review?			
Has area survey been completed prior to estimate review?			
Has construction developed indirect cost estimate?			

EPC Master Checklist

Has construction equipment bar chart been reviewed?			
Has construction reviewed and approved direct labor cost estimate?			
Has escalation been calculated for budget/definitive type estimates?			
Has Estimate been approved per contractor procedures?			
Has estimate plan been developed by project estimator for each estimate?			
Has staffing bar chart been reviewed?			
Has subcontracting strategy been reviewed and approved?			
Has the contingency analysis been completed and included in estimate?			
Has the escalation analysis been completed and included in estimate?			
Has the estimate format been approved and are there any special requirements from [Client]?			
Has the execution concept been reviewed?			
Has the Federal Contracts Management Group reviewed estimate for Federally funded projects?			
Has the fee been developed and included in estimate?			
Has the site visit been reviewed?			
Has the verify estimate been "recast" to provide the detail budgeting or forecasting basis as appropriate for cost monitoring and control of the project?			
Have any resultant adjustments (significant value or distribution differences from the previous control estimate or verify Estimate) which have come from generating subsequent verify Estimates been "recast" to provide the detail requirements for continued cost monitoring and control of the remainder of the project?			
Have discipline summaries been developed for each discipline estimates?			
Have execution risks been reviewed and included in estimate?			
Have the indirect costs and ratios been verified?			
Have training requirements been reviewed?			
Have verify estimates been generated for the project in accordance with verify estimate generation requirements?			
Have we documented what the success factors are?			
Have you reviewed and documented high-risk tasks?			
Have you reviewed the schedule used for estimate basis?			
Have you reviewed work-hours and schedule compatibility?			
How were the quantities developed?			
Is a Basis of Estimate prepared for each estimate?			
Is a management review performed for this project verify Estimate?			
Is an estimate risk analysis performed on the verify Estimate and high-risk elements of the estimate identified and discussed with appropriate management?			
Is an estimate risk analysis performed on the verify Estimate and high-risk elements of the estimate identified in the management review presentation?			
Is contractor code of accounts for equipment, materials, and fieldwork used?			
Is estimate complete? What level was the estimate? Are there any more estimates planned?			
Is estimate on the Estimating departments' schedule to be reviewed?			
Is estimate process proven, new or untested?			
Is estimate summary complete by discipline?			
Is estimating plan complete?			
Is labor rate development correct?			
Is there a signed estimate summary for the conceptually defined estimate containing the proper level of company management approvals?			
Is there documentation memorializing the perspectives of parties participating in estimate preparation?			
Is workmen's compensation modifier rate correct?			
Review the division of responsibility matrix complete?			
Review the proposed remedies to procurement issues?			
Verify estimate approved by appropriate management?			
Was a final contracting strategy been completed prior to final control estimate?			
Was estimate compared to, contractor history, Industry specifications or other historical data?			
Was standard estimate / price build-up cover sheet used?			
What are the procurement issues?			
What are the ratios of engineering, materials and direct labor?			
What critical deliveries specified?			
What degree of capital cost estimate required?			
What percent will engineering be at the start of construction?			
What third party deliverables specified?			
What types of estimates are required? What's the timing?			
What's basis of pricing?			
What's the estimate review schedule?			
Who's performing engineering?			

Finance (TOC)

Issue	Responsibility/Comments	Date	Complete
Are [Client]'s views on payment of material stored and inventory verification needed for subcontractors obtained?			
Are accounting files set up per Document Control Process in contractor procedures?			
Are Accounting Procedures on site, setup and running according to contractor			



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procedures or modified for contractual obligations?			
Are accounting reports reconciled with cost reports?			
Are bank accounts reconciled on a monthly basis? Is everything balance?			
Are daily resource reports from subcontractors being issued and are they accurate?			
Are evaluations and safety information turned in with the subcontractor's billings prior to payment?			
Are expense report forms approved in accordance with the approval matrix?			
Are federal tax regulations followed with regard to personal and corporate liabilities?			
Are Field Payable procedures per contractor procedures?			
Are Field Payroll procedures per contractor procedures?			
Are invoices date stamped when received by the Financial Dept?			
Are invoices with verified discrepancies held until a delivery receipt or change order before payment of invoice?			
Are letters of confirmation and vendor notifications sent out at the end of the job for project closeout by certified mail?			
Are releases of liens obtained from subcontractors prior to paying bills, whether partial or final?			
Are revenues recognized from unapproved change order and claims supported by actual incurred cost?			
Are state withholding W-4 forms entirely completed?			
Are subcontractors paid within the terms, conditions and pricing structure listed in the S/C with no exceptions?			
Are the payment terms clear?			
Are vendor payments precisely using the Accounts Payable Process in contractor procedures? Is everyone aware of this procedure?			
Are wire transfers or manual checks prepared and approved by 2 authorized signatories after the approved payment form is received?			
Billing/Invoicing - Are [Client] billings issued reconciled with the contract and other legal documents and reviewed by management?			
Billing/Invoicing - Are adjustments to Account Receivable approved in writing by Management?			
Billing/Invoicing - Are billings approved by the Project Manager or designee to ensure supporting documentation is ready for [Client] approval where required?			
Billing/Invoicing - Are billings documented financial systems by finance management?			
Billing/Invoicing - Are billings prepared by Accounting and approved by Project Management before being sent to the [Client]?			
Billing/Invoicing - Are credit notes prepared by Accounting and approved by Project Management prior to entry and issued to record adjustments to the A/R in the Financial System?			
Billing/Invoicing - Are invoices sequentially numbered to determine that there are no missing invoices?			
Billing/Invoicing - Are journal vouchers and credit memos prepared by accounting to correct identified errors and approved by the accounting manager?			
Billing/Invoicing - Are journal vouchers used for credit to the A/R approved by the Accounting Manager?			
Billing/Invoicing - Are project costs entered into the financial system billed according to the contract terms after support docs are received?			
Billing/Invoicing - Are the invoices documented into the Financial System after issuance of the invoice?			
Billing/Invoicing - Do amounts billed represent work performed or in agreement with the contract for Lump Sum work?			
Billing/Invoicing - Does accounting manager compare Credit Memos to source documents and approve Credit Memos?			
Billing/Invoicing - Does accounting manager compare Journal Vouchers to source documents and approve Journal Vouchers?			
Billing/Invoicing - Does accounting manager monitor adjustments to the A/R in the Financial System monthly?			
Billing/Invoicing - Does accounting review AR detail in the financial system on a monthly basis?			
Billing/Invoicing - Does amount billed represent the reimbursable costs according to the contract?			
Billing/Invoicing - Does Project Management follow up on any unpaid invoice?			
Billing/Invoicing - Does signed contract authorize work to proceed and establish billing terms?			
Billing/Invoicing - Has the accounting manager reviewed JVs / JV summary batches for accuracy?			
Billing/Invoicing - Has the accounting manager reviewed the project billing activity report to confirm that invoices are documented in the same month the invoice is approved?			
Billing/Invoicing - Has the accounting manager reviewed the Transaction Reports to insure identified errors are corrected?			
Billing/Invoicing - Have billings been approved by Project Manager for amounts and conformity to the contract?			
Billing/Invoicing - Have credit memos been approved by the Project Manager?			
Billing/Invoicing - Have invoices been reviewed by the Project Manager for accuracy?			
Billing/Invoicing - Have journal vouchers relating to credit memos been approved by the accounting manager?			
Billing/Invoicing - Is off-book invoice log maintained by accounting to verify amounts in			



EPC Master Checklist

the Financial System?			
Billing/Invoicing - Is there a signed contract or other legal document authorizing work to proceed and establishing billing terms?			
Contract Table Files - Are changes to the contract compared to authorized source documents to ensure accuracy?			
Contract Table Files - Are changes to the contract maintained for the life of the project?			
Contract Table Files - Are requested changes to the contract entered only by accounting?			
Contract Table Files - Does accounting manager review the Change Log monthly for appropriateness and to ensure that only project billing personnel make changes to the contract file?			
Contract Table Files - Has Project Manager reviewed draft invoices for accuracy of information?			
Contract Table Files - Is access to the contract file limited to accounting?			
Do PO's have a paid invoice for the total amount of the PO?			
Do we accrue sales and use tax?			
Do we have a direct pay permit for utilization on taxes or must we pay them directly to vendor?			
Do we have a schedule of the home office services [Client] will pay for?			
Do we have tax exemption numbers from [Client]? Who must submit for exemption?			
Does Field Office Manager have an approved copy of the contract?			
Does Manager of Projects approve changes to non-labor charges?			
Does Project Accountant have approved copy of contract?			
Does subcontractor's progress payment schedule include the subcontractor review sheet in each payment?			
Has an Insurance Claims Log been set up?			
Has bar coded swipe cards or similar electronic timekeeping system been considered?			
Has the invoice review cycle been reviewed and approved with [Client]?			
Has the open file for missing POs, receivers, invoices, change orders, etc. being addressed regularly?			
Has the Project Accounting Representative attended Project Strategy meeting?			
Has the resolution and disposition of any freight charges in question been resolved?			
Has the review process of general checks and distribution been established? Reference the Administrative Process in contractor procedures.			
Have bank accounts been closed out by the project accountant for project closeout?			
Have bank accounts been set up and checks printed?			
Have invoices for material shortages and overcharges pending been cleared?			
Have late invoices been expedited for payment?			
Have local tax laws for the specific state been acquired? NOTE: Must be absolute on liabilities?			
Have procedures been developed to ensure that contractor is paid before we pay a contractor?			
Have records for retention purposes been returned to home office per Master Record Retention list ?			
Have signature approvals been signed off by senior management?			
Have the utilities such as power, water, telephone, to discontinue services or transfer over to [Client]'s name been completed?			
Have vendors agreed to "pencil" changes made to their invoices by contractor personnel?			
Have we confirmed the fee-billing format with [Client]? What the amounts are? When it is done?			
Have we developed vacation approval procedure? How is it accounted for?			
Have we established proper invoice verification and payment?			
Have we established the billing format for labor and expenses? What backup is needed by [Client]?			
Have we initiated procedure of processing time sheets and expense reports?			
Have we initiated the letter for pre-approval of home office services? It must be drafted as project specific.			
Have we secured Letter of Credit for [Client]? Is one needed?			
Income - Are [Client] furnished materials accounted for separately and is account reviewed regularly by accounting?			
Income - Are direct contract profit results reviewed monthly by the Accounting Manager?			
Income - Are monthly reviews of the Direct Contract Profit completed by the Accounting Manager?			
Income - Are project billings reviewed for billing accuracy by the Accounting Manager?			
Income - Are project revenue and income reported in the PFSR reviewed by Senior Management quarterly?			
Income - Are reviews of the revisions to revenue recognition performed by management monthly?			
Income - Are the balances of the unbilled/unearned revenue, aged A/R, and advance account detail reviewed for reasonableness and collectability by accounting during P&L review?			
Income - Are the PFSR's prepared by cost engineer and accounting quarterly schedule?			
Income - Are the unbilled/unearned billings generated through reports from the			



EPC Master Checklist

Financial System reviewed quarterly by the Accounting Manager and are any required corrections made by accounting management?			
Income - Does accounting review the Project Cost Status Report forecast to confirm it is incorporated into the PFSR?			
Income - Does management review and verify the percent complete for reasonableness?			
Income - Does Project Controls transmit the physical percent complete to the cost engineer monthly?			
Income - Has the Direct Contract Profit Report verify the cost-to-cost method used to recognize revenue and profit? Is this reviewed by the Accounting Manager?			
Income - Has the physical percent complete been reviewed and approved by Finance and Project manager, evidenced by signature?			
Income - Have project contract changes that affect cost been incorporated into the PFSR and is this review evidenced by signature of reviewers of PFSR?			
Income - Have revisions of the income statement, balance sheet, profit and loss and unbilled/unearned revenue reviewed monthly with the Accounting Manager, and Office of the Controller prior to accounting close?			
Income - Have the total costs for the Project been updated in the PFSR for projects that use the cost-to-cost method for the percent complete calculation?			
Income - Is a profit incentive recognized accounting management and Operations management both feel there is a high probability of earning the incentive and then is it included in the PFSR as evidenced by management signatories?			
Income - Is cost and revenue documented quarterly for each project on the PFSR?			
Income - Is management review performed before final entries are made into the system prior to accounting close?			
Income - Is PFSR signed by Accounting Manager, Project Manager and Executive Sponsor to ensure revenue and income is properly documented?			
Is [Client] adhering to payment terms of the contract?			
Is a fee absorb report being issued monthly to management?			
Is a home office rate schedule secured?			
Is a letter issued regarding home office charges and prior approval?			
Is a procedure developed for fee-absorbed expenditures?			
Is a procedure developed to request letters of credit? Who maintains? Are they secured?			
Is a procedure on tax liens developed and issued?			
Is access to the Financial System restricted to authorized personnel?			
Is Administrative Process from contractor procedures implemented with appropriate forms?			
Is approved for payment form and invoice supporting documentation retained in the accounts payable files consistent with the requirements of the Corporate contractor Records Retention Guidelines?			
Is Backcharge procedure developed for the accounting portion?			
Is document control program implemented expedite, receive, catalog, file and distribute requested documentation during the project?			
Is Home Office reimbursement understood by, especially those in Finance for billing purposes?			
Is invoice approved based upon the approval matrix?			
Is invoice entered into the Financial System after the approved for payment form and supporting documents are received?			
Is invoice information verified through validation of supporting documentation prior to approval?			
Is invoice ready for payment after receipt of the approved payment form?			
Is monthly billing verified by Project Manager prior to [Client] billing?			
Is petty cash account reconciled monthly?			
Is procedure developed for non-reimbursable expenditures?			
Is procedure developed for the use of home office services?			
Is procedure for progress payment schedules for subcontractors developed and implemented?			
Is procedure implemented for expense reports? Reference the Administrative Process in contractor procedures			
Is procedure issued for the petty cash account?			
Is project documentation retained for the life of the project and in accordance with corporate record retention policies and procedures?			
Is project income statement completed monthly?			
Is project initiation form completed prior to issuance of project number?			
Is purging of purchasing and warehouse closed accounts on an ongoing basis or is it done at the end of project?			
Is there a penalty for not paying on time and does [Client] understand the impact of this?			
Is there a preview billing process for expediting purposes?			
Is travel advance and expense procedure issued?			
On tax direction from [Client], is it being obtained in writing so that contractor does not become liable?			
Payroll Expense - Are adjustments approved by Financial Management and documented in the following period?			
Payroll Expense - Are allowances for the project listed in employment contract with employees or employee groups?			
Payroll Expense - Are authorized dual signatures required on the check issued for net			



EPC Master Checklist

pay for local employees?			
Payroll Expense - Are employee timesheets collected by authorized personnel consistent with the timing of the payroll cycle?			
Payroll Expense - Are local employees paid cash at the jobsite upon presentation of their project ID badge?			
Payroll Expense - Are payments made into the employee's designated depository accounts according to the employee's instructions?			
Payroll Expense - Are payroll changes documented on a properly completed personnel action form and signed by the site Project Manager?			
Payroll Expense - Are proper approvals obtained on the Advance Payment Request Form prior to processing payroll advances?			
Payroll Expense - Do managers review and approve timesheets (including time worked, paid absences and overtime documented) to ensure accurate time reporting?			
Payroll Expense - Do only authorized personnel have access to personnel data?			
Payroll Expense - Has accurate payroll related information, required by taxing authorities, been generated by Financial Management?			
Payroll Expense - Has the calculation of company costs for gross pay and company contributions been calculated properly and reviewed by Financial Management?			
Payroll Expense - Has the journal voucher used to record payroll costs been reviewed and approved by Financial Management?			
Payroll Expense - Have payroll advances been recovered within the next payroll cycle?			
Payroll Expense - Is a personnel requisition form in place and approved by site manager for new hires?			
Payroll Expense - Is access to employee timesheet input limited to Personnel Department personnel?			
Payroll Expense - Is Expense reimbursement in local currency to employees accurately documented in the project expense report form and approved by Financial Management?			
Payroll Expense - Is non-payroll compensation reporting worksheet reported to the appropriate payroll office?			
Payroll Expense - Is salary information in conformance with labor agreements for bonus and special payments?			
Payroll Expense - Is supporting documentation for Payroll adjustments maintained consistent with contractor Corporate Records Retention guidelines ?			
Payroll Expense - Is there a properly completed termination action form signed by appropriate management personnel for terminations?			
Statutories - Are tax payments supported by a schedule or tax return calculating the tax due and reviewed with the local tax advisor prior to filing?			
Statutories - Are tax receipts and tax records retained for the life of the project or per country requirements and in compliance with contractor corporate records retention requirements?			
Statutories - Are taxes paid and are tax receipts obtained at project closeout?			
Statutories - Are the host country corporate tax returns completed, signed by authorized signature, filed by the due date and supporting tax receipts obtained?			
Statutories - Do only authorized Financial Management and tax department personnel review tax filing data?			
Statutories - Does Corporate Tax Department review significant tax payments with the Financial Management?			
Statutories - Does Financial Management communicate the latest tax information to the local tax advisor prior to project closeout?			
Statutories - Does Financial Management review any relative tax issues with the Host Country Corporate Tax Representative and the local tax advisor prior to filing the tax return?			
Statutories - Does only Financial Management have access to the Statutory Books?			
Statutories - Does project site stay in continual communication with contractor regional tax manager?			
Statutories - Has the project tax strategy been reviewed with Accounting and Finance management?			
Statutories - Is a tax due date calendar maintained for local taxes by Financial Management?			
Statutories - Is engagement of tax services approved by the contractor regional tax manager?			
Statutories - Is Host Country Corporate Tax Return prepared by the local tax advisor?			
Statutories - Is Project Tax Strategy communicated to the Financial Manager to ensure fulfillment of the Project's tax compliance requirements?			
Statutories - Is project tax strategy consistent with the contract?			
Time Sheet - Are approved Staff Timesheets sent via e-mail to the timesheet processing center on a weekly basis?			
Time Sheet - Are approved Staff Timesheets sent via e-mail to the timesheet processing center on a weekly basis?			
Time Sheet - Are staff payroll problems communicated to the appropriate payroll office for resolution?			
Time Sheet - Are staff payroll problems communicated to the appropriate payroll office for resolution?			
Time Sheet - Are Staff Timesheets approved by site Project Management?			
Time Sheet - Are time recording and attendance exceptions approved by Management?			



EPC Master Checklist

Time Sheet - Do only authorized personnel have access to employee time and attendance information?			
Time Sheet - Is an accurate entitlement leave schedule for each expatriate maintained by authorized personnel?			
Time Sheet - Is correction data entered onto the Staff Timesheet for the employees approved by management?			
Time Sheet - Is overtime authorized by Site Project Management through an Overtime Approval Form?			
Time Sheet - Is timely notification installed to the Expatriate's Home office when the foreign assignment has been completed to ensure accurate employee records and settlement of payment?			
Unapproved Claims - Are unapproved change orders and claims documented quarterly?			
Unapproved Claims - Does amount of revenue recognized on unapproved claims exclude profit?			
Unapproved Claims - Does unapproved change order or claim schedule contain only revenue that has been or will be recognized?			
Unapproved Claims - Has the law department reviewed the legality of our claims position?			
Unapproved Claims - Have items in the change order or claim met requirements which require particular attention to change orders and claims?			
Unapproved Claims - Have items in the unapproved claim or change order been assessed for probability of recovery?			
Unapproved Claims - Have the unapproved change order or claims schedule been approved by appropriate levels of management called for in contractor procedures?			
Unapproved Claims - Is contractual liquidated damage exposure documented on a quarterly basis?			
Unapproved Claims - Is each major item of the unapproved change order or claim identified as stated per policy?			
Unapproved Claims - Is revenue from the unapproved claims recognized in accordance with company policy?			
Unapproved Claims - Is supporting documentation for the unapproved change orders and claims kept in the project master file?			
Unapproved Claims - Is unapproved change orders and claims schedule submitted to the Office of the Controller quarterly?			
Unapproved Claims - Was a probable assessment of recovery made by the project and or claims team supported by the Law department?			
What are [Client]'s rights of audit?			
What are the amounts and control for petty cash? Who'll handle?			
What's the accounting for personal property requirements?			
What's the aging process for accounts receivable?			
What's the permanent plant equipment numbering system?			
What's the policy on giving away or disposal of scrap or demolished surplus on the project?			
What's the procedure to return to [Client] money for the overpayment of invoices?			
When do expense reports need to be completed for 1-week turnaround?			
Who approves home office billings?			
Who approves project non-billable charges?			
Who approves relocation?			
Who approves travel?			
Who maintains asset logs?			
Who's maintaining current set of as-built drawings during construction?			
Who's maintaining current set of as-built drawings during startup and commissioning?			
Who's responsible for capitalization?			
Who's responsible for inventory of the office furniture, computers, equipment, radios and vehicles?			
Whose payroll will [Client]'s clerical staff be part of?			
Will the project be under zero based funding approach?			
Will there be a weekly issuance of an A/P report to purchasing, warehousing and engineering regarding tardy information			
Will there be any special accounting reports required by [Client]?			
With regard to the prime contract, are we acting only on written addendum and not by [Client] verbal agreement?			

Fire Protection (TOC)

Issue	Responsibility/Comments	Date	Complete
Are component datasheets submitted and approved?			
Are components per specifications?			
Are components UL listed and FM approved?			
Are devices wired with shielded fire alarm cable?			
Are drawings distributed to sprinkler contractor?			
Are flow switches shown on the drawings? If not, where?			
Are lug nuts attached on terminal wires?			
Are mechanical operating parts tested and accepted?			
Are relief vent valves required, where are they shown on drawings and what are their locations?			

EPC Master Checklist

Are sprinklers required beneath ductwork?			
Are sprinklers schedules prior to other trades? If not, who is working the interferences?			
Are system supports in place?			
Are unit prices established?			
Do Firestopping specifications and installation details identify who is responsible for installation?			
Does our equipment arrangement minimize fireproofing requirements?			
Has the project reviewed dimensions of fireproofing with fabricator and standardized dimensions?			
Have the tests and flushings been witnessed by [Client]?			
Have we considered, lightweight Cementitious or materials for fireproofing structural steel? Cost effective.			
Have we defined fireproofing requirements in ultimate detail, so the subcontractor fully understands scope?			
How are sprinkler drawings approved? Who's responsible for getting sprinkler drawings approved?			
Is a Halon system or CO2 system required?			
Is a wet system used over or in the same room as electrical equipment?			
Is cabling securely fastened?			
Is chase piping checked for code?			
Is design engineering information sent to the sprinkler contractor for interference checks and layout?			
Is drain performance testing completed and accepted?			
Is fireproofing specified for inside of vessel skirts?			
Is flow performance test completed and accepted?			
Is Halon system or CO2 system hooked into the emergency power system?			
Is interior of piping and equipment cleaned before installation?			
Is NFPA-13 joint inspection test form complete?			
Is project maximizing fireproofing application in fabrication shop?			
Is sprinkler approval form completed?			
Is system flushed and accepted?			
Is system hydro-tested and accepted?			
Is tagging of wires complete?			
Is there any relocation of existing required?			
Is Water supply control valve properly functioning?			
Was Teflon tape or non-hardening pipe dope used on male thread connections?			
Was the installation supervised by NICET Level II or above?			
What tests does the inspecting office require?			
Who arranges for the insurance inspection?			
Who energizes the system?			
Who furnishes the extinguishers and cabinets?			
Who has provided coordination between the sprinkler and fire alarm system?			
Who paints the sprinkler pipe?			
Who prepares drawings and calculations for system installation?			
Who sends the drawings and calculations to the Underwriters?			
Who's to drain systems in an effort to provide freeze protection?			
Who's to obtain the permitting?			
Will sprinkler heads have to be centered in ceiling tile and architecturally finished areas?			

Fireproofing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts and boltholes covered in accordance with the engineering design?			
Are fins and loose materials removed?			
Are honeycomb, aggregate, pockets, and voids cut out and resulting cavity filled correctly?			
Are surfaces cleaned per specification?			
Are surfaces cured satisfactorily?			
Are troweled surfaces completed satisfactorily?			
Are welds tested to meet the specification?			
If field welded - Are welds tested to meet requirement of engineering design?			
Is application satisfactory?			
Is dry film thickness of coating measurements documented?			
Is fireproofing mix correct?			
Is material thickness at the correct level?			
Is reinforcement wire installed properly?			
Is spoil removed from adjacent surfaces?			
Is structural steel galvanized prior to application of fireproofing?			
Is pattern, spacing, and type of anchors correct?			
Is thickness per specification?			
Was a slump test performed and approved?			
Were compressive strength cylinders prepared and documented?			

EPC Master Checklist

Grout (TOC)

Issue	Responsibility/Comments	Date	Complete
Are air relief holes in baseplate?			
Are bond surfaces clean, dry and free of oil-base contaminants, grease, etc.?			
Are concrete surfaces wetted for at least 8 hours?			
Are control joints properly installed?			
Are correct grouting tools and mixer ready?			
Are cubes tested and accepted?			
Are forms removed and grout cutback per specifications?			
Are grout components stored per manufacturer recommendations?			
Are grout mixing and pushing tools clean?			
Are items formally released for grouting?			
Are items released for grouting?			
Are jackscrews coated with grease, never-seize or duct-seal? Paste wax not permitted			
Are machinery baseplates hammer-tested after curing of the grout to assure no voids?			
Are mixing equipment and tools ready and correct?			
Are scrap lumber, trash, mud, and loose items removed from the inside of the formed area?			
Are shims removed after grouting?			
Are temperatures of surfaces within limits?			
Are tools and mixer cleaned prior to and after grout?			
Are vent holes adequate?			
Are we verifying acceptance of grout material?			
Has grout been verified NOT to extend up the sides of baseplate or slide plate?			
Is ½-inch bevel required for bottom edge of soleplate?			
Is chipped surface protected with epoxy primer?			
Is concrete base surface preparation verified to specification?			
Is final clean up satisfactory?			
Is finishing and curing law manufacturer's instructions?			
Is formwork contact area waxed?			
Is foundation and mounting plate grouting for machinery installations?			
Is grout dry?			
Is grout mock-up test witnessed by contractor inspector?			
Is grout placed from one side of baseplate to other to avoid trapping air?			
Is grout placement correct?			
Is grout pour approval completed and applicable sections are signed off and approved?			
Is grout properly cured as per manufacturer's recommendations?			
Is grout properly protected?			
Is grouting performance demonstration performed?			
Is laitance chipped back per specification?			
Is length of sleeve for anchor bolt—20 times the bolt major diameter minimum?			
Is minimum grout thickness for foundation elevation - 2 inches?			
Is mixing is correct?			
Is poured grout protected from elements?			
Is shelf life of grout satisfactory?			
Is shim placement per specification?			
Is soleplate minimum thickness—2-1/2 inches and must be heat-treated?			
Is surface properly prepared?			
Is underside of baseplate or soleplate sandblasted to SP-6? Is blasted surface coated within 4 hours with 2 coats of epoxy primer?			
Verify bolts and sleeves are sealed and dry?			
Verify bond surfaces are clean, dry and free of oil base contaminants?			
Verify equipment base, surface preparation?			
Verify equipment jackscrews protected and rest on steel plate?			
Verify foundation acceptance by civil inspector?			
Verify foundation preparation?			
Verify grout materials acceptance?			
Verify mixing is correct?			
Verify temperature of surfaces is within specified limits?			
Verify that formwork is sealed and supported?			
Verify that placement is correct?			

Hot Tap (TOC)

Issue	Responsibility/Comments	Date	Complete
[Client] Operations signature obtained on Hot Tap checklist ?			
Are Hot Tap fittings and valves visually inspected and pressure tested?			
Are the hot taps fitting welds a minimum of 12" from flanges and threaded connections and a minimum of 3" from other welds?			
Has [Client] Operations representative signature obtained on Hot Tap checklist after continuous flow confirmed?			
Has a minimum of 3/16" been confirmed by Ultrasonic testing?			
Has engineering confirmed that the system to be tapped does not contain the			

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following: flammable vapor/air mixtures, oxygen, and compressed air, oxidizing chemicals, unsaturated hydrocarbons, caustic soda, amines, ammonia, or elemental sulfur?			
Has engineering considered other alternatives to performing hot tap?			
Has engineering determined that metal shavings and or tapped coupon will not create damage to downstream equipment?			
Has engineering determined that metal shavings and/or tapped coupon will not create damage to downstream equipment?			
Has engineering/inspection confirmed that the system does not require PWHT?			
Has engineering/inspection confirmed that the system to be hot tapped does not require PWHT?			
Has Hot Tap ID number been assigned?			
Has inspection department signature on Hot Tap checklist obtained?			
Has the final QC Package been reviewed and accepted by inspection?			
Has the hot tap location been physically punch marked?			
Has the hot tap location been properly identified by engineering/maintenance, operations, and inspection?			
Has the location been verified against the design drawings?			
Have the welding procedures and welder qualifications been reviewed and approved?			
If the system to be tapped contains hydrogen, has it operated below 100-psig hydrogen partial pressure?			
If the system to be tapped contains hydrogen, has it operated below 100-psig hydrogen partial pressure?			
Is continuous flow confirmed by operations representative?			
Is contractor's project manager signature obtained on Hot Tap checklist?			
Is design pressure documented?			
Is engineering signature on hot tap checklist obtained?			
Is inspection department signature obtained on Hot Tap checklist?			
Is operations representative signature obtained on Hot Tap checklist?			
Is system to be tapped a minimum 40 degrees F?			
Is test medium documented?			
Is test pressure documented?			
Is valve to isolate the hot tap a full port valve?			
What's design pressure?			

HVAC (TOC)

Issue	Responsibility/Comments	Date	Complete
Are CSA drawings included with bid documents?			
Are erection sequences and priorities for off-site shop fabrication of ductwork complete?			
Are grills, dampers, roof ventilators going to be ordered by contractor immediately upon award?			
Are hangers and supports completed?			
Are HVAC motors made to electrical specifications and has this been verified?			
Are maintenance requirements considered when designing HVAC systems?			
Are multiple design reviews held to avoid interferences between HVAC and fire protection / sprinklers?			
Are non-conformance reports and deficiency reports cleared?			
Are procedures implemented to monitor the HVAC fabricators progress to ensure compliance?			
Are punchlist items completed?			
Are roof openings verified to HVAC drawings?			
Are steel, architectural, pipe and electrical drawings being sent to the HVAC contractor for interference checks?			
Are the connections between duct and equipment complete?			
Are the duct line and elevation within tolerance?			
Are the fire damper openings verified to the fire damper schedule?			
Are the internal accessories acceptable?			
Are the temporary blank-offs removed?			
Are the Trim joints acceptable?			
Are there any specific items in the HVAC contract which will cause long delivery?			
Are unit rates established in contract for added and deleted scope?			
Are vendor prints being sent to HVAC subcontractor for interference checks and location checks?			
Do documents note that flex ducts cannot lay on the ceiling? That VAV boxes do not block electrical or control boxes?			
Does any HVAC require sprinklers or smoke detectors?			
Does configuration of Ductwork and Hangers conforms to Drawing?			
Does subcontractor understand he must provide equipment for his lifts?			
Has a subcontractor's project engineer been interviewed and approved?			
Has project defined scope and details for installation of interdisciplinary work?			
Has the manufacturer been called with fire damper locations for verification?			
Have equipment deliveries been checked in relationship to the HVAC schedule in the contract?			
Are grills checked for specifications to make certain they are still made?			

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Have grills been purchased at the time of award?			
Have interference checks been made with disciplines?			
Is access required for major equipment? What equipment requires access			
Is adequate space available in air handler locations to accommodate removal of steam and chilled-water coils?			
Is bond a single line item on contract?			
Is duct interior free of obstructions?			
Is ductwork, requiring installation prior to piping and electrical, identified and ordered early to alleviate delays or expensive construction?			
Is installed equipment acceptable			
Is leak testing complete?			
Is procedure for ductwork cleaning and blowdown established?			
Is routing of shop drawings approval established?			
Is storage and assembly area assigned?			
Is subcontractor aware he is expected to do his own receiving?			
Is there concrete fill in the isolation pans on the units?			
Is walk down complete?			
What HVAC permits are needed?			
What's design considering to prevent coils from freezing when coils are inactive in low temperatures?			
When will roof ventilators be purchased?			
Where do HVAC permits come from?			
Which contractor purchases the thermostats?			
Who designs equipment guards?			
Who does HVAC air balance?			
Who does HVAC controls?			
Who does HVAC insulation?			
Who does HVAC startup?			
Who does HVAC water balance?			
Who flashes wall and floor penetrations for ductwork throughout the entire project?			
Who installs sleeves in rated walls and fireproofing?			
Who starts up the Chillers?			
Who supplies and installs condensate piping from the HVAC units mounted above false ceilings?			
Who supplies and installs unit/equipment curbs?			
Who supplies support rails if used in lieu of housekeeping pads?			
Who supplies the housekeeping pad for unit support?			
Who'll install controls?			
Who'll paint the supports and intermediate supports?			
Who's local contact for inspection and how often will that person inspect?			
Who's responsible for the painting of exposed metal associated with HVAC?			
Will existing ductwork need locating?			
Will guards come with equipment?			
Will shop visits required to check engineering and drawing capacity?			

Industrial Relations (TOC)

Issue	Responsibility/Comments	Date	Complete
Are emergency telephone numbers posted and up to date?			
Are employee's social security cards or alien identification paper checked prior to hiring?			
Are high security risk areas well lighted?			
Are No Parking signs installed in proper location?			
Are parking facilities fenced and secure?			
Are salaried employee job responsibilities reviewed?			
Are security checks fair and consistent?			
Are separate change facilities provided for females?			
Are solicitation and distribution signs posted?			
Are there any nepotism problems on the project, if so it must be eliminated?			
Are these: EEO is law, Fraudulent W/Holding, Minimum wages, OSHA, State required posters, posted at the employment point?			
Are verbal requests from employees and their responses documented?			
Are visitors controlled and escorted?			
Do any co-employment conditions exist with [Client]?			
Do bulletin boards have controlled access?			
Does project conduct exit interviews on salaried employees?			
Does project have a camera and project photographer?			
Does project have a cassette recorder?			
Does project have a contingency plan?			
Does project have a current affirmative action plan?			
Does project have a formal new hire orientation?			
Does project have an emergency coordinator for shifts?			
Does project have any pending discrimination charges?			
Does project have separate gate arrangements?			
Does project need change facilities?			
Does project plan to maintain facilities, drinking water, eating areas, phone access, parking area/lot			



EPC Master Checklist

Does project provide standard methods for transporting injured and or ill employees?			
Has the contingency plan been reviewed with key project personnel?			
Has the project followed appropriate guidelines in its application for a radio license?			
How many bulletin boards are on the project?			
How many radios are needed on site and when?			
Is affirmative action plan reviewed and documented with supervisors on the project?			
Is contractor commitment assuring equal employment opportunities conveyed on the project?			
Is project perimeter fenced?			
Is security check sign posted?			
Is there a project labor agreement required?			
Is visitor direction adequate?			
What kind of labor posture is project going to have?			
What types of employee activities are planned?			
Who's responsible for physical security?			

Instrumentation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are accessory devices connected per drawings?			
Are actuators wired and tubed according to specifications?			
Are additional drawings required?			
Are air supply lines connected and header charged?			
Are any required special lifting devices for top-heavy equipment included in the DCS purchase order?			
Are any special requirements needed for calibrators or technicians with regard to the projects instrumentation and controls?			
Are automatic controllers installed, wired, calibrated, and tested per specification?			
Are boxes installed properly, level, support and fittings?			
Are cable numbers and fiber identification verified?			
Are cable terminations correct?			
Are cable tests acceptable before and after pulls?			
Are cables secured in cable trays?			
Are calibration labels on components?			
Are calibration specifications issued and understood?			
Are components properly mounted?			
Are conduit, fittings, and seals installed correctly?			
Are connections clean and tight?			
Are convenience outlets phased?			
Are correct couplers, connectors and hardware installed?			
Are covers completed?			
Are covers, dividers, dropouts, and Firestop installed?			
Are devices free of damage?			
Are door openings designed to accommodate installation of DCS?			
Are drain, isolation, and expansion valves installed?			
Are electrical terminations correct?			
Are expansion joints installed per specification?			
Are fail-safe limiting devices going to be installed on equipment and processes that can be operated beyond design limits?			
Are field devices – simulated by jumping at device?			
Are filters required in the instrument airlines?			
Are flanged turbine meter gaskets verified with no interference with the low pattern and installed per specification?			
Are flanges verified for weld splatter on faces?			
Are floor entrances sealed?			
Are flow element direction and markings correct?			
Are grounds and bonding jumpers installed correctly?			
Are grounds and expansion joints installed?			
Are high and low level alarms set?			
Are impulse lines properly run, connected and correct?			
Are indicators clear of obstruction?			
Are installed cables damage free and supported?			
Are instrument heat traced cables run and connected?			
Are instrument in correct operating range?			
Are instrument locations and elevations shown on drawings?			
Are instrument locations provided on the drawings?			
Are instrument locations provided on the drawings?			
Are instrument stands secure and vibration free?			
Are instruments being tagged with SS tag by the vendors?			
Are instruments in correct locations per drawings?			
Are instruments mounted at proper height?			
Are instruments specifications issued and received?			
Are interlocks and special functions verified per drawings?			
Are internal device labels complete?			
Are level alarms installed the same as level transmitters?			
Are level transmitters installed in accordance with the intended application?			



EPC Master Checklist

Are locally mounted controllers installed in accordance with the intended application?			
Are locally mounted indicating gauges readily accessible and clearly visible?			
Are loop sheet changes properly marked?			
Are loops verified per specification?			
Are magnetic flowmeters handled and installed as a precision instrument?			
Are motor leads dropped acceptable?			
Are nameplates complete?			
Are number of users within branch capacity?			
Are oil sight gauges located for easy operator access?			
Are orifice plate bores verified for discrepancies and correct installation?			
Are OTDR tests completed and charts obtained?			
Are pets containing valves verified periodically to for proper weather protection?			
Are power wires connected and tight?			
Are pressure gauges connected according to service?			
Are pressure instruments installed with ease of accessibility, clearly visible and vibration free?			
Are pressure transmitters or transducers adequately shielded from damaging heat sources?			
Are proper materials of construction?			
Are proper size fuses and triacs mounted verified?			
Are PSV's on pets, stored upright, with watertight covering if stored outdoors?			
Are purge systems installed per drawings?			
Are receptacles identified by nameplate?			
Are remote or panel mounted receivers installed according to recommended practices?			
Are rods out taps installed?			
Are rotameters are mounted vertically?			
Are routing, trays and conduit installation verified?			
Are seal systems installed per drawings?			
Are sensors free from obstruction?			
Are separation requirements maintained?			
Are shipping plugs replaced?			
Are signal wires connected and tight?			
Are size and tag numbers installed?			
Are solenoids disconnected?			
Are storage areas secure and accessible only to warehouse material personnel?			
Are strainers the correct size and location?			
Are supports installed per specifications?			
Are terminal strips labeled?			
Are terminations properly tightened?			
Are test forms issued for each PSV upon receipt of manufacturer's data sheets?			
Are test procedures developed? Who'll test?			
Are the Analyzer Sample Shelters combined when applicable to one vendor / shelter?			
Are the Thermowell insertion and immersion lengths per specification?			
Are there any special installation requirements?			
Are there any special storage requirements for instruments?			
Are there any special tubing support requirements?			
Are there special calibration procedures?			
Are tubing fitting nuts torqued per specifications?			
Are tubing fittings made up properly?			
Are tubing trays and supports installed per specifications?			
Are turbine meters installed in areas free of vibration?			
Are unit prices determined in the contract for adds and deletes?			
Are unused knockouts plugged?			
Are valves free of damage?			
Are valves opened slowly to prevent flow surges during startup?			
Are valves securely protected with watertight protective covering on pets in vertical position free from mud and debris if stored outdoors?			
Are variable area meters installed in an area free from vibration?			
Are we bench testing for operational use and calibration?			
Are we maximizing control station supports and other supports that require galvanized steel be shop fabricated and galvanized?			
Are we procuring instruments of known and proven quality?			
Are we requiring that supplier furnished "packaged units" provide job standard instrumentation hardware, identification tag numbers, and specification sheets in order to properly check and calibrate instruments in the field?			
Are we using prefabricated instrument panels?			
Are wire tags per drawings and specifications?			
Do any instruments that are to be installed high in bays and/or above ceilings require platforms for maintenance access?			
Do Control Panels need to be shipped to vendors' shops for FATs?			
Do instruments have correct separation?			
Do junction boxes and conduits have proper identification and markings?			
Do loop drawings encompass workstation to field device?			
Do loop drawings include instrument set points?			
Do pressure transmitters, switches, and locally mounted controllers and recorders have the correct size instrument to process connection?			



EPC Master Checklist

Do PSV's require a test prior to installation and start-up?			
Do PSV's have flange protection covers in place and tight?			
Do signal/power leads have proper separation and angle of intersection?			
Do supplier furnished items shipped in crates separate from machines identify items by "Bill of Material" and purchase order number?			
Do valves have end protection covers in place?			
Do we have adequate supports and personnel clearance?			
Does [Client] require calibrated instruments have special tagging?			
Does project have a strategy for calibration of instruments?			
Does project have a tracking system for instrument cable from specification to installation?			
Does project have an established program for on-site procurement, receipt and disbursement of instruments, devices and equipment from conception through mechanical completion or validations, whichever is applicable?			
Does project have responsibility matrix completed between engineering, contractor, [Client] and vendor for DCS installation and programming?			
Does project support having a DCS vendor representative on site during the configuring and development of DCS software?			
Does valve action agree with loop sheet?			
Does warehouse maintain a current log on PSVs?			
Has [Client] approved pre-calibration of instruments?			
Has construction completed and submitted redline drawings for instrumentation to engineering firm?			
Has engineer performed a thorough review of supplier drawings concerning controls and instruments?			
Has engineering specified any special preventive maintenance and storage requirements for instrument hardware? Is it documented by supplier on shipping crates?			
Has flange rating been verified?			
Has output from loop been verified?			
Has project specified color-coded wire on control cables?			
Has shield grounding been verified?			
Has the color code for instrumentation conductors be selected and agreed to by [Client]?			
Has the engineer identified the class of each GMP instrument on the instrument index list?			
Has the Engineer verified that a vendor / supplier's connection drawings are crosschecked with AFC drawings to ensure the contacts to be used when terminating at an individual instrument or device are consistent?			
Has the installation of cable at main pull points been inspected for damage?			
Has the project developed a detailed 'Control-level' schedule for software development and track major deliverables in project schedule?			
Has the project developed an installation plan so that calibration can be planned and completed in an orderly manner and set up turnover sequence, develop loop-checking plan, and identify required work force needs			
Has the project maximized the preassembly of instrument manifolds and prefabricated instrument stands?			
Has unit been pressure tested and leak free?			
Have LBD fittings been considered to enter side of instrument junction boxes for home run cables?			
Have termination as to type, installation and tightness been verified?			
Have thermocouple lengths been verified?			
Have tubing connections been verified?			
Have we combined continuous emission monitoring system and water / steam sample into a common shelter?			
Have we completed analysis for best control locations for safety and ease of operation?			
Have we maximized the use of line-mounted instruments as opposed to stand mounts?			
Have we maximized the use of multi-tube bundles?			
Have we maximized the use of pre-insulated tubing?			
Have we received the manufacturer's warranty certificate?			
Have we reviewed position and configuration of instrument bridles on vessels and piping for access and to prevent OBSTRUCTING walkways and platforms?			
Have we specified thermal enclosures for freeze protection of instruments located outside?			
Have we standardized instrument fittings for the project?			
Have we standardized tubing grades and wall thickness for SS tubing?			
Have we standardized tubing valves?			
How are instrument locations chosen? Are they located on the drawings for specific elevations?			
How are instruments calibrated, by whom and where?			
Is annunciator wiring bundled and formed to allow removal of a single print wiring without shutdown?			
Is cable identified on each end?			
Is cable transmission speed test performed by manufacturer?			
Is calibration shop required by contractor?			
Is calibration verified and acceptable?			



EPC Master Checklist

Is conduit and flex installed per specifications?			
Is construction per NEMA?			
Is contactor in test position			
Is continuity verified?			
Is control and alarm device testing going to be done during control scheme and logic verification?			
Is control valve flow direction correct?			
Is correct cable verified?			
Is correct valve installed in the proper location?			
Is DCS equipment set up for delivery to the job site after special environmental storage conditions are available?			
Is DCS/PLC verified to be complete?			
Is detection sensor elevation and location correct?			
Is directory complete?			
Is door operation unobstructed and latches correctly?			
Is equipment number nameplate acceptable?			
Is final operator verified?			
Is flow direction correct?			
Is forced ventilation acceptable?			
Is good workmanship used in tubing installation and neat in appearance?			
Is ground bus in panel acceptable?			
Is ground correct?			
Is heat tracing and insulation correct?			
Is input to loop verified?			
Is instrument conduit shown on drawings?			
Is instrument range correct?			
Is instrumentation calibrated and completed?			
Is internal cooling fan acceptable?			
Is internal lighting complete?			
Is leak testing complete?			
Is meter run pipe or tubing verified for roundness, internal surface is free of grooves, burrs, and excessive weld reinforcement?			
Is motor uncoupled?			
Is mounting location and configurations correct?			
Is neutral grounded?			
Is operation of start and components acceptable?			
Is panel equipment ground bond acceptable?			
Is panel ground wire installation acceptable?			
Is permanent identification installed?			
Is phase meter test ABC acceptable?			
Is piping / tubing material correct?			
Is piping clean, deburred and properly supported?			
Is piping sized according to specifications?			
Is piping supported to prevent sagging?			
Is pressure set correctly?			
Is process line free of foreign matter?			
Is project purchasing in-line instruments as available to support piping schedule?			
Is project using 1/2" flex conduit for instrument conduit connections? ?			
Is proper type and size of crimp tooling being used?			
Is proper wire extension and air gap in lug?			
Is remote mounted sensor installation correct?			
Is routing for proper identification and tagging verified?			
Is separation of redundant cables maintained per specification?			
Is signal tubing connected and tight?			
Is stimulation of control scheme operation acceptable?			
Is target flowmeter installed where it is easily accessible, properly supported and oriented with the directional arrow in accordance with the flow direction?			
Is target flowmeter installed where it is easily accessible?			
Is there agreement on the type of GMP forms for calibration of instruments to meet requirements?			
Is there good contact between temperature sensing elements and thermowells?			
Is thermocouple wiring according to specifications?			
Is touch up painting complete?			
Is tubing damage free and with proper bend radius?			
Is tubing installed correctly for slope and support?			
Is valve installed with the direction of process flow?			
Is verification complete on cable for proper bend radius?			
Is volt test complete on receptacles for standard HNG orientation?			
Is voltage solenoid at field location – equipment reconnected?			
Is wire pulling satisfactory?			
Is wiring compliant with specifications?			
Is wiring continuous from termination to termination without splices?			
Is wiring for conformance to color code and identification?			
Is wiring routed neatly in designated raceways?			
Lighting Panel: With lights on, compare branch circuit. "Hot" amps to branch neutral amps – are these acceptable?			
Observe during start-up that foreign material does not damage or plug the control			



EPC Master Checklist

valves.			
Verify that the Instrument Specifications match the [Client]'s SOPs and the Instrumentation Index?			
Verify that vendors have tagged terminals in instrument junction boxes as indicated on drawings?			
Was tubing/piping pressure tested before heat tracing or insulating?			
What craft trade owns the installation of the air tubing / piping from the main air header to the modules?			
What items are going on blanket orders?			
What's the earliest date the DCS supplier can be identified and selected?			
Where does instrument air become instrument responsibility? Who furnishes valves?			
Who furnishes and installs process taps?			
Who furnishes loop diagrams and P&ID's?			
Who grouts instrument stands?			
Who installs loose devices on packaged process equipment?			
Who installs the instrument wiring?			
Who owns the installation of limit switches on automated valves?			
Who supplies and installs sleeves in the rated walls? Who'll do the Firestopping?			
Who's responsible for detailing a complete listing of materials for instrumentation installation?			
Who's responsible for software development?			
Who's to supply spare parts for instruments?			
Will Control Panels mount on modular equipment/skids?			
Will instrument index be furnished prior to start of project?			
Will instrument pre-calibration be done in the field?			
Will the issuance of the instrument index support the field in identifying, controlling and referencing instruments?			

Insulation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are banding, seals and sealant per specifications?			
Are couplings exposed?			
Are insulation expansion and/or contraction joints verified?			
Are insulation material types and ratings satisfactory?			
Are insulation specifications issued and received?			
Are insulation support rings installation verified?			
Are insulation surfaces free from dirt, grease etc.?			
Are joints completely sealed?			
Are nameplates exposed?			
Are openings through covering sealed watertight?			
Are outer layers of insulation free of common joints?			
Are protrusions sealed and caulked?			
Are specific penetrations identified?			
Are steam / electric tracing complete?			
Are temporary brackets and supports removed?			
Are the materials correct?			
Are there specific insulation directions on ceiling insulation?			
Are vapor barriers, mastic, adhesive, and covering correct?			
Are we minimizing the double layering of insulation?			
Do system completion plans support hydro testing sequentially?			
Do we have a flange listing for flanges that are specified to receive insulation?			
Do we have a formal release insulate received prior to start of insulation?			
Has a final visual inspection for damage and improper installation been completed?			
Has cost / life study been run to determine most effective thickness of insulation for project?			
Has design standardized, where practical the different thickness of insulation?			
Has designed maximized the use of mineral wool versus calcium silica insulation?			
Has insulation been verified to assure no common joints are between layers?			
Have we maximized the installation of equipment insulation during shop fabrication?			
Have we minimized field storage of insulation by using a vendor that will insulation in construction sequence?			
Is any insulation to be left out until after checkouts are complete? Where are leave outs?			
Is distance between bands, screws, etc acceptable?			
Is heat tracing defined in the areas insulation must go over?			
Is inspection and testing complete and accepted?			
Is installation of insulating supports verified?			
Is insulation beveled at flanges to allow for removal of bolts without interference?			
Is insulation dry when applied?			
Is insulation free of defections?			
Is insulation of pipe supports, ladders, and platforms verified?			
Is insulation thickness and jacketing acceptable?			
Is insulation type and thickness per engineering design?			
Is it defined what will and what will not be insulated, how is this shown on the drawings?			
Is painting complete?			



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Is pipe for correct shoes, guides, anchors, etc. verified?			
Is post leak punchlist for insulation complete?			
Is sufficient clearance designed between insulation jacketing, platforms, ladders, pipe guides, etc.?			
Is there an insulation procedure implemented prior to start of work?			
Is there proper lap of "S" clips on jacketing?			
Is weather proofing material correct?			
What equipment needs insulation and how is it shown on drawings?			
What type of lead-time is needed to order material?			
When possible, use removable blanket type insulation on equipment needing access?			
Where will the insulation be stored?			
Who'll approve the installation of the insulation?			
Who'll inst fireproofing at wall penetrations and flash it?			
Who's responsible for verification of supplier insulation requirements and specifications relative to project specifications and at interface points?			
Who's to label the insulated pipe?			
Who's verifying any special insulation requirements for electrical and control cable systems and special valves?			
Will ductwork be insulated by the insulation subcontractor or by the vendor installing the ductwork?			
Will insulation be done by contractor or subcontractor?			

Insurance (TOC)

Issue	Responsibility/Comments	Date	Complete
Are fully executed original change orders, contract modifications, contract amendments, or the like been forwarded to Insurance company?			
Are insurance claims settled?			
Are the insurance criterion reviewed?			
Do we have a certificate of completion?			
Do we have a Certificate of Substantial Completion ?			
Do we have copies of permits?			
Do we have policy certificates of insurance for any coverage provided by [Client]?			
Do we have the Certificate of Occupancy?			
Does [Client] insurance authority review plans?			
Does state insurance authority review plans?			
Have contracts been forwarded to insurance company?			
Have insurance and tax issues been identified, and have implementation plan?			
Have we forwarded Letter of Intent to insurance carrier?			
If design project, do we have evidence that the scope of work is completed and accepted by [Client]?			
If project has been cancelled or delayed, have we notified insurance company?			
Is an insurance representative set up for general policies?			

International (TOC)

Issue	Responsibility/Comments	Date	Complete
Are permits defined and estimated?			
Are preliminary design report requirements identified?			
Are there any differences identified in the startup and commissioning of this facility from our normal startup and commissioning approach?			
Are there any technology licensor restrictions on the project?			
Are we aware of "in country tax situations"?			
Do normal [Client] providers have in country capability, or do they need support?			
Do we have [Client]'s definitions for the utility requirements?			
Do we have a completed subcontracting plan?			
Do we have a copy of [Client]'s business model?			
Do we have a copy of [Client]'s completed Feasibility report? It is required for project approval and business license.			
Do we have a copy of [Client]'s environmental impact statement?			
Do we have a country specific Quality Plan developed?			
Do we have a permitting application plan developed?			
Do we have a plan to provide labor accommodation, transportation, meals, etc. for the construction personnel and subcontractors?			
Do we have a plan to support [Client]'s efforts to ensure tax exemptions for imported material in country are received?			
Do we have a scope control program developed and being enforced at in country engineering firm?			
Do we have an in country HAZOP plan?			
Do we have an office or subsidiary in country?			
Do we have any confidentiality agreements which preclude us from working on [Client]'s project?			
Do we have any international "alliances" or "preferred suppliers" which will benefit the project?			
Do we have any licenses, trade or plant processes that restrict us from working on this project?			
Do we have country specific expediting plan completed?			

EPC Master Checklist

Do we have customs agent under contract?			
Do we have global procurement capability and agreements that will work in country?			
Do we have in country design firm qualification documents developed? Who's on the qualification team?			
Do we have independently verified utility capacities?			
Do we have other projects being executed in country to draw experience from?			
Do we have plan developed for customs clearance? How will you use agents?			
Do we have plan developed for working with local inspectors?			
Do we have plan for special transportation issues in country? (e.g. oversized equipment).			
Do we have proven safety program for this specific country?			
Do we have qualification documents developed to qualify and select local in country vendors and subcontractors?			
Do we have the [Client]'s Intellectual Property protection plan for the project?			
Do we know code requirements for the project?			
Do we know code requirements of specific country, how are we getting information?			
Do we need an interpreter?			
Does [Client] have a developed tax structure for the in country entity? Is there a tax mitigation strategy developed?			
Does [Client] have a predetermined volume of procurement they wish to have made in country?			
Does [Client] need space and support in construction office?			
Does [Client] need space and support in local design office?			
Does [Client] require confidentiality agreements?			
Does [Client] require extended warranties on equipment or construction?			
Does [Client] require that the drawings be done in English as well as International?			
Does [Client] understand the licensing and qualification process for contractors in country?			
Does in country design firm have experience with permitting similar projects?			
Does in country fire marshal have experience with the chemicals / gasses used in the manufacturing process?			
Does local office staff and project staff have bilingual skills or will interpreters be needed?			
does our design, procurement and construction project management have in country experience?			
Does our Document Management program ensure confidentiality and security?			
Does procurement plan optimize the local in country procurement?			
Does project require subcontractor bonding or bank guarantee?			
Has [Client] budgeted permitting activities?			
Has [Client] confirmed a stable electrical source?			
Has [Client] confirmed a stable waste treatment source?			
Has [Client] confirmed a stable water source?			
Has [Client] negotiated pass through tax rights granted for the contractors and vendors?			
Has [Client] received approval from the in country government for any local tax breaks and or incentives?			
Has contractor identified the permitting authorities on this project?			
Have we defined any cultural nuances in dealing with the project? Country, [Client], contractor, Local, etc.			
Have we developed a plan to handle authority matters like immigration, work permits etc.?			
how are responsibilities split between home office / local office and low-cost offices?			
How are we going to track multiple currencies?			
How are we setting up engineering consistency with in country engineering firms?			
How do local practices affect contractor's safety program?			
How do we ensure confidentiality between the multiple owners for proprietary processes?			
How does our in country office augment shortfalls in required staffing levels?			
How many expatriates will [Client] have involved in the project?			
How will corporate management and support organization functions support project?			
How will project ensure an adequate number of workers for field activities?			
How will project ensure that in country trade contractors (pipe fitters, electrical, etc.) are qualified?			
How will we handle in country shop inspection?			
If foreign language is needed, have we lined up an interpreter?			
If it is a foreign project, what currency is used to pay us?			
If using foreign engineering potential partner is there a language barrier?			
Is a foreign language capability required on the project?			
Is design responsible firm completely familiar with in country or International standards and regulations?			
What are the main sources for construction labor?			
What are the numbers of personnel, by discipline of the in country design staff?			
What CAD standards does [Client] require?			
What currency will be used for local contracts?			
What estimating databases or sources of information are used to adapt to in country pricing?			
What export credit agencies or export/import banks will project be working with on this			



EPC Master Checklist

project?			
What legal jurisdiction will enforce the contracts?			
What plan is in place to educate entire team on language and cultural differences if project is in foreign country?			
What special duties, taxes, permitting fees, or special fees does contractor expect the project to encounter?			
What special programs are needed for in country safety programs? Such as training, supplies, programs, etc.			
What special training is required in country?			
What's "in country" mailing address, telephone, fax numbers and e-mail addresses for contact person for this project?			
What's legal form of entity when cooperating with another company to execute work?			
What's plan for obtaining duty exemption and VAT refunds?			
What's proposed split between expatriate and local construction management and supervision?			
What's the official language of meetings on the project?			
What's the official language of project correspondence?			
What's the plan for expanding the working capacity if it were necessary?			
What's the Procurement Plan approach to the split procurement, domestic and import, for the equipment and bulks?			
What's the structure of Electronic Data Processing (EDP) system and associated security?			
What's the work responsibility split with JV or partnership arrangements on the project, whether engineering or construction?			
Where will [Client]'s decision making responsibility reside? On site or off shore?			
Where will procurement be done?			
Where will the execution of detailed design be?			
Which design software does in country design firm use?			
Which governmental and statutory bodies in country do we have existing relationship with?			
Which permits are applied for by contractor?			
Which permits would be applied for by [Client]?			
Who has responsibility for handling government relations with [Client]?			
Who'll develop performance specifications for systems?			
Will [Client] have a permitting manager?			
Will [Client] have personnel in house with the design team for timely decisions regardless of location?			
Will design use [Client] Master specifications?			
Will project use local currency generated through local business as part of the construction of the project?			
Will we model the project?			

Kickoff (TOC)

Issue	Responsibility/Comments	Date	Complete
Are [Client]'s expectations understood and clear regarding the monthly meeting and do they approve of format?			
Are bank accounts set up and operable?			
Are risk issues and mitigation plans identified and implemented?			
Are there any special safety requirements?			
Are there any special training needs?			
Are there teaming partners and the project?			
Are we using design standards other than contractors?			
Do we have a list of participants and expectations for the monthly management meeting?			
Do we have a Prime Contract Summary ?			
Does P&ID completion support the schedule?			
Does Project Execution Plan address current construction execution philosophy?			
Does Project Execution Plan comply with contract and proposal?			
Does project have budget alignment?			
Has 90 Day Plan been followed and completed?			
Has a construction equipment plan been developed?			
Has criteria been set for Project Reviews ?			
Has Project Execution Plan been communicated to site team?			
Has schedule been reviewed?			
Has scope of services been reviewed?			
Has scope of work been reviewed?			
Has the construction mobilization plan been developed and approved?			
Has the contract initiation form been completed?			
Has the cost control plan been completed, approved and implemented?			
Has the Document Control Process been approved and implemented?			
Has the engineering / design plan been approved and implemented?			
Has the estimate been completed, reviewed and approved?			
Has the estimate been loaded in cost system?			
Has the external kickoff meeting been held?			
Has the Insurance plan been completed?			
Has the internal kickoff meeting been held?			



EPC Master Checklist

Has the project communication plan been developed?			
Has the project completed the Industrial Relations Plan ?			
Has the project completed the Information Systems Plan?			
Has the project defined roles and responsibilities of each position on the site - (minimum - contractor, Engineer/Designer, [Client])			
Has the project-staffing plan been approved?			
Has the resource plan been developed for craft workers?			
Has the training plan been developed and implemented?			
Have basic roles and responsibilities been defined and issued?			
Have project goals and objectives been completed and posted?			
Have Risk Strategies and Mitigation Plans been put in place?			
Have the Temporary Facilities plan been completed?			
Have we outlined design tools that will be needed on project?			
How are project goals posted enabling entire team to be aware?			
Is accounts receivable process approved and implemented?			
Is approval authority delegation authorized?			
Is Approval Authority Matrix completed and implemented?			
Is Change Management process approved in operating?			
Is equipment list complete?			
Is field Environmental Plan - complete?			
Is Level I Schedule completed?			
Is Level II Schedule completed?			
Is Level III Schedule completed?			
Is Long Lead equipment identified?			
Is Material Management Plan complete?			
Is New Hire Orientation program been developed and implemented?			
Is Prime Contract signed?			
Is Prime Contract Summary completed?			
Is Procurement / Subcontracting Plan completed and implemented?			
Is Project Execution Plan complete and being followed?			
Is Quality Plan complete and implemented?			
Is Safety and Security Plan been completed and implemented?			
Is Scope Definition finalized and frozen?			
Was Project Kickoff Internal Alignment meeting held?			
Was the Project Kickoff External Alignment meeting held?			
Will the project use the Constructability Program ?			
Will there be any formal team building done for project team?			

Landscaping (TOC)

Issue	Responsibility/Comments	Date	Complete
Are there any special plantings [Client] requires?			
Does scope include 3D Computer Modeling / Animation?			
Does scope include Details?			
Does scope include Enlarge Planting Plan?			
Does scope include Exterior Signage?			
Does scope include Irrigation Plans?			
Does scope include Lakes / Ponds?			
Does scope include Master Plan?			
Does scope include Planters?			
Does scope include Plazas / Courtyards?			
Does scope include Presentation?			
Does scope include Renderings?			
Does scope include Schedules?			
Does scope include Schematic Plans?			
Does scope include Sections / Elevations?			
Does scope include Site Analysis?			
Does project require Irrigation System specifications?			
Does project require Landscape Development specifications?			
Does project require Lawns specifications?			
Does project require Metal Edge Strips and Stakes specifications?			
Does project require Pedestrian Shelter specifications?			
Does project require Site Planting Plan?			
Does project require Tree Grate specifications?			
How are changes handled and who has approval authority?			
How is design approved?			
Is maintenance agreement desired?			
Is timing for planting clarified in the documents?			
What are the boundaries of the landscaping?			
What are the local requirements for minimums?			
What are warranties regarding plantings?			
What time of year is best for landscaping?			
When will [Client] take over maintenance of landscaping?			
Who approves final landscaping plan?			
Who's responsible for tie-ins of sprinklers to water system?			
Who's responsible for water tie in permit, and tie in fee, water meter?			



EPC Master Checklist

Who places the contract for landscaping?			
Will any special lighting be used and who is responsible for the powering up of this lighting?			
Will there be anything required by contractor prior to starting			
Will there be underground watering systems?			

Masonry (TOC)

Issue	Responsibility/Comments	Date	Complete
Are agency inspections completed?			
Are anchors and ties of the type of material and sizes required and are installed per specification?			
Are anchors secured, plumb or level and otherwise installed per specifications?			
Are anchors, ties, and flashing material verified for proper size and shape?			
Are any specific block densities required?			
Are block walls running bond or stacked bond?			
Are bucks secured, plumb or level and otherwise installed per specifications?			
Are cleanouts installed per specification?			
Are control joints the proper type and proper location?			
Are course patterns specified?			
Are critical tolerances well defined for equipment and assembly?			
Are doorframes that are scheduled to be set in masonry walls going to be delivered in a timely fashion to avoid Masonry rework?			
Are embedded items installed per design?			
Are expansion and control joint located and installed as indicated or required?			
Are framed openings, anchored and filled with mortar?			
Are hollow metal frames filled solid, or per specification?			
Are hot and cold weather procedures and/or water protection used per specification?			
Are indicated patterns per specification?			
Are joint size, type, tooling method and equipment meeting requirements?			
Are joints caulked per specifications?			
Are joints tooled in such a manner as to provide desired surface?			
Are lifts of grout poured in a timely sequence per specification?			
Are masonry-framed opening, frames ordered?			
Are methods and equipment suitable to produce the approved mix?			
Are methods of cleaning (dropping and splatters on finished surfaces) per specification?			
Are mortar joints tooled or flush?			
Are opening sizes coordinated with appropriate schedules?			
Are other embedded items secured, plumb or level and otherwise installed per specifications?			
Are penetrations identified?			
Are pipe, conduits, and sleeves and boxes located, secured, protected, insulated, and spaced per specification?			
Are provisions for flashing, cutouts and later installation of other items made?			
Are rated blocks required? Have they been inspected?			
Are receiving procedures in place to ascertain that materials are per specification?			
Are shelf angles - lintels - straps, etc., required? Who provides?			
Are structural members to receive masonry located, supported and anchored and have suitable attachments per specification?			
Are supports secured, plumb or level and otherwise installed per specifications?			
Are unit rates for blockwork established?			
Are wall prisms made at proper frequency and stored, delivered and tested per specification?			
Are walls flashing and weep holes clearly detailed?			
Are walls sound proof? How?			
Are weep holes installed per design?			
Are wythes or spaces are of sizes required and kept free of excess droppings?			
Do block walls have a fire rating? Which ones?			
Do dimensions allow for thickness of surface applied finishes?			
Do fire and smoke walls detail grout packing of gaps at corrugated deck or non-regular surfaces.			
Do we have approved panels and/or material samples?			
Do we have material certifications?			
Does masonry layout fit structural framing?			
Has blockwork been tested for moisture prior to painting?			
Have sample panels been installed and approved?			
Have we defined and approved masonry units, color, texture, grade, size, and defect tolerance?			
How are block walls attached to structural steel?			
If block walls are more than one block wide, what type of lateral reinforcing is required?			
Is a mock up required?			
Is absolute acceptance criteria developed for chipped blocks?			
Is ambient temperature documented above minimum?			
Is any special block required?			
Is approval obtained for bending of rebar?			



EPC Master Checklist

Is backfilling performed only after proper curing and per specification?			
Is block insulation required?			
Is block painted?			
Is block work plumb and true?			
Is bond pattern and over visual appearance acceptable?			
Is cleanliness acceptable?			
Is cutting of units per specification?			
Is Duro wall required?			
Is flashing completed?			
Is foundation damp?			
Is grouting mix tested and approved prior to pour and certificates are available per specification?			
Is job mixed grout measured by approved method?			
Is layout of work, coursing and dimensions per specification?			
Is masonry mortar, cement, aggregate, lime, water acceptable?			
Is masonry work scheduled early enough in the schedule to allow other trades to begin work sooner?			
Is mortar application using correct material, have full head and bed joints, shoving and buttering as required?			
Is mortar mixed per specification?			
Is parging or treatment of backs of walls, which are to receive backfill, performed per specification?			
Is pointing completed?			
Is pointing, replacement of defective units, and repair of other defects promptly performed using approved corrective process?			
Is reinforcement, per specification, of type, size, splicing and spacing required - properly doweled, tied and otherwise installed?			
Is sample needed, prior to block approval?			
Is saturation of bricks properly performed?			
Is schedule for tests and inspections arranged before installation?			
Is visual appearance of mortar joints acceptable?			
Is wall veneer? Is attachment method clearly called out?			
Is waterproofing of walls performed per specification?			
Prior to grout/concrete pour, are Wythes, reinforcement, etc., cleaned per specification and pour card is signed off and approved?			
Verify that materials match approved samples for color, texture, grade, and size and contain no non-standard defects such as chips, cracks, crazing, warps, kiln marks on face, and size differential?			
What expansion joint is to be used?			
What rebar is used?			
What type of fill is used?			
What types of anchors are required to anchor walls to slabs or footings?			
What's spacing of expansion joints?			
Who demolishes, replaces and patches existing walls?			
Who seals rated openings for follow up trades?			
Who verifies openings to fit for follow up trades?			
Who'll rub block for proper finish?			
Who's responsible for proper wall alignment? Who'll verify?			
Will control room rack flooring finish early enough to support the installation of Halon system, DCS and consoles?			

Mechanical Completion (TOC)

Issue	Responsibility/Comments	Date	Complete
Are associated instruments calibrated, function tested and / or loop tested per specification?			
Are associated switchgear, breakers, transformers, relays, bus ways, and distribution equipment inspected and/or tested in accordance with project specifications?			
Are bollard posts installed in appropriate locations in accordance with drawings and specifications?			
Are electrical / instrumentation installations installed in accordance with design and vendor documents?			
Are electrical cables meggered?			
Are hydrostatic test packages complete, accepted and are included in this system package?			
Are instruments and instrumentation tubing tested per specification and code?			
Are instruments calibrated and installed in accordance with design documents?			
Are motors and air cooler fans meggered and bumped to verify direction of rotation?			
Are NCR's which affect this system completed?			
Are OSHA approved gates and other safety devices installed in accordance with drawings and specifications?			
Are pipe supports, hangers, guides, anchors, spring cans, etc installed in accordance with design documents?			
Are quality control records complete and included in this system package per specification?			
Are structural steel base plates grouted in accordance with the drawings and specifications?			



EPC Master Checklist

Are structural steel, pipes, equipment, and other structures painted in accordance with drawings and specifications?			
Are structural steel, stairs, and grating installed in accordance with the drawings and specifications?			
Are temporary lubricants and rust inhibitors removed and initial lubrication is complete?			
Are travel stops on spring hangers for steam or gas filled piping removed by construction and cold load settings verified?			
Are travel stops on spring hangers for water-filled piping removed after the applicable piping system is filled with water?			
Are turnover notice and the supporting documentation received?			
Are vessel internals, packing and desiccants installed and contractor final closures completed?			
Is architectural work, which includes but is not limited to roofing, windows and doors etc. is in accordance with drawings and specifications?			
Is construction debris removed and the area is in a broom clean condition?			
Is paving installed and properly sealed in accordance with the drawings and specifications?			
Is piping installed in accordance with design documents?			
Is rotating equipment installed in compliance with vendor and specification requirements?			
Is structural steel requiring concrete fireproofing installed in accordance with drawings and specifications?			
Was appropriate maintenance on applicable equipment performed per manufacturer's recommendations?			

Miscellaneous Steel (TOC)

Issue	Responsibility/Comments	Date	Complete
Are tolerances established for field adjustments?			
Are unit prices established?			
Are we assembling ladders, stairways, catwalks and miscellaneous platforms in the shop wherever possible?			
Are we maximizing the cutting and banding of pipe penetration holes in grating in the shop, versus the field?			
Are we using grating floor systems in lieu of floor plate or elevated floors?			
Can connection surfaces be shop primed?			
Does fabricator supply erection bolts?			
Does handrail meet OSHA and local building codes?			
Does our scheduling sequence the erections of permanent stairways, platforms, and ladders as soon as practical to minimize temporary?			
Has the project maximized the use of grating floor systems?			
Have we analyzed the use of various manufactured systems for handrails and free standing, pre-engineered stair towers?			
Have we considered using galvanized structural and miscellaneous steel versus painted?			
Have we provided adequate ladders, stairways and platforms for operators and maintenance personnel to access and perform required work on production equipment?			
How will members be identified? Tags, paint stick, etc.?			
Is lay down area designated?			
Is material which is to be fabricated off site to be primed?			
Is prime coat compatible with finish paint specification?			
Is there any special framing required on roof?			
Verify that the miscellaneous steelwork items such as equipment frames, architectural items, grounding clips, etc., that are not structural drawings are included in scope of a supplier, contract package or Purchase Order?			
What stock of miscellaneous material is maintained on site?			
What will floor penetrations be guarded with?			
When will platform information be available?			
Who approves miscellaneous steel shop drawings?			
Who has provided the coordination with the structural steel scope, the concrete scope and the masonry scope?			
Who touches up paint at welds, cuts, and scrapes?			
Who's responsible for handrail? Is scoped defined?			
Will blanket order be let on offsite fabrication or must it be bid out separately?			
Will fabrication of miscellaneous steel be on site or off site?			
Will stairs be ordered with structural steel or separate?			
Will the steel have finish coat shop applied?			

Modular (TOC)

Issue	Responsibility/Comments	Date	Complete
Are module vendors using 3D models of their equipment?			
Are we holding alignment meetings for each modular vendor, inclusive of design, construction, vendors and quality representative?			
Are we maximizing modular design and erection off-site?			

EPC Master Checklist

Do modular vendors supply field erection supervision in their contracts/purchase orders?			
Do modules come with shop-applied fireproofing, painting and internal coatings where applicable?			
Do modules come with shop-mounted direct-coupled pumps and motors where applicable?			
Do we have definition of precisely what piping or components are to be considered in the 'Interconnect Piping' / 'Equipment Hook-Up Packages for modules?			
Do we have quality inspection schedules set up for modular vendors?			
Have modular vendors received uniform design specifications? They should be part of bid package.			
Have we maximized the modular potential on the project?			
Is scope of reassembly and interconnect piping to be done at the site clearly defined?			
Verify how the Module vendors intend to staff the field assembly component of their scope and how they will execute the work outside their shop? .			

Permits (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any environmental permits required on the project? Who's responsible?			
Are licenses and permits obtained?			
Are we aware of permit restrictions?			
Do contractors on the site have a State contractor license?			
Do we have a listing of permitting authorities and contacts?			
Do we have Air admissions Permit - State?			
Do we have building permit - county or city?			
Do we have Burning Permit - State?			
Do we have Business License?			
Do we have City Sewage System Connection Permit - City?			
Do we have Coastal Area Facility Review Act Permit - Army Core of Engineers			
Do we have Commercial Entrance Permit - State Highway Department?			
Do we have contractor License Permit?			
Do we have contractor's license - State?			
Do we have Country Occupational License - county?			
Do we have current environmental permits?			
Do we have Dam Safety Permit - State?			
Do we have Dredge and Field Permit - State?			
Do we have electrical permit - county or city?			
Do we have Erosion and Settlement control Permit - State?			
Do we have Excavation Permit - applicable utility?			
Do we have Excavation permits?			
Do we have Fire Safety Permit - State Fire Marsh?			
Do we have Flood Control Permit - Army Core of Engineers?			
Do we have Gas Permit - county or city?			
Do we have Landfill permits (offsite, on site)?			
Do we have Mining Permit - State?			
Do we have NPDES Permit - State?			
Do we have Obstruction Lighting and Marking Permit - US Department of Transportation?			
Do we have Occupancy Permit?			
Do we have plumbing permit county or city?			
Do we have Prevention of Significant Deterioration Permit - Federal EPA?			
Do we have Public Water System Permit - State?			
Do we have railroad permit - local rail line?			
Do we have Release that site is free and clear of hazardous materials - [Client]?			
Do we have Roofing permit - county or city?			
Do we have sheet metal permit - county or city?			
Do we have Solid Waste Disposal Permit - State?			
Do we have Waste Water Treatment Facilities Construction Permit - State?			
Do we have Water Intake Permit - Core of Engineers State?			
Do we have Water runoff permits?			
Do we have Water Ways Discharge and Dredging Permits - Army Core of Engineers?			
Do we have Zoning Classification Permit - County or City?			
Has it defined what permits are to be obtained by contractor and which permits are to be obtained by others?			
Have we reviewed and assigned responsibility for required permits?			
How long will the review process take?			
Is local/state building permit required?			
What are the licensing requirements for the project?			
What level of detail or state of completion is required?			
What restrictions are in place until permit is granted?			
What specific information is required for permit applications?			
Who on the Project Team or Plant Site is official contact?			
Who's responsible for the certificate of occupancy?			
Who's responsible for the construction permits?			
Will drawings require a PE seal?			



EPC Master Checklist

Personnel (TOC)

Issue	Responsibility/Comments	Date	Complete
Are arrangements made for the installation of pay phones for craft personnel's use?			
Are Benefit Handbooks issued to employees?			
Are bulletin boards posted properly?			
Are clerical wage rates set for construction locale?			
Are definitions of exempt/non-exempt employees in accordance with Fair Labor Standards Act?			
Are Employee's Attendance Logs maintained?			
Are executive reviews posted for state and federal?			
Are exit reviews completed upon employee termination?			
Are Federal and State Non-Discrimination Posters properly placed?			
Are field passes for visiting personnel established?			
Are files established for salaried personnel?			
Are formal performance reviews conducted at least annually on personnel?			
Are forms from contractor procedures?			
Are job expectations up to date and done within 30 days of project assignment?			
Are mobile phones being used? Who controls equipment?			
Are pertinent Personnel posters being displayed at jobsite in conspicuous locations?			
Are revised resumes submitted by employees?			
Are salaried individuals updated with their resume' within 30 days coming on the project?			
Are start and release dates established? Are they submitted home office monthly?			
Are supervisors maintaining file of qualified personnel that is reviewed by their manager quarterly?			
Are systems managers designated?			
Are the employee requisition forms completed for every person on the organizational chart and approved?			
Are the minority groups in the local area contacted?			
Are the Project Work Rules developed and approved?			
Are there any restrictions on personnel between the current [Client] and any other [Client]'s?			
Are there project incentives on the project?			
Are these key items covered by the project orientation program, open-door Policy, Open-Shop Policy, contractor			
Are we administering and assisting employees with company benefit plans?			
Are we insuring that items for Annual Reviews are included before sent to home office so that nothing holds up review?			
Are we making certain on promotional increases are accompanied by a letter of justification?			
Are we making certain that social security cards and alien identification papers are checked prior to hire?			
Are weekly external staff meetings conducted?			
Are weekly internal staff meetings conducted?			
Do managers timely notify HR Department of hiring decisions, and does HR Department timely notify applicants of final decisions?			
Do supervisors always notify HR of impending termination by completing proper paperwork which includes date/reason for termination?			
Do supervisors conduct and participate in team building exercises that promote quality objectives at least once a quarter?			
Do supervisors ensure training in the four required areas and maintain a record of training received by their employees?			
Do supervisors obtain operations manager approval before making employment offer or related commitment?			
Do supervisors update staffing plan monthly?			
Do we have a constructability program owing for lessons learned to be captured?			
Do we have a project engineer assigned to coordinate major equipment suppliers?			
Do we have city, county and state government support?			
Do we have law enforcement support for aspects of the project?			
Do we have Personnel Forms?			
Do we have the latest edition of the Executive Memorandums and are they posted?			
Do we have the proper and complete information on salaried personnel files?			
Does [Client] approve the terminations of personnel from the site?			
Does every new employee receive a proper orientation and information package on 1st day of employment?			
Does HR Department maintain applicant resume file?			
Does HR Department maintain bulletin boards where legal postings must appear?			
Does project have a Drug Testing procedure?			
Does project have a personnel-recruiting program in place?			
Does Project have designated eating areas?			
Does project qualify for a COLA?			
Has a holiday schedule developed and issued to employees?			
Has construction designated a single point of contact for Design Phase coordination between AE and CM?			
Have we appointed a constructability representative to the project?			
Have we checked into prices at County Clubs, YMCA's, clubs, etc. for the special			

EPC Master Checklist

membership's rates?			
Have we designated a person as Module Manager on behalf of construction to manage the complete and timely delivery of each module?			
Have we designated a Quality representative on the field staff during validation?			
Have we designated a turnover document specialist, who is responsible for the turnover binders at completion of project?			
Have you developed a project handbook with work rules, etc.			
How is vacation, sick leave, short-term disability, etc. monitored? Who's responsible for monitoring?			
In case of any incidents involving possibility of termination, is there written documentation?			
Incoming and outgoing transfers - are the proper forms being submitted with the transfer PSR, performance appraisal			
Is a check conducted to see that no employee begins work without a formal Letter of Offer which includes the 5 essential items?			
Is a copy of contractor's procedures on site and reviewed for compliance or deviation?			
Is a housing plan developed?			
Is a Newcomer's package developed?			
Is a parking system developed?			
Is a procedure established for a means for testing secretaries, i.e., typing, shorthand, and computer skills?			
Is a project orientation video completed?			
Is a Project Suggestion system in place?			
Is a remote transportation plan developed to get people to work place?			
Is a seminar given on performance appraisal instructions and handouts?			
Is Affirmative Action Plan accessible to employees during normal working hours?			
Is Affirmative Action Plan updated with the past 12 months?			
Is an emergency calling card made up and issued?			
Is an exit interview given by the HR Department to terminated employees?			
Is an Industrial Relation Contingency Plan developed and proper training taken place?			
Is an organization chart completed?			
Is audiovisual equipment ordered?			
Is contact made with Local and State Law enforcement agencies?			
Is Contingency Kit developed for the Project, i.e., camera, underfoot tape and tape recorder?			
Is HR Department coordinating/scheduling interviews?			
Is office presentable for public to visit?			
Is procedure developed for personnel requisitioning using the proper requisition forms?			
Is procedure for vacation policy and approvals completed and issued?			
Is project purchased video equipment to help measure progress or document problems?			
Is project staffed adequate to administer the change process?			
Is relocation policy and per diem policy set and communicated to each employee?			
Is Salary Staffing Plan developed for positions, including job description?			
Is specification for pipe painting a single color, except for sprinklers?			
Is there a system developed that newly promoted managers are oriented to their new position prior to taking it?			
Is there a system developed to make certain that classification of employees is correct?			
Is there an Annual Review Notification System implemented?			
Is there established and maintained the weekly craft effort hours from subcontractors?			
Is worker motivation plan developed for golf tournaments, fishing tournaments, picnics, etc.?			
Should an EEO seminar be held, when and by whom?			
What are the contractual arrangements regarding leave of absence?			
What are the staffing approvals necessary from [Client] before someone is assigned to the project?			
What are the surrounding industries labor modes?			
What local public transportation services are in the area?			
What was prior labor environment?			
What's [Client]'s commitment to labor posture?			
What's labor availability in local area?			
What's labor posture on the project?			
What's our procedure for authorizing release of information on project?			
What's our procedure for placing employees upon completion of their assignment at our project?			
What's system for coordinating the transfer and release of key personnel?			
What's the approach for paying vacation to employees who are laid off?			
What's the community's feeling on the plant?			
What's the local political climate relative to labor relations?			
What's the procedure for order placement for contractor or project specialty items?			
What's the projects expense philosophy for travel and relocation and does everyone understand?			
What's the review process for timecards to verify employees as eligible for payment of time-off?			
What's tracking system for monitoring of wage increase percentages against divisional			



EPC Master Checklist

goals?			
Who approves the PSR's?			
Who gets overtime on the project?			
Who's responsible for heading up the United Way Campaign, or other charity campaigns?			
Who's the EEO representative on site?			
Will subcontractors use the project site for interviewing of craft persons?			
Will the project use video teleconferencing?			
Will the project utilize a showcase of Company Products?			
Will the project utilize an I.D. Badge System?			
Will there be an onsite newsletter developed and issued?			
Will there be any arrangements made for dinners, breakfasts or lunches for cross section of employees?			
Will there be any local club participation for community relations?			
Will there be any major milestone celebrations?			
Will there be employee recognition award programs?			
Will there be rewards for improvement suggestions?			
Will there be special seminars that personnel must attend?			
Will there be specialty items like b caps, mugs, etc. designed for the project?			

Pile Foundations (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are test piles required?			
Are we documenting the conditions of top of precast and woodpiles after driving?			
Are we inspecting heaving per specification?			
Are we marking piles as necessary to comply with requirements?			
Are we noting condition of nearby structures and recording cracks or other deficiencies?			
Are we verifying material for piles prior to installation for to specification?			
Are we verifying piling for - length, dimensions, delivered condition, mix utilized test run, type and time of curing, and test reports per specification?			
Are we verifying steel sheets in place for plumbness, straightness and damage from driving look for water in pipe and metal shells that are to be filled with concrete?			
Do we have "Hammer Record"?			
Is agency inspection complete?			
Verify approval for pre-drilling?			
Verify for plumbness before driving?			
Verify rebar cages - size, spacing, steel grade, clearance, and dowel and tendon extensions?			
Verify that a proper driving block or shoe is used to avoid end damage?			
Verify the as-driven location to ascertain tolerances are within requirements?			
Verify waterproofing at joint, if required?			
Verify whether jetting is owed?			
Verify whether templates are required?			

Piling (TOC)

Issue	Responsibility/Comments	Date	Complete
Are pile tips required?			
Are piles driven to refusal or blow count on friction?			
Are piling in a central location or are there distances between groups of piling that will affect driving sequence?			
Can reaction piles be used as production piles or left in place?			
Can test piles be used for production piles?			
Can vibratory hammers be used?			
Do the documents provide for the modification of pile caps?			
Does contractor have soil test data?			
How are piles to be spliced?			
How many test piles are needed?			
How will fractions of feet be billed?			
If caisson or concrete - who will supply concrete?			
If pipe piles are used, what is fill medium?			
Is definition for refusal clearly identified?			
Is there a sequencing plan developed?			
What are plumbness and location tolerances?			
What kind of piling is used?			
What kinds of rigs are used?			
What's considered expendable waste by contractor?			
Who performs load tests, provides equipment, performs measurements, and writes up the load test?			
Who provides the locations of underground utilities and facilities?			
Who's responsible for blow counts and pile driving logs?			
Who's responsible for dewatering?			
Who's responsible for piling layout and as built?			



EPC Master Checklist

Who'll cut off the piles?			
Who'll fabricate rebar cages?			
Who'll inst reinforcing steel dowels in concrete filled piles or weld concrete anchors to piles?			
Will tips of batter pile interfere with tips of adjacent vertical piles?			

Piping (TOC)

Issue	Responsibility/Comments	Date	Complete
Are actual metal temperature documented?			
Are anchors installed in the correct locations?			
Are arrangements made for installation manuals and procedures for nonmetallic pipe?			
Are base ells and other pipe supports used to secure to paving the adjustable type?			
Are blind locations acceptable?			
Are branches reinforced?			
Are components used in hanger fabrication standardized?			
Are dates of tests documented?			
Are double nuts on rod hangers?			
Are double nuts on u-bolts?			
Are expansion joints on rack piping runs nested together in a common location where possible?			
Are guides installed in the correct locations?			
Are hanger components, such as snubbers, spring cans or struts being shop painted?			
Are hanger rods being attached separately for each line?			
Are hydraulic snubbers installed with the oil reservoir plug on top for maintenance checking?			
Are items documented on the post-hydro punchlist completed?			
Are items documented on the pre-hydro punchlist completed?			
Are leak test accepted signature obtained?			
Are original isometrics of pipe being maintained at the job site when "as built" drawings are required?			
Are our welding procedures and welder qualification procedures clear, concise and minimized?			
Are outstanding items that affect the pressure containing portion of the piping documented on the pre-hydro punchlist?			
Are outstanding items that are shown on the design drawings which have yet to be installed or completed documented on the post-hydro punchlist?			
Are parameters on testing requirements for tie-in valves or other tight shut-off valves set? Specify leakage rate requirements and have valves tested by vendor prior to shipment.			
Are permanent hangers and supports scheduled for early design and fabrication? It should include associated materials to be delivered prior to arrival of pipe spools. This permits specialty crews to inst supports ahead of erection crews.			
Are pipe clearances between pipes, structural members, equipment, etc., sufficient to avoid field trimming of insulation?			
Are pipe supports installed?			
Are Piping Bulks being procured with "Mill Test Paper" where coded work is required?			
Are piping shoes, trunnions and dummy legs being installed on shop-fabricated spools by the fabricator with slots for insulation banding where required?			
Are piping test pressures established?			
Are proper shoes installed and welded?			
Are reducers located correctly?			
Are spring hanger scales visible from a platform or ladder?			
Are spring hangers concentric with beam centerline?			
Are spring hangers installed in the correct location?			
Are test boundaries shown on drawing?			
Are valve handle orientations shown on the ISO / orthographic drawings?			
Are valves with welding ends and soft seats or internals that can be damaged or destroyed by field welding provided with 6-inch nipples attached by the vendor?			
Are we being clear and consistent in use / c out of Bottom of Pipe or centerline dimensions or elevations on drawings?			
Are we designing and installing unions / flanges near critical valves to facilitate removal and replacement for maintenance?			
Are we going to leave end of pipe racks open for stuffing?			
Are we identifying and tagging letters on beams supporting pipe headers? Is this incorporated into BID instructions?			
Are we leaving a field weld at the last flange on rotating equipment for shop-fabricated piping?			
Are we limiting the level of detail depicted on the P&IDs inside the Module/Skid boundary to essential details?			
Are we maximizing pre-painting with pipe fabricators?			
Are we maximizing shop fabrication for things such as steam trap assemblies, utility stations, steam trace manifolds, sample coolers, etc.?			
Are we maximizing the prefabrication of steam traps, utility stations, sample points, control valve stations, etc.?			
Are we maximizing the use of adjustable hanger supports and restraints, versus engineered supports and spring hangers?			



EPC Master Checklist

Are we modeling small bore to minimize rework?			
Are we providing special expeditor in pipe fabrication shop?			
Are we purchasing double random lengths where possible?			
Are we sandblasting, priming and top coating straight runs of pipe and installing with the pipe rack steel as the tiers of the rack are installed?			
Are we showing "Rack stuffing" piping on Isometrics with a dotted line and field welds shown where shop fabricated spools connect?			
Are we using a system or color-coding scheme for shop-fabricated spools? Is it shown on the isometrics?			
Are we using flux-cored arc welding on heavy wall carbon steel piping?			
Are we using screwed piping for any system larger than 2-inches?			
Are we using slip on flange at vessel connections - field welded to ensure correct orientation?			
Are wear pads installed where required?			
Are weepholes in reinforcing pad?			
Can we fabricate lengths up to 80 feet for straight run pipe in pipe racking, including steam tracing?			
Do engineered supports and hangers appear with coordinates, elevations and are clearly identified by tag and / or catalogue number on isometrics and / or orthographic drawings?			
Do isometrics and orthographic drawings clearly denote insulation limits for personnel protection, steam tracing, acoustical and insulation specification break points?			
Do isometrics for compressor suction piping or other systems requiring chemical cleaning have specific notes, requiring the removal of any internal protective coatings?			
Do isometrics have a detailed bill of material issued with the isometric? Does bill of material differentiate between shop fabrication and field fabrication?			
Do isometrics have Bi-metal, alloy and field weld callouts?			
Do isometrics have Boiler coded work and limits callouts?			
Do isometrics have cold spring requirements at specific locations callouts?			
Do isometrics have gussets or special bracing callouts?			
Do Isometrics have jacking bolt hole-drilling callouts?			
Do isometrics have NDE requirement callouts?			
Do Isometrics have paint, coating and insulation requirement callouts?			
Do isometrics have Post Weld Heat Treatment callouts?			
Do isometrics have stress analysis callouts?			
Do isometrics have test medium and test pressure callouts?			
Do isometrics include elevation changes, direction changes, and expansion loops? Is each ISO fully dimensioned with coordinates?			
Do isometrics show operating pressures and temperature callouts?			
Do isometrics show system, WBS and CWP numbers?			
Do PDS piping models have time and resources scheduled for the efficient resolution of 'soft and hard clashes' as reported by the PDS software?			
Do pipe specifications include needed information in one document versus referencing vendors to general specifications, insulation, painting specifications, etc.?			
Do piping isometrics and orthographic drawings include hydro test and process vents and drains?			
Do sleeve drawings for pipe penetrations have ISO number reference?			
Do Vessel Trim Drawings for level gauges and switches, etc., on towers have vertical and horizontal dimensions?			
Do we designate logically grouped Utility entrance points and pin down X, Y and Z coordinates for Module/Skid Manufacturers to design to?			
Do we have a piping specialty list for tagged items such as de-super heaters, ejectors, in-line strainers and any other tagged piping items?			
Do we have approved cleaning procedure for lube-oil systems?			
Do we have early release of separate pipe hanger and support drawings so that specialist crews can inst supports ahead of erection crews?			
Do we know [Client]'s and local jurisdiction guidelines?			
Do we know test pressure?			
Do welding specifications allow for use of automatic / semi-automatic welding on large bore piping?			
Does [Client] require a master set of piping specifications and welding procedures at end of project?			
Does construction have a min-max system set up in their stores for small-bore piping materials, bolts and gaskets?			
Does construction schedule for major pipe runs establish sequences for dropping lines into position coordinated with erection of structural members?			
Does design detail pipe penetrations on elevated structures to show field welds above floor levels to minimize scaffolds?			
Does design detail pipes penetrating elevated structures?			
Does design of roof and floor drains support the construction sequence? This helps to minimize temporary drainage systems.			
Does design schedule and material delivery support large lines first, then smaller sizes in agreed upon sequence?			
Does design schedule provide an early listing of types of metals / alloys to be used and Wall Thickness Schedules?			
Does line list include insulation requirements?			
Does line list include paint specification?			
Does line list include size and number of steam and electric tracers			



EPC Master Checklist

Does line list include turnover system reference			
Does line list provide seal water details for process equipment			
Does line list show "To and From" references			
Does line list show P&ID references?			
Does line list show test package references			
Does line list show test pressure and medium?			
Does spool piece numbering system differentiate between offsite shop and field spool fabrications?			
Has design identified the service systems that can be service tested in lieu of pressure testing?			
Has design reviewed vendor equipment drawings where equipment interfaces with piping?			
Have we analyzed and challenged materials and methods of construction for Process Waste Pipe?			
Have we analyzed the economics of reducing block valves at pumps?			
Have we avoided bottom connections on lube-oil systems?			
Have we checked for proper support for two-phase flow lines? There is usually more vibration.			
Have we clearly specified any requirements for coating of stud bolts?			
Have we completed a quality check for correct valve trim, bolts, packing, gaskets and flange facing specifications prior to ordering valves?			
Have we confirmed that P&ID notes are incorporated into isometrics?			
Have we considered purchasing the first set of diaphragms in process valves using a less expensive material such as Teflon? Then remove temporary diaphragm and install permanent with specified material.			
Have we considered steam testing of piping designed for steam-out conditions in lieu of hydrostatic testing?			
Have we considered the use of LOCKRING joint to reduce field welding?			
Have we considered the use of mechanical fitted pipe shoes?			
Have we considered the use of orbital welding?			
Have we defined chemical cleaning requirements?			
Have we determined if an expansion loop is required due to steam in place sanitization and coordinate under slab, underground gravity drain piping between disciplines, especially between piping, plumbing, equipment, civil, structural and architectural disciplines?			
Have we developed a set of color coded, by turnover system, System Boundary P&IDs?			
Have we evaluated each job whether fittings for branch connections are shop fabricated with the header or on the lateral spools?			
Have we identified early fabrication spools that will be lowered into basements, tunnels or other areas, prior to construction of roofs?			
Have we identified the permanent plant-piping networks that can be used for construction lines? E			
Have we identified tie-in procedures?			
Have we implemented an installation coordination program?			
Have we maximized pipe bending in lieu of fittings?			
Have we maximized shop fabrication of instrument bridles and other piping assemblies?			
Have we maximized the use of adjustable drains and cleanouts?			
Have we maximized the use of pre-insulated tubing in lieu of hand-insulated piping for steam tracing supply and return lines?			
Have we minimized the number of different types of gaskets and bolting? Develop color-coding system for vendor to apply prior to field receiving in field for bolts and gaskets.			
Have we minimized the number of line classes?			
Have we run cost analysis on using SS for lube-oil systems?			
Have we specified tie-in NDE requirements where tie-in of pipe to operating plant makes hydro testing impractical or impossible? Consider 100% N.D.E. of welds.			
Is a Squad Check Program for design and submittal documents implemented?			
Is actual test pressure documented?			
Is blind thickness acceptable?			
Is bolt size and material correct?			
Is clearance for expansion per design?			
Is deepest underground piping system being designed first?			
Is design marking field welds and field fit-up welds on Isometrics?			
Is electrolytic protection installed where required?			
Is Engineer of Record generating and maintaining Piping Line List with strict change controls?			
Is gasket type and material correct?			
Is high point vent installed?			
Is installation straight and plumb?			
Is insulation thickness on the line lists, the ISOs or both?			
Is labeling schedule set, with supplier for piping labels?			
Is layout of pipe racks and preliminary pipe stress analysis scheduled early in the design effort?			
Is line size per specification?			
Is line slope per drawing?			
Is low point drain installed?			



EPC Master Checklist

Is our quality check at equipment suppliers verifying equipment flange boltholes for correct orientation / straddle of centerline?			
Is pipe specification correct?			
Is piping designed where chemical cleaning is required with adequate connections, drains, and break out flanges to facilitate full circulation, draining and drying?			
Is piping line number correct?			
Is piping material correct?			
Is piping released to test signed by piping inspector?			
Is piping shown on isometric drawing correct?			
Is piping shown on P&ID correct?			
Is piping test package reviewed and approved?			
Is priority placed on sloped process piping over Utility Piping, Fire Protection Piping and other disciplines?			
Is reducer type correct?			
Is shop fabricated piping delivery schedule construction driven?			
Is test gauge ID documented?			
Is test media documented?			
Is there commitment to firm sequences for spool fabrication and delivery with the fabricator?			
Is there enough clearance for insulation?			
Is tie-in material prioritized and noted on purchase orders?			
Is underground piping and electrical conduit being run at consistent elevations in zones?			
Is valve stem orientation correct?			
Is valve tag installed?			
Is valve type and number correct?			
Is vendor supplied piping shown on isometrics and orthographic drawings and identified according to vendor piece marks?			
Is welding complete?			
Passivation - Can we use CIP skids for passivation?			
Passivation - What are the requirements for disposing of passivation liquids? Need to follow			
Passivation - What's quality control to assure that equipment passivated at the factory is blown dry and a purge placed on passivated items? What's required documentation?			
Passivation- have we developed requirements prior to Issue for Bid of process equipment or process piping packages?			
To we have specifications for preventative maintenance and storage requirements of specialty items?			
Verify and field checked quality of piping to be tied into before final design and fabrication of tie-in spools for integrity, ability to isolate, material specification / thickness and interferences?			
Verify equipment flange boltholes for correct orientation / straddle of centerline?			
Verify pipe clearance between pipes, supports, etc. to facilitate the use of orbital automatic welding equipment on heavy wall pipe?			
Verify pipe supports at rotating equipment have no load imposed on nozzles during construction or operation to disrupt alignment?			
Verify re-instatement of piping system is completed?			
Verify spring hangers, snubbers and strut locations have no interferences with the structure and rod-out connections?			
Verify strainer locations to ensure protection of pumps?			
Verify structures are designed for hydro test weights in vapor lines?			
Verify suppliers' Welding Procedure Specifications for conformance to applicable code and [Client] requirements?			
Verify suppliers' Welding Procedure Specifications for conformance to applicable code and [Client] requirements?			
Verify test type and pressure are correct per the engineering design?			
Verify that blinds, temporary spools, etc. are removed from piping system?			
Verify that drain piping has adequate clean-out access?			
Verify that hot and cold system piping has adequate flexibility and support?			
Verify that pipe slope and drainability meet requirements?			
Verify that the compressor piping hold-downs are installed per piping detail and bolts are tightened properly?			
Verify that the piping guides and anchors have the correct clearance gaps between the edge of the shoe and the guide or anchor?			
Verify that the weep nipples from reinforcing pads accommodate the thickness of insulation on the pipe or vessel involved?			
Verify that there is no Unistrut requirement in the Clean Room?			
Verify that we are NOT using base spring cans where large horizontal movements are anticipated?			
Verify that we have avoided using t "toothpick" type pipe supports, especially in seismic or high / gusty wind areas?			
Verify that we have not specified the use of galvanized shoes or clamps on SS lines at high temperatures?			
Verify the cleanability of the support systems for pipe, electrical and other items?			
What systems are we maintaining operability of a system after a tie-in has been made and before the start-up of the new system?			
What type of flush? (hydro, steam blow, other)			



EPC Master Checklist

What's test medium?			
Who has verified that steam tracing requirement takeoffs are complete?			
Who's responsible for material take-off checks?			
Will design engineering furnish routing schematics for cooling, seal and lube piping?			
Will preliminary Material Take-offs include non-engineered pipe supports for early purchase and fabrication?			

Piping - FRP (TOC)

Issue	Responsibility/Comments	Date	Complete
Are fastener torque values in accordance with specified Torque Values in code or specification?			
Are flanges parallel and the clearance between flange faces is sufficient to allow gasket installation?			
Are hangers and supports per specification and we have documented any testing?			
Are threads and nut facings lubricated with an approved lubricant in accordance with the specification?			
Have we documented the fastener tightening operation and received approved inspection?			
Have we inspected and verified that pot life and cure times are being adhered to?			
Verify application per specification?			
Verify the mixing of resin and hardener?			
Verify there is no damage on seating surfaces before gasket installation?			
Is FRP piping being inspected upon delivery to site?			
Is fastener length adequate enough to ensure full thread engagement after insertion through bolted members?			

Piping - Hygienic (TOC)

Issue	Responsibility/Comments	Date	Complete
Are appropriate gaskets in place per specification?			
Are blinds installed?			
Are bonnets tight?			
Are ends capped?			
Are filters installed per specifications?			
Are gloves worn during installation?			
Are markers in place and verified for correctness?			
Are preparation tools used and clean of other metals?			
Are supports installed per specifications?			
Are vessel attachments complete?			
Do we have weld sample?			
Do we have welder qualification documented?			
Have we used argon purge per specification?			
Is flow direction correct?			
Is slope correct?			
Is weld preparation per specification?			
Verify there is NO carbon steel?			

Planning / Scheduling (TOC)

Issue	Responsibility/Comments	Date	Complete
Are life safety requirements defined and on the critical paths of schedules			
Are [Client] target dates reviewed, approved and entered into the schedule?			
Are area schedules developed, reviewed and issued? What's frequency of update?			
Are changes superimposed over original schedule?			
Are contingency plans complete for potential/anticipated late equipment delivery?			
Are control level schedules updated?			
Are crane usage plans complete owing for the effect of crane and other equipment movements upon the permissible density of workers in congested areas?			
Are Critical Path areas of the Level III schedule updates being reviewed by Project Management?			
Are design and procurement schedules construction driven?			
Are detailed schedules received by contractors and approved prior to contract signing?			
Are engineering releases integrated in the project CPM? At what level?			
Are equipment RAS dates and Construction sequence worked to minimize effects to Critical Path?			
Are Monthly reports containing information regarding schedule and progress data being issued?			
Are plans updated on an appropriate frequency to formulate work arounds for equipment delivery changes?			
Are procedures developed and established for the two-week schedules? Who's responsible?			
Are progress assessments being approved and issued as prescribed on a periodic basis?			
Are progress measurements monitored by Project Planner/Scheduler?			
Are Progress Metrics and aligned with [Client] requirements during Kickoff Meetings?			

EPC Master Checklist

Are project photographs taken and with what frequency?			
Are project staffing plans adhering to plan?			
Are slide bases and other supports designed and procured to coincide with foundation installation schedule?			
Are the equipment purchases projected into the design schedule?			
Are three-month intermediate range bar charts developed?			
Are we producing a Schedule Level I with what frequency?			
Are we producing a Schedule Level II with what frequency?			
Are we producing a Schedule Level III with what frequency?			
Are we producing a Schedule Level IV with what frequency?			
Do the Project Work Group Leads and Project Management personnel have current approved DPS updates in their possession?			
Do we have an engineering schedule and is it integrated in with construction schedule to give total project schedule?			
Do we have process equipment delivery information? How is equipment expedited?			
Do we have schedules from previous projects that are applicable to this project?			
Does Project Controls Execution Plan include a Progress Measurement system and a definition of the work process?			
Does Project Controls Execution Plan include a Schedule Plan containing definition of types and levels of detail for Project schedules?			
Does Project Controls Execution Plan include Project Coding?			
Does project use manual CPM network or computerized schedule?			
Does project use resource leveling?			
Does Schedule have appropriate approvals per contractor procedures?			
Does schedule identify in appropriate detail [Client] activities?			
Does schedule reflect [Client], subcontractor and Supplier scheduling information?			
Does Schedule show [Client]-approved baseline and current forecast schedules?			
Has [Client] bought into schedules before issuance?			
Has a Project Controls Execution Plan been approved by the Project Manager?			
Has planning identified portions of mechanical work that can be worked early to release-related piping, electrical and instrumentation items minimizing critical craft loading?			
Has Project Control Department Management reviewed the Implementation Plan?			
Has project scheduled formal constructability or value engineering reviews?			
Has resource planning maximized the leveling of critical crafts?			
Has the engineering schedule and drawing list made available and integrated into the master schedule?			
Has the Lead project Planner sufficiently developed a Level I schedule to reflect the work processes necessary to complete the project?			
Has the Preliminary Project Schedule been approved by the Project Manager?			
Has the Project Execution Management Team approved the WBS (Work Breakdown Structure) for the project?			
Has the Project Execution Management Team reviewed and approved the Level III DPS (Detail Project Schedule)?			
Has the Project Manager reviewed and approved the Master Project Schedule which has been developed based on contractual milestones and summarized project activities?			
Have construction manager and project manager bought into schedules prior to issuance?			
Have the schedules been reviewed with the project planner? How will often will scheduling meetings be held?			
Have we built time contingency between the supplier's forecast date and the contractor's commitment date to ensure adequate allowance for material and deliveries?			
Have we prepared the special conditions for the bid packages outlining the planning requirements?			
Have we received general arrangement and site layout drawings for logistics in our planning?			
Have we received the estimate to integrate effort hours into the schedule?			
Have we received the plant start up schedule?			
Have we received written schedules from contractors and compared them to over schedule?			
How is master schedule tracked against the schedules from contractors?			
Is a detailed Construction Schedule developed and what is update frequency?			
Is a list developed for proposed subcontract award dates, scheduled construction and dates drawing releases for same?			
Is a mobilization schedule developed?			
Is a plan for shift work complete to relieve overload problems with either equipment or people?			
Is a Resource Loaded Progress Curve developed and what is frequency of the update?			
Is first detailed working scheduling produced within 30 days of project kick-off mtg.?			
Is format established for activity numbers so that engineering can integrate with construction smoothly?			
Is format for monthly status report developed?			
Is master schedule updated?			
Is Master Summary Schedule developed and issued?			
Is planning and schedule plan complete?			



EPC Master Checklist

Is planning portion of the completion report developed and completed?			
Is project CPM developed and issued?			
Is project schedule construction and startup driven?			
Is project scope document reviewed and integrated into the schedule?			
Is required project reporting part of purchase orders or subcontracts for vendors, consultants and subcontractors to facilitate timely project reporting?			
Is schedule being analyzed periodically for activity float impact, criticality changes, and scope revision incorporation?			
Is schedule updated to show progress/revisions and issued monthly?			
Is Schedule versus Actual progress curve updated weekly?			
Is scheduling system determined so that resources are justified?			
Is there a list of major milestones and their concurrent dates?			
Is there a planning hot list in existence referencing equipment, engineering, and construction problems?			
Is there a purchased equipment report?			
Is there a weekly progress report issued by planning?			
Is there an approved numbering system for equipment?			
Is there an equipment delivery deviation notice in existence?			
Is there an instrument list developed with delivery durations?			
Is there an integration of quantity, resources and scheduled durations to backup updating information and schedule status?			
Is Two-week Look Ahead schedule published weekly?			
What's [Client]'s involvement with the schedule?			
What's [Client]'s perception of "Float", who owns?			
What's required for job history?			
What's required in the way of startup schedules?			
What's the frequency of updates for construction on equipment?			
When are the planning meetings held?			
Which special schedules are required?			
Who receives the float report?			

Plot Plan and Equipment Arrangement (TOC)

Issue	Responsibility/Comments	Date	Complete
Are aisle ways next to equipment large enough to accommodate mini-cranes?			
Are roads and gates designed to accommodate construction cranes?			
Are waste sumps located near the edge of plot?			
Are we required by [Client] to allow space for functional expansions of facility?			
Does building and equipment layouts provide for prefabrication areas adjacent to work areas and / or performed in the same general area?			
Does design provide for direct access ways / aisles to minimize tripping / congestion hazards and provide escape routes during emergencies?			
Does design provide for visitor access separate from operations?			
Does plot plan and equipment arrangement contingency allow for late delivery of large equipment so that other work can proceed and late arrival equipment can be set when delivered?			
During the development of the equipment arrangement, are we using available supplier information and involvement?			
Has design determined best location of controls to match operator areas and provide view of equipment?			
Has design provided wider than needed pipe ways and alleyways to accommodate such items as protruding valve stems, manifolds, and fire hoses?			
Has plot plan been developed to accommodate temporary construction facilities as well as permanent support facilities?			
Has rigging specialist reviewed plot plan / equipment arrangement to ensure heavy lifts can be made?			
Have plot plans and equipment arrangements been reviewed by construction and maintenance?			
Have we arranged equipment as close to the flow logic as possible by grouping equipment by process system?			
Have we arranged equipment to minimize length of pipe racks and pipe runs?			
Have we considered centralizing vessels in single location to maximum use of large construction equipment?			
Have we considered maintenance requirements when designing permanent walkways, ladders, stairways, platforms, and elevators?			
Have we considered size of existing maintenance equipment when establishing equipment heights and locating equipment above grade?			
Have we consolidated and/or limited those areas which need hearing protection?			
Have we designed surge stations into multi-process production lines to reduce sensitivity to exactly matching production rates?			
Have we grouped electrical equipment in the least hazardous areas?			
Have we grouped equipment so that mass excavation can be minimized and earthwork can be balanced?			
Have we located any hazardous materials yellow line area compactly and continuously near edge of facility?			
Have we located new equipment away from existing equipment to minimize use of "Hot Work" permits where possible?			



EPC Master Checklist

Have we maximized arrangement of equipment to facilitate construction sequencing within the operational parameters?			
Have we maximized the grouping of equipment so that large common foundation mats can be used?			
Have we maximized underground utilities on above ground equipment locations?			
Is plot plan / equipment arrangement oriented to best utilize existing infrastructure and minimize cost of electrical and piping tie-ins?			
Is plot plan and equipment arrangement consistent with module / skid delivery with full or partial modular program?			
Verify that equipment is located so that it is not shielded from fire monitors and is accessible for firefighting equipment?			
Verify that plot plan/equipment arrangement and construction sequencing will not close haul routes for heavy equipment due to height, width, length and weight restrictions?			
Verify that we have eliminated or minimized pump locations and other equipment located under pipe ways or restricted access?			
Verify that we have eliminated or minimized pump locations and other equipment located under pipe ways or restricted access?			
When will equipment arrangement be frozen?			

Plumbing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are air or water tests of plumbing, drainage and venting systems correctly performed, and care is taken so as not to over pressurize the components tested?			
Are backwater valves located for ready accessibility to their working parts?			
Are cleanout clearances per specification?			
Are cleanouts located per specification?			
Are correct joints utilized for the intended service?			
Are fittings on the drainage system in conformance to the type of piping used?			
Are fittings set level and properly aligned?			
Are floor drains per specification?			
Are floor outlet fixtures rigidly secured to floor by screws or bolts?			
Are hangers and anchors securely attached to the building construction?			
Are interceptors and separators installed in accordance with specification?			
Are joints and connections gastight and watertight?			
Are joints that offer obstruction to flow through the drain prohibited?			
Are pipefittings in accordance with the specification?			
Are piping, joints, and connections gastight and or watertight?			
Are plumbing bulk materials and components properly, handled, stored and maintained prior to installation?			
Are plumbing fixtures installed to afford easy access for cleaning?			
Are plumbing systems in accordance with the specification and or the applicable plumbing codes?			
Are relief vents installed per specification?			
Are required trap signs maintained?			
Are roof gutters are sized properly?			
Are that increasers and reducers used per specification?			
Are the increasers and reducers properly sized for the intended use?			
Are traps installed according to specifications?			
Are traps properly installed?			
Are vent pipes through a roof terminated at least 6 inches above the roof?			
Are vent terminals properly located?			
Are waste outlets of the required size?			
Are water closets and urinals of the specified type?			
Are we observing that prohibited traps are not substituted for required traps?			
Are w-hung bowls supported so that no strain is transmitted to the closet connection?			
Do backwater valves have capacity at least of the capacity of the pipe in which they are installed?			
Does sewer pipe remain waterproof if in the same trench as the water-service pipe?			
Is distance of traps to fixtures per specification?			
Is each vent terminal made watertight with proper flashing?			
Is horizontal drainage piping installed at the required slope?			
Is horizontal piping supported to keep it in alignment and to prevent sagging?			
Is joining of piping and fittings that are dissimilar metals that corrode each other, done with non-conducting dielectric connections?			
Is maintenance data, spare parts lists, locations of valves and installation instructions for plumbing systems included in the turnover package?			
Is minimum diameter of underground drainage piping maintained?			
Is minimum number of each type of fixture per specification?			
Is no drainage or plumbing system covered until it is inspected and tested?			
Is piping in accordance with the specification?			
Is safety eyewash plumbing system in accordance specification?			
Is size of cleanouts per specification?			
Is soil or waste pipes protected from freezing temperatures?			
Is storm water not drained into sewers intended for sewage only?			
Is type of piping, joints and connections the proper components for the intended			

EPC Master Checklist

service?			
Is vertical pipe supported per specification?			
Is water piping underground the proper distance from buildings and of the type required in the specifications and governing code?			
Is welding of plumbing systems in accordance with applicable specification or local code?			

Procurement (TOC)

Issue	Responsibility/Comments	Date	Complete
Are approvals for subcontracts and purchase orders received from Legal? Were they received prior to making first commitment?			
Are bidders called before bid packages go out on subcontracts to ascertain their real interest in bidding?			
Are bidders required to attend a pre-bid walk through at the site prior to submitting a bid to see existing conditions, logistics, work area, etc?			
Are bids analyzed before signing, that subcontract is providing the right number of competent field personnel to administer fieldwork?			
Are blanket orders set up for permanent and temporary office supplies?			
Are budget amounts disclosed?			
Are carrier activities reviewed to ensure compliance with the company's Export Compliance Manual?			
Are concerned parties notified of the company's intent to file a claim, if required?			
Are contract carriers notified of shipment of hazardous materials?			
Are documents for hand carried materials, equipment, software verified to ensure compliance with export regulations where a license is required?			
Are dollar limits per contractor procedures Authorization Matrix or executive approved deviation?			
Are early material needs discussed and ordered?			
Are equipment/material shipments to destination monitored and are the material tracking system updated?			
Are freight estimates, including tax implications and compliance, documented and reviewed by management, in accordance with the signatory matrix, to ensure the inclusion of required information and that the calculations are correct?			
Are Freight Forwarder's activities tracked to ensure that activities are within contract and company guidelines?			
Are interface responsibilities defined in each contract?			
Are invoices approved within the appropriate signature authority?			
Are Invoices for transport covered by matrix transport rates verified for correctness prior to paying the invoice?			
Are invoices for transport, customs clearance, export packing, handling, etc. not covered by a matrix of rates verified against the quotation, previously approved by the project, to ensure validity of invoices?			
Are invoices reviewed to ensure invoices are accompanied by supporting documentation?			
Are jobsite work rules reviewed in detail with subcontractor at mobilization meeting?			
Are local area phone books ordered?			
Are -long lead material identified?			
Are master agreements and justifications documented where single/sole sourcing is required by the contract or government legislation?			
Are material status meetings conducted on a regular basis?			
Are minutes of Pre-bid/Pre-award meetings and clarifications meetings part of subcontracts?			
Are monthly physical audits of Freight Forwarder's freight cost, third party invoices and movement records performed?			
Are Over, Short, Damage, Quarantine reports and Master OSDQ logs reviewed and investigated?			
Are packing, marking and documentation instructions prepared to ensure compliance with project procedures, specifications, and governmental regulations?			
Are performance requirements clearly stated in subcontracts?			
Are post-bid review meetings documented, distributed and filed for contract commitments?			
Are pre-bid meetings documented and distributed with a bulletin?			
Are priorities for shop-fabricated piping established and approved by construction?			
Are record keeping requirements for temporary import established and approved by management and [Client]?			
Are records maintained for imported goods and/or components on temporary import?			
Are records of certification documents kept stating that chartered vessels or planes meet insurance and warranty criteria?			
Are standard visiting hours for vendors set up?			
Are Subcontract / Vendor "As-Built" drawings and Turnover Packages tied to a specific payment milestone?			
Are Subcontract agreements used for major equipment packages with field installation involved?			
Are subcontractor bids analyzed by planning to ascertain adherence to the over schedule including float for contingencies?			
Are subcontractor's bids required to be returned to [Client] or the contractor?			
Are subcontractors required to name [Client] as an additionally named insured on an			



EPC Master Checklist

insurance certificate?			
Are subcontractors' nameplate signs ordered for the main gate?			
Are technical assistance requirements outlined in purchase order for erection, start-up and run-in of equipment?			
Are there any specialties such as elevators, laboratory equipment, cafeteria equipment that is out of norm for ordering			
Are there any national agreements with [Client] and/or contractor?			
Are there payment "Holdback" terms in purchase orders with equipment suppliers to ensure compliance with document requests?			
Are there tax incentives for procuring locally?			
Are unit prices secured on subcontracts for additions and deletions?			
Are valve manufacturers providing care and protection procedures for gland packing, soft seats, etc.?			
Are variances in freight costs between actual and estimated reviewed by management via quarterly verify estimate and material differences investigated appropriately?			
Are vendor representatives scheduled for onsite presence during their equipment installation? Is this part of their contract?			
Are vendors properly documenting any corrective action?			
Are vendors scheduled for startup? Is this part of their purchase order?			
Are vessels required to ship with lifting lugs located so that vessels do not have to be rolled / re-oriented at site?			
Are warranties understood with regard to actual duration? When does warranty period for each piece of equipment start?			
Are we coordinating the purchase of refractory materials with construction so that fresh materials are being used?			
Are we following up on a regular basis for major subcontracts and orders while they are in the bidding cycle to make sure we are going to receive bids?			
Are we receiving partial release of liens by subcontractors? Are we receiving the same from each subcontractors sub tier contractors?			
Do bid specifications require that supplier / vendor design and provide any special lifting beams for equipment or components required for lifts?			
Do change orders for subcontractors follow the Change Management Process of contractor procedures?			
Do construction procedures prohibit anyone to work on a module or vendor furnished items without written permission from Vendor?			
Do Logistics Specialists review and track progress of carrier performance monthly?			
Do Logistics Specialists review and track progress of logistic services suppliers weekly?			
Do purchase orders and subcontracts reflect site-specific requirements?			
Do purchase orders instruct vendors to display NEC code requirements clearly on skids?			
Do purchase orders require that vendors place center of gravity and shipping weight on vessels, particularly horizontal equipment?			
Do purchase orders require vendors ship bolts, gaskets, etc. with equipment for construction, commissioning and startup?			
Do purchase orders require vendors to provide erection procedures for compressors, pumps, stacks, or any special lifting requirements?			
Do purchase orders specify Code compliance requirements?			
Do request for bid documents that a pre-bid / pre-award job walk and constructability meeting are required for the project?			
Do subcontracts include a provision for contractor to attend the weekly contractor interface meetings to coordinate activities among various contractors and to discuss progress?			
Do subcontracts include detailed schedule?			
Do the detailed schedules in the contract packages have sufficient detail so that the contractor's price can include a commitment to schedule?			
Do the same general and special conditions apply to purchase orders that apply to contracts?			
Do the terms and conditions of purchase orders and subcontracts clearly stipulate the reporting requirements for the project?			
Do we have a listing of the trucking firms that serve the immediate area, names, addresses, phone numbers			
Do we have bidder qualification sheets on suppliers?			
Do we have included in purchase order that may require supplier representatives, hourly rate clauses?			
Do we have preferred supplier list?			
Do we have rental rates per the contract?			
Do we know road-bonding requirements (state, county, and city)?			
Do we require shop assembly fabricators to do match marking and dismantling of equipment that may have fit-up problems?			
Does [Client] have any preferred bidders for the project?			
Does [Client] want to get buy back agreements on blanket orders?			
Does [Client] want us to secure equal commodity bids?			
Does Buyer process purchase orders only when an authorized bid tabulation sheet is received in accordance with delegated authority as documented in the List of Delegated Authorities?			
Does each subcontract contain a Labor Rate Schedule for each labor classification? ?			
Does each subcontract include responsibility for supply and maintenance of temporary			



EPC Master Checklist

facilities?			
Does each subcontract-include clauses that allow different pricing methods for changes.			
Does equipment vendor selection bid analysis include total installed costs?			
Does procurement require that suppliers are furnished a list of priorities for supply and delivery?			
Does project have a Shop Inspection Program implemented?			
Does project have an equipment database for procurement and expediting including?			
Does Project Manager approve requisitions?			
Does Project Plan instruct Procurement of the appropriate actions regarding transit insurance required?			
Does purchase order indicate that supplier skids will be inspected prior to leaving shop?			
Does purchase order require and inspection of finish painting of vessels and equipment in vendor's shop?			
Does purchase order require bill of materials and supplier's drawings for equipment be supplied prior to or at time of equipment delivery?			
Does purchase order require specific markings for vessel internal materials such as balls, clips, trays and sheds?			
Does purchase order require that flange protection is provided during shipping, storage and installation of vessels?			
Does purchase order require that skid mounted equipment has adequate framing to prevent warping during shipment?			
Does purchase order specify that documentation from test run results becomes a permanent part of supplier documentation?			
Does purchase order specify that major equipment skids such as turbines with lube oil systems are integrated as part of the skid so that oil flush can be performed in the shop?			
Does purchase order specify that shipping attachments and temporary bracing are clearly marked for removal after erection?			
Does purchase order specify that vendors are to test run new equipment at the factory?			
Does purchase order specify the need for jacking pockets for shipping saddles so non-hydraulic trailers can be used?			
Does shop inspection include a review of each piece of equipment to ensure as much work as possible is completed by vendor?			
Has a blanket order release log set up and implemented?			
Has a construction team reviewed and verified the completeness of the Scope of Work for each			
Has a fair cost estimate developed for each bid package?			
Has a list developed for general lead times for commodities?			
Has consideration been given to schedule deliveries of weather sensitive equipment and materials within reasonable periods of construction needs?			
Has design, procurement and construction been involved and approved the contracting strategy?			
Has determination been made to fabricate pipe spools on or off site?			
Has procurement aligned scope development, pre-bid, post-bid, award and final contract language to each bid package?			
Has procurement conducted contracting alignment meetings between engineering, procurement and construction during the kickoff period of the project?			
Has procurement considered direct procurement of critical materials in lieu of subcontractors purchasing?			
Has project implemented of a supplier-expediting program?			
Has the analysis for piping fabricators taken into context strongly enough the proven ability to meet required schedules and fabrication accuracy, as well as price basis?			
Has the coordination taken place between engineering, construction and controls as to contracting strategy?			
Has the project completed a project approved Bidder's List?			
Has the project developed and implemented a claims avoidance plan?			
Has the subcontracting strategy been established?			
Have we completed a risk analysis on ordering valves early from the non-approved P&ID's against potential schedule delays?			
Have we considered vessel grouping for fabrication so that we have the option of going to one supplier and/or a geographical location?			
Have we determined long lead items for procurement and their delivery durations?			
Have we developed a delivery sequence listing parametered by estimated order/delivery dates - to prioritize long lead items and purchasing sequencing?			
Have we established a drawing distribution system to ensure that new or revised drawings are delivered to the contractors in a timely manner without causing delays to the work?			
Have we implemented a subcontractor evaluation program?			
How are making certain that meeting notes become a part of the contract as an addendum?			
How are purchase orders approved?			
How are we verifying equipment flange boltholes for correct orientation/straddle of centerline at shop, especially on foreign made equipment?			
How are you assuring bids are in on time?			
If standard forms are not used, are substitutions being approved by Legal and			



EPC Master Checklist

Manager of Procurement Department?			
If we are in a bonus/penalty situation, are the risks/incentives passed on?			
Is [Client] approval gained for revisions to the Company Standard Terms and Conditions, where required?			
Is [Client] ship and resolution of any problem with a Vendor furnished item inside the vendor's scope within the purchase order?			
Is [Client] stance on sole source purchasing established and incorporated into the contracting philosophy?			
Is a [Client]-preferred bidder's established?			
Is a detailed list of equipment/material generated to record their movement?			
Is a freight model developed, based on defined estimates, and used to evaluate supplier bids against one another?			
Is a logistics survey administered to address import processes and local custom and regulatory requirements, documented and used to make special arrangements?			
Is a Material Management plan developed and issued per contractor procedures?			
Is a plan developed for the procurement of permanent furniture?			
Is a purchase order logbook set up?			
Is a purchasing file by numerical system set up separating open and closed files?			
Is a summary schedule included in the bid package? Are pertinent milestones shown?			
Is a void requisition file set up?			
Is an alphabetic vendor file established?			
Is an appropriate change authorization issued for purchase changes and authorized in accordance with the project approval matrix and Change Authorization procedures?			
Is an authorized requisitioner list issued?			
Is area or system color-coding specified in purchase order for shop-fabricated spools and shown on each isometric?			
Is bidders list approved in accordance with the appropriate signatory level?			
Is bidder's list complete or is it a perpetual one throughout the project?			
Is bonding required of subcontractors by contractor and [Client]? Is there a minimum size before bonding is applicable?			
Is Change Management - Backcharge procedure clarified in purchasing documents and understood by vendors and subcontractors?			
Is Change Management - Backcharge procedure clarified in purchasing documents and understood by vendors and subcontractors?			
Is contractor' standard Subcontract Form being used?			
Is criteria developed for shop and field inspection for process equipment?			
Is each subcontractor required to resource load their schedule to obtain proper craft density and optimize productivity?			
Is format for the completion report completed and is it complete?			
Is format for the monthly progress report completed and is it being issued?			
Is format for the monthly Purchase Order Report completed and Is report being issued?			
Is format for the monthly subcontract report completed and has it issued?			
Is he number of bid packages defined?			
Is Inspection Release Certificate or waiver received prior to initiating material movement process?			
Is it the contractor's responsibility to dispose of his or her own waste? Is Waste Control centralized?			
Is Legal consulted when there is any question of the contractual interpretation or the company's rights under the contract?			
Is material movement verified to ensure that movement is 'export compliant' with Company and government policies including import/export license procedure?			
Is material responsibility matrix updated?			
Is material tracking system updated weekly to reflect the material/ equipment movement?			
Is most up to date schedule included in the purchase order language?			
Is plan developed for the procurement and servicing of port o lets?			
Is procedure written for the ordering of subcontractor signs for the front entry gate and is it working?			
Is procurement activity report issued on a monthly, weekly or daily basis?			
Is procurement screening subcontractor proposed field management leads prior to issuing contract?			
Is project contracting plan up to date?			
Is project logistics plan reviewed and approved by Project Management and Product Line Management to ensure that it clearly documents the project locations, scope of work and any special project requirements?			
Is project scope in accordance with company guidelines and used to select the appropriate bidder?			
Is record keeping requirements ascertained prior to initiating any request for temporary in bond entry?			
Is Requisition Flow from contractor procedures implemented?			
Is retention held on subcontracts?			
Is signed Subcontract and subcontractor's Certificate of Insurance on site prior to start of work?			
Is standard Purchase Order form w/terms and conditions used?			
Is stress-relieved equipment clearly marked prior to leaving shop? How?			
Is supplier documentation reviewed to ensure supplier complies with requirements			



EPC Master Checklist

related to hazardous materials as defined in PMD instructions?			
Is there a list of local contractors in the area developed for commodities such as light earthwork, paving, etc?			
Is there a local labor restriction that causes bid packages to be limited in size?			
Is there a Material Release Procedure for blanket orders developed? Is it working?			
Is there a sign-out sheet for purchase orders and subcontracts in Purchasing?			
Is there adequate time and monies owed for vendor supplied equipment document reviews, shop testing and inspections prior to fabrication and shipment?			
Is there an insurance certificate tickler file developed?			
Is there an over plan to Backcharged contractors on prorated basis for general cleanup?			
Is there proper language in purchase orders to allow the return for excess wire and cable?			
Is vendor Quality Plan complete, approved and implemented?			
Must [Client] approve buy-back percentages?			
Must contractor pay for any of the utilities used for construction?			
On bid Summaries and Analyses, do procurements have properly approved bid summaries?			
Verify durations of warranties on pollution control equipment with respect to requirements on permits?			
What are critical lead times?			
What audit trails are needed on purchase orders and subcontracts?			
What bids must come in sealed and have a common opening?			
What responsibilities does Purchasing have regarding tax accountability?			
What will the expediting approach be on the project?			
What's [Client]'s approach to bonding of subcontractors?			
What's the basis for release of retention on subcontracts?			
What's the communication tool used for expediting equipment deliveries?			
What's the requisition approval authority for both contractor and [Client]?			
When the specifications state no equal from the engineering firm is it then pre-approved to sole source or bid with no equals?			
Who approves the bidders list?			
Who assembles and issues bid packages?			
Who must approve the bidder's lists?			
Who prequalifies bidders?			
Who's responsible for ensuring supplier prints that are reproduced from sepias are clear and readable before they are transmitted to the field?			
Who's responsible for equipment procurement?			
Who's responsible for instrumentation procurement?			
Who's responsible for the review of IFF specifications vs. IFB specification with Vendor prior to placing order?			
Who's responsible for the Scope of Work of each bid?			
Who's responsible for verifying bid documents contain the latest specifications, drawings, technical data, and performance requirements?			
Who's responsible for verifying that the Code compliance requirements are clearly stated in bid documents?			
Who's responsible for verifying that the interference responsibilities are defined in the bid documents?			
Who's responsible for verifying that the QA/QC requirements are clearly defined in the bid documents?			
Who's responsible for verifying that the work areas / lay-down areas are clearly defined in the bid documents?			
Whose responsibility is it to document subcontractors' meetings and make certain distribution is made within 24 hours?			
Will the project source globally?			
Will warehouse stores use material consignment with electrical bulk material suppliers?			
Will we accept an irrevocable letter of credit in lieu of bonding?			

Procurement – Pre Construction Agenda (TOC)

Issue	Responsibility/Comments	Date	Complete
Have we reviewed accident reporting ?			
Have we reviewed change bulletins and requests for proposals?			
Have we reviewed change directives?			
Have we reviewed change management as it applies to request for information?			
Have we reviewed change management system as it applies to change orders?			
Have we reviewed contractor organization and staff?			
Have we reviewed contractor safety program ?			
Have we reviewed controlled insurance program?			
Have we reviewed emergency procedures and phone list ?			
Have we reviewed engineering controls and layout?			
Have we reviewed first aid ?			
Have we reviewed HAZMAT ?			
Have we reviewed housekeeping ?			
Have we reviewed insurance certificates ?			
Have we reviewed labor relations?			

EPC Master Checklist

Have we reviewed laydown areas?			
Have we reviewed lien waivers and releases?			
Have we reviewed list of key personnel and phone numbers?			
Have we reviewed list of subcontractors and suppliers?			
Have we reviewed office trailers?			
Have we reviewed payment application forms and processing?			
Have we reviewed personal protective equipment ?			
Have we reviewed record documents and as built drawings?			
Have we reviewed resource-loaded schedule?			
Have we reviewed safety observation reports ?			
Have we reviewed safety orientation and badging?			
Have we reviewed safety plans of action?			
Have we reviewed SBE? SDBE. MBE participation and documentation?			
Have we reviewed schedule compliance and updated as built drawings?			
Have we reviewed schedule of values?			
Have we reviewed schedule update meetings?			
Have we reviewed schedule updates?			
Have we reviewed sequence of construction?			
Have we reviewed stored materials?			
Have we reviewed subcontractor daily reports?			
Have we reviewed subcontractor pricing and change proposals?			
Have we reviewed subcontractor schedule submission?			
Have we reviewed submittal requirements?			
Have we reviewed submittal schedule?			
Have we reviewed supervisor safety meetings?			
Have we reviewed the need for a site safety representative?			
Have we reviewed the review and approval process for submittals?			
Have we reviewed time and material work?			
Have we reviewed traffic control, access and parking?			
Have we reviewed use of [Client] facilities?			
Have we reviewed use of email?			
Have we reviewed use of transmittals?			
Have we reviewed weekly progress meetings?			
Have we reviewed working hours?			

Procurement – Subcontract Plan (TOC)

Issue	Responsibility/Comments	Date	Complete
Are approval requirements and procedures for deviation requests in place?			
Are invoicing formats and requirements set for prompt payment?			
Are Project approval requirements for requisitions, bid analysis, recommendations, and final subcontract documents developed and available?			
Are project safety requirements for subcontractors completed? Are there any special issues?			
Are retention and/or Letter of Credit requirements developed for each subcontract?			
Are Subcontract terms and conditions and attachments identified and incorporated into the Subcontract Plan as an attachment?			
Are the POIL subcontracts identified?			
Are the project insurance requirements for subcontractors set per the Prime Contract?			
Are the standard Subcontract report requirements developed and part of the terms and conditions?			
Are the temporary facilities and utilities identified and ready to be installed to the subcontractors?			
Are there any special requirements for each subcontract, i.e., multiple mobilizations, special sequencing of work, night shift, safety issues, etc?			
Are there any special subcontractor pre-qualification requirements?			
Are there any subcontractors contractor is being directed to use by [Client]?			
Has contractor issued subcontractor coordination responsibility assignments?			
Has the Backcharge process for the project been developed and part of the terms and conditions?			
Has the subcontractor Change Process in place inclusive of approval levels?			
Has the subcontractor claims process been developed and is it part of the terms and conditions?			
Has the subcontractor Communication/Distribution matrix been developed?			
Have documentation-filing requirements been developed?			
Have subcontractor submittal requirements been developed for each package?			
Have the Prime Contract flowdowns been included in the subcontract terms and conditions.			
Have you identified the work intended for subcontracts and how it will be packaged?			
Is Identification of [Client] and contractor equipment and or materials to be free issued to the subcontractor for each subcontract complete			
Is Taxing situation addressed in terms and conditions (sales and use taxes)?			
Is there a Preliminary Bidders' list for each subcontract?			
What are the standard meetings the subcontractors are required to attend during construction?			
What are the subcontracting cycle times from requisition through mobilization, based on required completion dates, for each package?			



EPC Master Checklist

What type of contracts do you intend to use for each package?			
Who's going to develop the Scopes of Work for each package?			
Who's responsible for facilitating and producing minutes for Bid clarification and pre-award meetings?			
Who's responsible for facilitating and producing minutes for Pre-Construction meetings?			
Who's responsible for facilitating and producing minutes for the Pre-bid meetings?			
Who's responsible for the Insurance certificate maintenance?			

Procurement - Subcontract (TOC)

Issue	Responsibility/Comments	Date	Complete
Are backcharge records kept in the Subcontract file and are subcontracts documents under the custody and control of the Subcontracts administrator?			
Are bidders formally informed of the specific requirements of the project?			
Are bidders' pre-qualification documents evaluated against Corporate minimum requirements for selection criteria?			
Are Change Orders approved by Project Management prior to issue the Subcontract document?			
Are official communications issued to the S/C in a properly and timely manner to show the non-performance or reasons for terminating the subcontract by default or convenience, if required?			
Are Official communications with S/Cs coordinated through the Subcontracts Administrators?			
Are records of the closeout activities available in the Subcontracts file?			
Are sealed bids requested whenever a commitment estimate over US \$500,000 is received and is there evidence in the file that contractor representative and customer representatives were present when bids are open?			
Are services over \$2,500 awarded on a competitive basis per Corporate Policy, supported with at least 3 quotations or comparative cost evaluation and available in the Subcontract file?			
Are special conditions written and properly approved for the project?			
Are Subcontract files kept in a secure area?			
Are technical and commercial requirements taken into consideration when preparing the Work Releases?			
Are the Work Release Change Orders signed and issued by the Subcontracts representative?			
Are the Work Releases properly reviewed before they were issued to the S/C?			
Are there approved requisitions in Subcontract file requesting the issue of the work releases?			
Did the Subcontracts administrator issue a final Change Order to close out the Subcontract?			
Did the Subcontracts administrator update the subcontract budget and inform the Project Controls Manager?			
Do bidders supply subcontract requirements. i.e. Bonds, Insurance. Certificates, affidavit, etc.?			
Do the Subcontracts Administrators verify and validate commercial compliance of invoices?			
Does Procurement Department maintain measurement reports submitted and agreed by the S/C?			
Does Project Management approve S/C progress payments?			
Does Subcontract administrator negotiate and validate credit notes or adjustments before they are sent to accounts payable and is there evidence in the Subcontracts administration files?			
Does Subcontract document contain agreements based on bidder's proposal and further bidder's clarifications meetings?			
Does Subcontracts administrator conduct negotiations with the S/C on matters relevant to close out?			
Does Subcontracts administrator obtain feedback from construction and progress representatives to validate progress achieved by the S/Cs?			
Does Subcontracts administrator prepare contractual certificates and obtain approvals?			
Does Subcontracts Administrator prepare the final claim recommendation using previous assessment, amended as necessary to include the results of the negotiation with the S/C?			
Does Subcontracts Administrator verify and approve the Final Statement of the Account?			
Does Subcontracts Administrator verify that the work was complete and in accordance with Subcontract requirements?			
Has a Single /Sole source justification form been prepared and approved by Project Manager or Business unit Manager?			
Has the commitment been approved by the Subcontracts Manager and the customer?			
Has the Joint recommendation for award been prepared by the Subcontracts Administrator and approved by Project Management or Business Unit Manager?			
Has the joint recommendation for award taken into consideration technical and commercial aspects of the selected proposal?			
Has the Project established controls to be used for measuring progress and justifying payments?			

EPC Master Checklist

Is a change order issued to close out the Work Release?			
Is a Letter Of Intent and Final Negotiated Terms executed prior to S/C mobilizing to the jobsite?			
Is a review and sign-off of the RFP (Request for Proposal) performed by Subcontracts personnel prior to releasing any RFP to S/Cs?			
Is assessment issued to the Project Manager and/or his designee with a request for approval as per Project approval matrix?			
Is Backcharge agreement included and executed with the Subcontract documents?			
Is commercial and technical documentation for inquiry packages compliant with Corporate and Project requirements?			
Is each change order request evaluated by the Subcontract administrator to determine whether re-bidding is required?			
Is final payment made to S/Cs according to Subcontract procedures and approved by Subcontract management?			
Is there a letter of Delegation of Commitment Authority on File for the Subcontracts representative?			
Is there an approved requisition for each one of the specific Change order requests in the Subcontract Administration file?			
Is there an insurance certificate in file which complies with coverages and limits as per Company and [Client] requirements?			
Is there evidence in file containing Legal reviews and comments and have Legal reviews been taken into consideration in the Subcontract documents?			
Is there evidence in file that subcontracts have been properly executed by both S/C representative and the delegated customer signatory authority?			
Is there evidence that executed Subcontract documents are maintained in accordance with Corporate contractor Records Retention policy?			
Is there evidence that the pre-construction orientation meeting took place and is there meeting minutes in file?			
Is there sufficient supporting documentation in file to justify the backcharge or to issue a claim to the S/C?			
Is work term, value or work release validity monitored by the Subcontract administrator to keep the file updated?			
Was the Subcontract performance evaluation report prepared by the Subcontracts Administrator with the input of the Project, Construction, Control and HSE management groups?			
Were appropriate safety indicators evaluated for each bidder?			
What will [Client] require in the way of back up for unit cost and T&M contractors?			

Project Initiation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are contractor Procedures modified per contract and in place?			
Are data books required?			
Are drawings of existing facility available if project connects in any way to existing?			
Are HVAC Drawings required?			
Are mechanical drawings required?			
Are plot plans required?			
Are process flow diagrams required?			
Are purchase requisition procedures in place?			
Are single line electrical diagrams required?			
Are specifications approved?			
Are structural drawings required?			
Are there any special purchasing requirements?			
Are we involved in process design?			
Are we issuing contractor purchase orders, or acting as agents for [Client] on their paperwork?			
Are we performing contract management on the project?			
Are we required to do any specific quality control during construction?			
Are we responsible for expediting? (What will we expedite)			
Do we have a borrow pit and spill area available?			
Do we have a budget estimate?			
Do we have a code of accounts?			
Do we have a definitive / control estimate?			
Do we have a design safety and security plan complete?			
Do we have a drawing approval matrix approved?			
Do we have a list of Customer's Preferred Suppliers and subcontractors?			
Do we have a listing of [Client] installed equipment?			
Do we have a listing of construction specifications that will be needed on the project?			
Do we have certified vendor data and data books?			
Do we have definition of mechanical completion?			
Do we have equipment-numbering system defined?			
Do we have project (site) mailing address and phone number?			
Do we have, or do we require an order of magnitude estimate?			
Do we or [Client] have any recommended vendors to add to bidders list?			
Does [Client] have Special requirements?			
Does [Client] have standard specification and arrangements for instruments?			
Does contractor know where to mail the invoices to?			



EPC Master Checklist

Does contractor need specific startup crew (craft) to work with [Client] during commissioning?			
Does contractor Purchase Spare Parts?			
Has [Client] pre-selected vendors?			
Have design criteria checklists been completed?			
Have we implemented contractor Bid Analysis?			
Have we received [Client] supplied specification listing?			
Have we received authorization to proceed?			
Have we received contractual specific [Client] project procedures for inclusion?			
How will plant effluent be treated?			
Is a contour map available?			
Is a line list required?			
Is a model required?			
Is a soil report available?			
Is a specification index required?			
Is an equipment status report required?			
Is an Estimate Required?			
Is an instrument index required?			
Is bidders list complete?			
Is change management process approved and in place?			
Is drawing numbering system approved?			
Is fuel required?			
Is Shop Inspection Required?			
Is Site Accessible? How?			
Is there adequate railway and roadways servicing the facility?			
Is there any below grade piping obstructions?			
Is there space for Construction facilities?			
What are [Client]'s pipe way standards?			
What are [Client]'s voltages?			
What are CAD requirements?			
What are considerations for plant expansion?			
What are electricity requirements?			
What are expected general weather conditions during Construction?			
What are finished floor elevations?			
What are fuel requirements?			
What are Labor Requirements?			
What are pipe way headroom requirements?			
What are plot limitations?			
What are project-scheduling requirements?			
What are required performance tests?			
What are required weekly reports?			
What are special air or water pollution requirements?			
What are telephone requirements?			
What cost control reports are required?			
What drawing progress reports are needed?			
What drawings will be issued for construction?			
What inspection will be performed by engineering during the project?			
What rental equipment is needed?			
What responsibility do we have during construction?			
What role will design play in startup and commissioning?			
What role will design play in subcontracts?			
What specific equipment specifications are required?			
What type of contract do we have with [Client]?			
What type of plant – First Class / Average / Bare Minimum?			
What's [Client]'s representative's responsibility and authority?			
What's availability for receiving materials prior to Field Move In?			
What's availability of adequate power?			
What's content of expediting report?			
What's content of monthly progress report and review?			
What's Move In Date?			
What's our purchasing responsibility?			
What's payout period for preparation of economics studies?			
What's shipping address?			
What's the contract completion target date?			
What's the depth of the frost line?			
What's the estimate due date?			
What's the special code of account feature for estimates?			
What's warranty on project?			
What's Water requirement?			
Where is expediting going to be done?			
Which inquiries need special approval?			
Who supplies data books?			
Who supplies the operating manuals?			
Who'll approve specifications? Which ones?			
Who'll approve vendor drawings?			
Who'll track and be responsible for equipment vendor drawings?			



EPC Master Checklist

Who's [Client]'s field Representative?			
Who's responsible for instrument vendor drawings?			
Who's responsible for plant operations manuals?			
Whose data sheets are used?			
Will [Client] assist in shop or vendor inspection or is it a requirement?			
Will [Client] participate in expediting?			
Will [Client] provide startup personnel?			
Will fair market value estimates be performed for procurement?			
Will field be working overtime or shift work?			
Will piping and instrument diagrams be required?			
Will project use plant north or true north?			
Will standard contractor Flowsheet symbols be used?			
Will there be a need for architectural drawings on the project?			
Will there be need for Civil Drawings on the project?			
Will we do general arrangements?			
Will we need an equipment index?			
Will we perform piping design?			

Project Reviews (TOC)

Issue	Responsibility/Comments	Date	Complete
Are monthly progress reports issued per plan?			
Are monthly project reviews are conducted?			
Does Project Review include Action Items from Previous Meeting ?			
Does Project Review include Bulk Materials Status Report ?			
Does Project Review include Cash Flow Statement ?			
Does Project Review include Change Management Status ?			
Does Project Review include Community Activities Report ?			
Does Project Review include Construction Craft Labor Report ?			
Does Project Review include Construction Craft Turnover Report ?			
Does Project Review include Construction Performance Report ?			
Does Project Review include Construction Photographs ?			
Does Project Review include Contingency Analysis ?			
Does Project Review include CPM Status Report ?			
Does Project Review include Electrical and Tag Status Report ?			
Does Project Review include Engineering Performance Report ?			
Does Project Review include Executive Summary ?			
Does Project Review include Field Staffing Report ?			
Does Project Review include Financial Status Contractor ?			
Does Project Review include Financial Status TIC Report ?			
Does Project Review include Home Office & Engineering Staffing Report ?			
Does Project Review include Home Office Expense Summary ?			
Does Project Review include Incentive / Penalty Status Report ?			
Does Project Review include Introduction ?			
Does Project Review include Issues and Concerns Highlight Report ?			
Does Project Review include Key Quantity Analysis ?			
Does Project Review include Key Subcontract Status ?			
Does Project Review include Management Schedule ?			
Does Project Review include Mechanical Equipment Status Report ?			
Does Project Review include Progress Report ?			
Does Project Review include Project Completion Status Report ?			
Does Project Review include Project Financial Status ?			
Does Project Review include Receivable Status Report ?			
Does Project Review include Risk Ranking Report ?			
Does Project Review include Safety Status ?			
Does Project Review include Significant Risk and Opportunities Report ?			
Does Project Review include System Turnover Report ?			
Does Project Review include Table of Contents ?			
Does Project Review include Value Awareness Report ?			
Have we determined the content of the monthly progress reports?			
Have we determined the monthly internal cost and commercial reports to be issued?			
How often are project goals monitored and updated?			
Is Project Review Presentation Template completed?			
What are the cut off dates for the monthly progress report?			
What are the required and approved formats for the monthly progress report?			
What's the frequency of the project progress report?			

Protective Coatings (TOC)

Issue	Responsibility/Comments	Date	Complete
Are ambient, substrate and dew point temperatures per specifications?			
Are approved color samples on jobsite "paint-outs" are matched against samples?			
Are areas suitably cleaned and free of conditions affecting drying and finishing?			
Are blasting equipment lines and hoses clean prior to use?			



EPC Master Checklist

Are boltholes drilled or punched and de-burred?			
Are burrs, slivers, scabs and weld spatter removed after blasting?			
Are coating, thinning, and blasting materials per specification?			
Are containers clearly marked to show date of manufacturer, shelf life and batch number?			
Are correct paint materials for final coat verified prior to application?			
Are daily inspection reports complete and satisfactory?			
Are doors receiving proper coating?			
Are employees aware of spray painting hours and risks?			
Are gauges, profile gauges, etc., in working order and calibrated?			
Are hardware, trim, fixtures and similar items removed during painting operations or otherwise suitably protected?			
Are lumps or bumps corrected in each coating?			
Are manufacturer's recommendations and procedures available?			
Are paint containers adequately identified?			
Are paint materials as specified, labeled and shelf life not exceeded?			
Are painting materials verified for damaged containers?			
Are prime coats installed and applied as specified?			
Are rough welds, burrs and sharp projections removed prior to painting?			
Are special coatings applied in accordance with project specifications and manufacturer's recommendation?			
Are stopping points for change of color and finish determined?			
Are supplier painting and inspection methods in agreement and compatible with [Client] specifications?			
Are surfaces clean, dry, and free from dirt, oil, grease, and other foreign matter prior to coating?			
Are surfaces not to be coated properly protected?			
Are surfaces primed on the same day they were cleaned?			
Are temperature and weather conditions within the project specifications or manufacturer's recommendations?			
Are temperature conditions for types of paint verified and heating is installed sufficiently in advance in order to have surfaces up to temperature and to avoid condensation and meet the paint manufacturer's requirements?			
Are temperature, substrate and dew point temperatures for blasting satisfactory?			
Are test panels required for masonry painting?			
Are there any special safety requirements?			
Are there concealed surfaces which require painting?			
Are we adhering to mixing, thinning, and induction times per coating manufacturer's instructions?			
Are we installing insulation on vessel piping systems in concert with piping and mechanical installation?			
Are we maintaining paint records?			
Are we maximizing shop painting of structural members, pipe spools, and equipment?			
Are we utilizing a paint priority list and is everyone involved made aware of what is going to be painted?			
Are we verifying that paint is not applied within two inches of field-welded joints until after welding/hydro tests?			
Are we verifying that paint is not getting on pumps and motors operation seals, filters, shafts, bearings, etc.?			
Are we verifying the mixing and thinning of paints per specification?			
Are we verifying unacceptable paint coats are corrected per action plan and specifications?			
Are we verifying we are receiving adequate paint coverage in the hard-to-get-at places?			
Are wood finish sealers, fillers, and stains applied and treated per specification?			
Do special coatings need placing prior to installation of equipment identified?			
Do unit rates for additional work vary?			
Do we have a painting plan developed for painting tops of beams and outside of purlins and girts prior to installation of items such as floor plates, grating, siding, and roof decks?			
Do we have a sandblasting protection program inclusive of specifying and monitor materials?			
Do we have specification on the finish-coat of non-galvanized/fireproofed steel?			
Does applicator verify wet paint thickness during painting operations?			
Does piping, conduit, etc., get painted? If yes, by whom?			
Does specified paint, brand names and types coincide with colors specified on room schedule?			
Has consideration been given regarding compatibility and maximum time owed between application of shop and field applied systems when specifying paint for shop primers and field-finish coats?			
Has consideration been given to maximum operating or upset temperatures and steam-out requirements when specifying paints?			
Has construction completed clean up, concrete rubbing and finishing prior to painter coming on site?			
Has design maximized the standardization of primer and finish coat paint types?			
Has sequence established and communicated to the construction and paint contractor?			
Have ambient temperature and relative humidity conditions been identified and			



EPC Master Checklist

considered during and after construction when specifying paint for field application?			
Have special insulation applications been identified and appropriately schedule?			
How are extras approved?			
How are extras calculated?			
How does the painting scope cover touch up and damage by other contractors?			
How is contract defined with regard to schedule and congestion at any given time, is this clear in the contract?			
If multiple coats of primer are used, is each coat verified for correct surface conditions and compatibility with prior and subsequent coats of paint?			
Is actual thickness documented?			
Is agency inspection completed?			
Is air supply clean and free of moisture and oil?			
Is ambient temperature during installation within specifications?			
Is anchor profile as specified?			
Is block filler required for painting of block?			
Is chloride detection test satisfactory?			
Is cleanliness of and dryness of abrasives satisfactory?			
Is coating by approved manufacturer?			
Is coating system cured per specification?			
Is coating thickness verified per schedule after each coat of paint?			
Is color schedule complete and understood?			
Is contract lump sum, unit price or time and material?			
Is contractor approval of MSDS for paint, solvent/blasting obtained prior to work?			
Is contractor approval received of coatings materials prior to start of work?			
Is dry film thickness of finished paint systems verified and documented?			
Is drying times between coats clearly identified?			
Is dust and spent grit removed after blasting?			
Is dust control maintained per specification?			
Is each application verified for the required number of coats?			
Is each coat of paint dried and cured prior to application of subsequent coats?			
Is each coat of paint uniformly and completely applied over entire surface and free of defects?			
Is electric trim plate used to verify outlet boxes?			
Is final coat of paint applied after intermediate coats have been approved?			
Is final inspection of paint complete?			
Is finished coat acceptable?			
Is finished coat of paint defect-free and uniform in appearance?			
Is label information correct?			
Is moisture tested prior to and after and at required intervals?			
Is oil-grease removed prior to blasting?			
Is opacity being achieved, per specification?			
Is paint mixed, thinned, and applied in accordance with manufacturer's specification?			
Is paint schedule checked very carefully for access of painters?			
Is prime coat applied uniformly and receives proper curing time?			
Is primer in accordance with specification?			
Is project adhering to a no painting during rain, wind, fog, or mist policy?			
Is project using manufacturer's standard finish where possible?			
Is protection of adjacent areas, surfaces, and items completed prior to painting?			
Is relative humidity acceptable?			
Is sandblasting needed?			
Is soil sterilization installed where required?			
Is spray painting owed?			
Is storage area for painting materials well ventilated?			
Is surface dry and free from condensation?			
Is surface preparation verified per project specifications?			
Is surface protection in place for opening, vents, shafts, etc?			
Is temperature/dew point of storage per manufacturer's instructions?			
Is texture and method of application - spray, brush, roller, etc - verified as correct?			
Is there a protection program for Teflon surfaces during construction and painting operations?			
Is there an inspection program, if inorganic zinc primer is specified, to inspect and verify the application of this material?			
Is tinting of undercoats performed per specification?			
Is tinting used between first and second coat?			
Is total DFT within the specified range?			
Is wet film paint thickness taken if required?			
Is workmanship and application acceptable?			
Prior to painting anything, is a release to apply coatings approval form completed and approved?			
Verify that materials are per specification and are products of the same manufacturer?			
Verify that paint materials are furnished by same manufacturer and approved by [Client]?			
What areas are painted prior to equipment installation?			
What equipment does contractor supply?			
What's the drying time for materials prior to painting?			
When is painting done, during the week, night times or weekends?			
Who approves proper millage or thickness of paint?			



EPC Master Checklist

Who buys the paint and Is paint specified yet?			
Who cleans steel?			
Who selects the paint colors?			
Who's responsible for inspection of pipe wrap and internal coating applications?			
Who's responsible for paint inspection?			
Who's responsible for the painting, contractor or subcontractor?			
Who's responsible for the poly?			
Will building be weather tight enough where paint will not be exposed to elements?			
Will contractor need supervision during off hours?			
Will on site contractor supervision be owed to estimate, commit and speak for extras?			
Will painting, poly and fumes hamper other craftsman from working?			
z			

Protective Coatings – Water Proofing, Damp Proofing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are hot applied bituminous materials properly heated?			
Are membrane details per specification?			
Are pipes, ducts, conduits, and other items penetrating membrane flashed or made watertight per specification?			
Are proper fasteners installed and acceptable?			
Are special conditions installed per specification at corners, intersections, and connections to existing work?			
Are stored materials protected against moisture?			
Are surface conditions inspected and cleaned of foreign materials?			
Are surfaces dry to receive heated asphalt, coal tar, and petroleum solvent asphalt mastics?			
Are surfaces properly primed where required?			
Are wood nailers or other attachment conditions adequate?			
Does application provide coverage and quantities of materials?			
Is agency inspection complete?			
Is excess mortar or concrete is removed; holes, joints and cracks are pointed and rough or high spots are corrected per specification prior to coating?			
Is joinery between each day's work is adequate?			
Is protective covering installed per specification?			
Is top edge secured and flashed per specification?			

Quality (TOC)

Issue	Responsibility/Comments	Date	Complete
Are commissioning and turnover functions monitored by Quality Control in accordance with the specifications and procedures?			
Are contractor procedures being used in applicable processes?			
Are corrective actions reported, verified and documented in accordance with the Non-Conformance Procedure?			
Are dimensions, quantity and visual quality verified for damage or shortage and receiving reports completed?			
Are items and equipment in storage verified during storage for deterioration, damage, loss, lubrication, weather protection, motor rotation, electrical heater function and any other special storage requirements to meet specifications, manufacturer's requirements and codes?			
Are materials and equipment labeled, tagged, marked, stamped or otherwise properly identified for use, storage and to meet specification and code requirements?			
Are materials and equipment properly stored with coatings or covering per specification?			
Are procedure deviations identified and changed with Deviation Request?			
Are QC reports (laboratory test, daily, monthly and special) completed and distributed per specification?			
Are quality audits conducted per schedule?			
Are quality forms, records, documentation kept orderly and filed for placement in the turnover package?			
Are samples, laboratory or other tests are performed per specification?			
Does QC monitor backfill placement and compaction to assure that compaction tests and placement are properly done?			
Does Quality Control verify concrete installation to assure that tests, forms, reinforcing bar and dimensions are properly done and the concrete pour card is completed?			
Has QC reviewed the codes and specifications to determine the services that are required from laboratories, inspection agencies and other specialized services?			
Has QC reviewed the specifications for potential problems that exceed or are different from standard code requirements, in order to communicate to vendors and craft?			
Has QC reviewed the welder qualification process and facilities to assure that this function can be properly done?			
Has QC reviewed the welding procedures to assure they will meet the project requirements for materials and welding consumables?			
Has QC reviewed with the Field Engineer that the site layout and elevations are properly done and ready to start foundations and equipment installation?			



EPC Master Checklist

Has QC reviewed with the Field Engineer the layout and elevations of foundations, anchor bolts, equipment and piping are properly verified and approved prior to installation?			
Has QC reviewed with the project management the requirements and determined the responsibility for offsite inspections?			
Has specifications, any applicable Federal, State, and or local regulations of the project governing documents is organized and ready reference?			
Has the project been audited for procedure adherence?			
Is a Quality Plan developed and issued per contractor procedures?			
Is documentation of quality control examinations performed in accordance with the requirements of the project contractor quality procedures?			
Is inspection of paint application and required testing monitored by Quality Control?			
Is installation and testing of plumbing, piping, vessels, boilers, heaters, towers, instrumentation, tubing and accessories monitored by Quality Control and documented?			
Is installation of architectural items, thermal protection and moisture protection monitored by Quality Control and documented?			
Is installation of expansion anchors and bolt torquing inspected by Quality Control and documented?			
Is installation of insulation for buildings, piping, vessels and equipment monitored by Quality Control and documented?			
Is installation of masonry and grout monitored by Quality Control and documented?			
Is installation of mechanical equipment monitored by Quality Control and documented?			
Is installation of structural steel and structural bolt torque inspected by Quality Control and documented?			
Is Non-Conformance Procedure in contractor procedures implemented?			
Is nondestructive testing, pneumatic testing, hydrostatic testing, electrical testing, and fire protection testing monitored by Quality Control and documented?			
Is organization format, inspection, review, procedures and filing of documentation for receiving and storage of materials monitored by Quality Control and documented?			
Is pre-delivery inspection, testing and identification completed and certifications verified?			
Is quality inspection and test activity according to contractor Quality Process ?			
Is quality plan implemented and being followed for engineering, procurement and construction?			
Is site quality assurance representative is identified?			
Is site-specific quality plan complete and implemented?			
Is there a Quality Manager/Representative designated?			
Who's responsible for doing the testing of soils, concrete, roofing, etc? Will it be [Client], contractor, or outside source?			

Refractory (TOC)

Issue	Responsibility/Comments	Date	Complete
Are application records maintained in accordance with specifications?			
Are ceramic tiles/ fiber, firebrick, refractory formally released for installation?			
Are construction joints cut perpendicular?			
Are construction joints properly cut?			
Are construction joints properly laid out?			
Are forms in place for proper thickness and location?			
Are joints packed or cemented per specification?			
Are production samples taken and is testing satisfactory?			
Are the correct patterns and spacing requirements being adhered to?			
Are we using the correct water by weight percentage?			
Do field-welding tests meet requirements?			
Have we reviewed and approved of refractory welding procedure and welder qualifications prior to welding?			
Is application screed correct?			
Is application surface at acceptable temperature?			
Is application surface in accordance with engineering design?			
Is correct material being used for the application?			
Is expansion spacing material in place?			
Is final inspection of refractory satisfactory?			
Is mixer shaded and protected from rain?			
Is mixing temperature within allowable limits?			
Is Nozzle men pre-qualification testing satisfactory?			
Is placement of bricks correct with required expansion joints?			
Is placement of modules correct?			
Is pour within acceptable time limit?			
Is rebound removed before continuation?			
Is refractory material properly stored?			
Is refractory material tested per specification?			
Is refractory mixed per manufacturers recommendations? (pre dampening and aging, air pressure and feed rate, water supply and pressure, compaction and rebound control)			
Is refractory properly cured?			

EPC Master Checklist

Is refractory thickness acceptable?			
Is repair of defective areas per specification requirements?			
Is vibrator controlled properly?			

Risk (TOC)

Issue	Responsibility/Comments	Date	Complete
Are allowances made for changes in productivity due to compression?			
Are any special arrangements needed to secure the site, stored materials and equipment?			
Are available resources available for the project			
Are changes in scope resulting in payment adjustments on a non-competitive basis contractor's liability?			
Are contacts and relationships known with Local Unions - Transport Unions Guild Associations			
Are contingency plans in place to replace a sole source provider?			
Are design interface points carefully determined?			
Are differing site conditions [Client]'s liability			
Are differing site conditions not on documents and could not have been reasonably foreseen contractor's liability			
Are excusable delay conditions owed within the contract language and are they defined			
Are incentive plans a viable concept for subcontractors?			
Are permits and license requirements clearly stated?			
Are plans developed to mitigate slippage of completion dates?			
Are prices obtained for the estimate valid to support project execution schedule?			
Are quality expectations clearly defined to assure subcontractor adherence			
Are reasonable allowances made for inflation?			
Are system interface points aligned with the project master schedule?			
Are the cash flow estimates reasonable and fundable?			
Are the interface points and responsibilities clearly documented?			
Are the interface points compatible so that is a smooth transition?			
Are the roads enough to accommodate materials and equipment moving into the area?			
Are there any government regulations that impact site logistics with regard to the material supply chain?			
Are there any special reporting requirements by local/regional government agencies?			
Are there any structures near the site that might interfere with construction?			
Are there identifiable discrepancies between the budget cash flow and the project construction expenditure plan?			
Are there plans to study design in order to improve and enhance the construction process?			
Are unforeseen complexities in field conditions that may result in change in quantities [Client]'s liability			
Are wage scales in accordance with locality and other subcontractors			
Are we familiar with or have experience in the Permit issuance with this local government?			
Can the items of concern on Logistics be assumed, transferred or shared?			
Do [Client] operating personnel have to interface subcontractors or contractor			
Do regulations require the use of extensive and expensive remedies?			
Do regulations require the use of extensive reporting?			
Do regulations require the use of independent consultants?			
Do the existing roads and bridges have the weight capacity to handle construction tonnages?			
Do the local utilities have accurate records of abandoned and active lines?			
Do the subcontractors have the bonding capacity?			
Do the subcontractors have the Insurance capacity?			
Do we know the details of the levels and timing of local inspections for occupancy and use permitting?			
Do we know the impact of environmental issues and local governments approach to these issues.			
Do we know the impact of the local customs rules?			
Do we need to import skilled labor?			
Does [Client] have special tax exemption status?			
Does [Client] involvement in safety create a roadblock for site access?			
Does [Client] involvement in safety minimize claims and risks?			
Does [Client] tax exemption require an extensive amount of resources to comply?			
Does a proper logistics plan exist for heavy - oversize loads?			
Does contractor have a commitment on the availability and reliability for needed equipment?			
Does contractor have labor harmony with subcontractors on pre-bid list?			
Does flow down language cover the Prime Contract Warranty and Guarantee requirements?			
Does project have an allowance for tax, duties or customers payment for emergency materials?			
Does project require specialized environmental methods?			



EPC Master Checklist

Does project require the use of specialized equipment?			
Does project required specialized methods of construction?			
Does this project have any components not designed before?			
Does work contain non-standard or high technological elements with strict tolerances?			
During the interface period, has [Client] committed to supplying resources as directed by contractor?			
Has a sensitivity analysis on unit prices for changes in quantities been performed?			
Has contractor's Legal Group reviewed the Project commitment Documents including attachments?			
Has the craft density issue addressed and alternative plans made?			
Has the selected subcontractor been approved by [Client]?			
How adequate Is supply chain mix for materials to maintain a sustainable construction progress?			
How crucial Is completion of milestones with respect to the entire project?			
How crucial Is completion of milestones with respect to the over schedule?			
How does the contract address multiple shift work due to schedule compression?			
How is force majeure determined?			
How long are suppliers pricing good for and does that support the execution strategy?			
How long is subcontractor-pricing good for - does that support the execution strategy?			
How many critical paths have been created because of milestones?			
How many times will the traffic have to be rerouted during the course of construction?			
How much coordination is required when the joint occupancy of the site increases?			
How much distraction is there for the work force?			
How much experience do the subcontractors have on projects with the same goals, size and complexity			
How will the site location and soil type affect the need for noise, fume and dust abatement procedures?			
If a permit is required and not stated who is responsible to obtain it?			
If foreign work is involved in the project, are the impacts of currency fluctuations planned for?			
If structures to the construction show signs of damage who is liable and responsible?			
If subcontractor or vendor is sole source how Is price determined to be fair and reasonable?			
If the project is at a foreign location are there Visa Work permits for contractor or subcontractor foreign nationals planned for, coupled with schedule and cost impacts?			
Is [Client] involvement in safety viewed as additional cost?			
Is access to the site limited to certain times of the day?			
Is any aspect of the project data available to the engineers unreliable, incomplete or inadequate?			
Is Arbitration or Dispute Resolution process part of the Prime Contract?			
Is Change Management Process as defined by contractor procedures clearly defined within the contract document and understood by project personnel			
Is contingency added after analysis to cover and determine risks?			
Is contingency added as a fixed percentage of the total project cost or specified amount?			
Is contract closeout procedure aligned with Prime Contact Deliverables?			
Is contractor the warranty administrator?			
Is cost of such use known in advance of the start of the project?			
Is design as constructible as possible?			
Is estimate developed using basic engineering documents?			
Is estimate developed using detailed engineering documents?			
Is existing infrastructure capable of handling the construction traffic along with the normal volume?			
Is material quantity in line with projects of similar nature?			
Is offsite storage required?			
Is procurement plan aligned with the execution plan?			
Is project complexity so high, to create confusion in planning?			
Is project location at an existing working facility?			
Is Project schedule based on fixed time duration for material tax exemption in-country clearance?			
Is right quantity, level and experience of personnel considered?			
Is risk analysis and mitigation plan updated?			
Is risk of cost, productivity, and schedule and over execution performance on [Client] or contractor?			
Is scope understood by parties to minimize additional work?			
Is site access restricted by [Client] or exiting work?			
Is specialized equipment needed to complete scope?			
Is subcontractor scope of work boundaries defined?			
Is technical process, design mature, or beta?			
Is there a large discrepancy between the in-house estimate and the bids received?			
Is there a Performance definition showing the liability for time and money when there is a failure to perform?			
Is there a Termination for convenience clause and is it reciprocal			
Is there a warranty administration / guarantee plan in place and approved?			
Is there any benefit to provide mobilization funding to subcontractors?			
Is there any local or regional unrest with regard to labor disruptions? Does that local government have an impact on that situation?			



EPC Master Checklist

Is there more scope to be bought that is forecasted as a change?			
Is there potential for restricted work hours because of proximity to residential or business districts?			
Is there sufficient acreage for work staging and materials storage?			
Is unusual weather considered Force Majeure?			
Is work performed during economic stability or when the economy is experiencing variations			
To what extent is [Client] able to resolve problems to avoid delays?			
To what extent is design complete?			
Was there a wide spread of the bids received during the estimate development?			
What are long-term plans for community that differs from the intent of this facility? In other words, is protesting a potential?			
What are plans for [Client] involvement during the commissioning and start-up phase of the project			
What are subcontractor's depth of Bank, Surety and Insurances support?			
What are subcontractor's number of P.E.'s and the people with advanced degrees?			
What are subcontractor's profitability trends?			
What are subcontractor's total assets and equity?			
What are subcontractors' aged receivable balance			
What are subcontractors key personnel years of experience			
What are subcontractors total debt levels?			
What are the consequences if [Client] furnished materials or equipment are late or unsuitable?			
What are the consequences of sharing with [Client] Supply Chain Responsibilities?			
What are the project working hours and how do these compare to required coverage for subcontractor work?			
What effect does design completion have on the contingency sums and the pricing that the bids contain?			
What else are subcontractors bidding? What are chances of winning?			
What items of concern are identified on the site route access logistical survey?			
What percentage of the subcontractor's total work volume will this project account for?			
What's contractor's liability for errors and omissions in design?			
What's impact if [Client] and contractor share testing and inspection?			
What's impact if contractor does testing and inspection?			
What's the background of the Principals of the potential subcontractors?			
What's the exposure to the public?			
What's the extent of [Client] involvement in selecting subcontractors?			
What's the extent of underground utilities at the construction site?			
What's the extent to which schedule completion times are shifted from the ideal to the minimum?			
What's the impact if [Client] does testing and inspection?			
What's the impact of milestones on critical path?			
What's the impact of rigorousness reviews, approvals, hold points and the like of the design review?			
What's the level of liquidated damages associated with project milestones?			
What's the nature and level of vibration mitigation requirements specified by the contract?			
What's the nature and number of alternative routes available to the subcontractors?			
What's the possibility of finding historical artifacts, ancient cemeteries, or other archeological finds?			
What's the possibility of project completion if a sole source provider ceases operations?			
What's the potential for encountering adverse groundwater conditions?			
What's the potential for encountering hazardous wastes?			
What's the proximity of the adjacent subcontractors work area?			
What's the subcontractor's current work in progress?			
What's the subcontractor's reputation for integrity and quality of workmanship?			
Which permits are required prior to Sitework?			
Which permits or Licenses are required for engineering work?			
Who assumes a Force Majeure event?			
Who is liable for Payment adjustments for quantity overruns / underruns			
Who owns site soil underground conditions?			
Who pays fees or taxes for currency exchange?			
Who pays Municipal, Local, State, Province, Federal taxes?			
Who pays the penalties for not complying with exemption clearance documentation?			
Who would be responsible for interim Project financing if needed?			
Who's responsible for coordinating the subcontractors?			
Who's responsible for Customs Clearance and payment of duties?			
Who's responsible for permit or license approval schedule compliance?			
Who's responsible for Tax exemption compliance?			
Who's responsible to hire and pay a "third-party" to comply with and obtain permits or licenses?			
Will [Client] require any involvement on the contractor controlled Supply Chain Process?			
Will a risk analysis be performed against the estimate?			
Will an existing tax or duty unfairly rule out a superior foreign subcontractor or supplier?			



EPC Master Checklist

Will contractor be able to control the quality of high technology work?			
Will government regulations influence any of the pricing of the project?			
Will specialized equipment and personnel be needed for testing?			
Will the design require employment of specialized personnel?			
Will the project be of such duration that the risk of exposure to unknown conditions is high?			
Will the use of an existing patent create undue royalty payments or litigation			

Roofing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are adjacent concrete walls primed, wall membrane and wall surfaces are bark-coated and rubbed tight, and method of fastening is as approved?			
Are aggregates for surfacing of type, color, and size specified?			
Are aggregates spread over flood coat of quantity required and while pitch or asphalt is hot, per specification?			
Are corrective actions complete?			
Are delivered materials of grades, types, shapes, sizes, colors, fire-rated classification, pattern texture, etc., per specification?			
Are details of foil, asbestos felt, fire treatment, or fire retardant spray coatings understood for fire-resistive assemblies?			
Are fasteners of length, shank, head, and coating required?			
Are felt layer equipment jets clear and uniform layer of asphalt is being deposited?			
Are felts for asphalt bitumen asphalt-saturated per specification?			
Are insulation boards butted together?			
Are insulation boards FM approved with membrane?			
Are insulation boards inspected for crushing?			
Are insulation boards with 3/4-inch minimum edge bearing along upper flanges of the metal deck?			
Are insulation fasteners driven flush to the top of the insulation without crushing or breaking the insulation surface?			
Are insulation fasteners installed every 2 square feet?			
Are insulation fasteners through metal deck upper flanges?			
Are Isocyanurate boards glass faced?			
Are loose lay sheets installed without stretching?			
Are materials per specifications?			
Are penetrating elements, nailers, parapets and curbs installed per specification?			
Are receiving surfaces free of splinters and protuberant fasteners?			
Are roof penetrations shown on bid drawings?			
Are roof penetrations shown on the bid documents?			
Are roofing details of corners, edges, etc. sufficient for construction bidding?			
Are samples being cut?			
Are scuppers required?			
Are seams and flashings installed per specification?			
Are seams formed outside of sump?			
Are self sealing shingles installed per specification?			
Are sheets owed to relax 30 minutes minimum?			
Are sumps formed around drains?			
Are surfaces kept moisture-free?			
Are surfaces to be bonded are clean and dry?			
Are taped and/or bonded seams properly sealed?			
Are vertical field seams at curbs and walls overlaid with specified flashing?			
Are we inspecting for plugging of drains, weeps, etc., and damage or mess to adjoining surfaces?			
Are we installing tapered edge strips to form crickets?			
Are we protecting stored materials from moisture, per specification?			
Are we using design methods to minimize roof penetrations for HVAC ductwork, piping / conduits and structural steel?			
Are we verifying for overheating of asphalt or pitch?			
At corners and angles, is splicing cement applied to achieve a smooth surface without brush marks?			
Does delivery of mounting curbs for rooftop equipment support their installation prior to completion of roof installation?			
Does roofing schedule support building dry-in schedule?			
Have adhesives been properly installed?			
How will roof testing be done?			
Is agency inspection complete?			
Is alignment of layers and rows maintained?			
Is bedding of slates performed at valleys, ridges, chimneys, dormers, etc., per specification?			
Is bonded half of sheet brushed with a soft bristle broom?			
Is bonding adhesive applied evenly without globs or puddles with mechanical roller dispenser?			
Is bonding adhesive applied to both insulation and sheet at specified gallonage to each surface?			
Is bonding adhesive stirred 5 minutes minimum (scrapping sides and bottom)?			
Is brooming so laid that each layer is free of air pockets, wrinkles, and buckles?			



EPC Master Checklist

Is coated sheet on to coated substrate installation accomplished without wrinkles?			
Is deck free of moisture and debris?			
Is decking at corners (10 feet square) and perimeters (6 feet width, or two deck panels) secured through ribs to supports per specification?			
Is design providing details for each type of roof penetration?			
Is exposure and fastening per specification?			
Is felt maintained at a minimum temperature per specification?			
Is fill of insulation joints greater than ¼ inch per specification?			
Is final inspection complete? This is done after drains are cleared and debris is removed.			
Is finish coat to be bonded? What does bond cover and what is duration?			
Is flashing available and installed in conjunction with shingling, per specification?			
Is fold back unbounded half of sheet and repeat bonding process per specification?			
Is fold EPDM sheet back being done without wrinkles or buckles?			
Is installation temperature verified and documented?			
Is interleaving performed for shake installation?			
Is jointing staggered with nailing per specification?			
Is lap sealant feathered with Carlisle tool?			
Is lap, nailing, and quantity of pitch or asphalt applied per specification? Inspect for bare spots.			
Is membrane spliced to RUSS in accordance to membrane splice specification?			
Is operation discontinued if condensation forms on adhesives?			
Is our roofing subcontractor an authorized installer for the particular roofing system specified?			
Is over layout made to provide full shingle courses?			
Is project using roof work permits?			
Is proper size bead of lap sealant applied to cover splice edge?			
Is roll roofing or cap sheet of weight, selvage finish, and color required?			
Is roofing at cant strips, vertical surfaces, reglets, and penetration per requirements?			
Is RUSS cleaned in accordance with membrane splices specifications?			
Is RUSS fastened with Carlisle fasteners – through seam fastening plates to metal deck?			
Is seamed wiped with hand toward edge?			
Is slope per specification?			
Is splice area cleaned by scrubbing with Sure-Seal HP splice wipe or clean natural rags saturated with Sure-Seal splice cleaner?			
Is splicing cement applied at specified rate?			
Is splicing cement applied to both mating surfaces per specification? Adhesive is not owed to glob or puddle.			
Is splicing cement over dried, fresh coat of splicing cement applied at half the rate?			
Is splicing cement owed to dry until it is tacky, but will not stick or string to a dry finger touch and will not be moved when pushed with a dry finger?			
Is tabbing of shingles performed per specification?			
Is temperature of liquid adhesives and sealants as specified?			
Is test square required to be tested?			
Is top sheet held back during cleaning process?			
Is top sheet rolled onto mating surfaces without stretching or buckling?			
Is underlayment installed with proper lapping shingle style?			
Is underlayment or membrane installed per specification?			
Is vapor barrier installed on locations required?			
Is vapor barrier installed to seal insulation at gravel stops, walls, and openings? Observe ventilation requirements for insulation.			
Verify drains are unblocked?			
Verify shingles for dimensions?			
Verify sub-surfaces and decking before installation to be per specification?			
Verify that along perimeters and corners, insulation fasteners are increased by 50 percent?			
Verify that exposure of insulation or organic felts overnight without a mopping, is not owed?			
Verify that nails do not penetrate underside of exposed decking?			
What type of roofing system will this project use?			
What's our program for minimizing roof destruction during construction? Since roof, leaks are statistically a high cause of claims for callback repairs.			
What's the sequence of roof installation?			
When will flood coat and gravel be installed?			
Who approves fixes for bad tests?			
Who caulks the scupper to siding if they extend through the siding?			
Who cuts penetrations in metal decking?			
Who does roof inspection?			
Who installs nailer strips and cants?			
Who installs the lightweight concrete for roofing systems?			
Who supplies and installs skylights?			
Who supplies caulking and sealants?			
Who supplies rough carpentry required for the roofing system?			
Who'll do the nailers?			
Who's responsible for roof penetration locations?			
Who's responsible for roof protection?			



EPC Master Checklist

Who's to inst and flash in curbs and sleeves?			
Who's to inst the metal decking?			
Will roof system require warranty?			
Will roofs be hydrated?			
Will the roofer do the nailers?			

Safety (TOC)

Issue	Responsibility/Comments	Date	Complete
Are accident prevention signs, symbols, tags adequate where hazards exist?			
Are arrangements made for flammable fuel storage on job location signs and protection?			
Are arrangements made for parking of employee cars?			
Are arrangements made for temporary electrical tool service?			
Are barricades used for the protection of employees and public?			
Are blanket orders for first aid material written and established?			
Are blasts being properly documented?			
Are compressed gas cylinders properly transported, stored and secured?			
Are containers received labeled, tagged or marked with identity, hazard warning, name and address of manufacturer, importer, or other responsible party?			
Are contractor employees certified in the operation, care and use of powder actuated tools?			
Are contractors responsible for excavation familiar with safety standards to protect workmen and equipment?			
Are controls established for access to jobsite by public and visitors?			
Are danger/caution lock out tags or signs available?			
Are emergency assistance numbers posted?			
Are emergency information posters completed and conspicuously posted?			
Are emergency respirators reviewed? (limitations / maintenance / use)			
Are employees briefed on recognition and avoidance of hazards at safety orientation?			
Are employees briefed on toxic or hazardous substances during orientation?			
Are excavation permits used?			
Are excavation procedures reviewed?			
Are f protection areas reviewed?			
Are fencing barricades, gates and/or traffic control planned?			
Are fire alarm pull boxes reviewed?			
Are fire watches used?			
Are flagpersons used at jobsite where sign, symbols, tags and barricades do not provide protection?			
Are hot pipes or vessels reviewed?			
Are hot tap procedures established?			
Are hot work permits used?			
Are ignition hazards adequately controlled?			
Are inspection records maintained on rigging equipment? ?			
Are ladders inspected, in good condition, properly stored, and maintained?			
Are ladders properly built and used?			
Are man basket permits used?			
Are medical exams required and conducted for chemical and hazardous substances?			
Are mobile equipment traffic zones reviewed?			
Are noise (hazardous tools and areas) reviewed?			
Are only authorized personnel handling and using explosives?			
Are operators qualified, certified and licensed?			
Are personnel hoists, material hoists, elevators properly installed and properly operated?			
Are power tools equipped with the necessary guards?			
Are project bulletin board and their content reviewed?			
Are proper screens and shields being used?			
Are provisions established for helicopter rescue?			
Are return to work notices used?			
Are Safety Handbooks ordered?			
Are safety nets and or static lines in use and erected properly where required?			
Are safety requirements clearly defined and employee participation plan developed?			
Are sanitary facilities adequate and clean?			
Are scaffolding tags / requirements reviewed?			
Are scaffolds properly erected, properly used and in good condition?			
Are security procedures developed?			
Are smoking and flammable signs ordered?			
Are spill containments in place?			
Are supervisors requiring the wearing of personal protective equipment where there is an exposure?			
Are the excavation procedures and permits developed and used?			
Are the first aid attendant and/or nurse designated?			
Are the Incident Investigation Reports used?			
Are there adequate employee protection warning signs and covers around electrical equipment?			
Are there any silica concrete products on project?			
Are there approved metal cans for flammable and combustible liquids?			



EPC Master Checklist

Are there designated areas for smoking on the project?			
Are there metal containers with lids for oily rags and other flammable materials?			
Are there sufficient fire extinguishers and proper type of water supply on the job?			
Are toilet and hand washing facilities reviewed?			
Are utility companies notified prior to excavation to move equipment?			
Are vending machines available?			
Are weekly safety meetings held with sub-contractors?			
Are weekly safety meetings held with supervision?			
Are welding leads and extension cords kept out of walkways?			
Are wooden, aluminum or fiberglass ladders owed on site?			
Batteries and Chargers - Are we documenting the specific gravity of each cell?			
Batteries and Chargers - Has the system Polarity been verified?			
Batteries and Chargers - Have we documented UPS system equipment numbers?			
Batteries and Chargers - Have we inspected for damaged and missing parts?			
Batteries and Chargers - Have we inspected for loose nuts and bolts?			
Batteries and Chargers - Verify that we have no loose wiring connections?			
Batteries and Chargers - Was the battery charger tested per manufacturer's instructions?			
Do motor vehicles have regular inspection and maintenance?			
Do pipelines have identification markers?			
Do we have a confined spaces program in place?			
Do we have ample area fire extinguishers?			
Do we have listing of potential chemical process hazards?			
Do we have pre-hire physical requirement on project?			
Do we have proper first aid equipment supplies?			
Do we have safety and security signs and notices posted?			
Do we have trained first aid provider?			
Do we need private facilities?			
Does [Client] require a full time safety engineer?			
Does [Client] require specific training for contractor?			
Does everyone know his or her responsibility regarding awareness of accident prevention?			
Does field staff have access and know OSHA regulations?			
Does material handling equipment meets ROPS requirements?			
Does our safety protocol c for securing necessary written approvals prior to charging any system chemicals or gases?			
Does project emergency egress routes / assembly areas?			
Does project have a demonstration of tool safety practices (tools to be used)?			
Does project have a process hazard analysis?			
Does project have emergency response plan?			
Does project have established safe work practices?			
Does project have formalized pre startup safety review?			
Does project have frequent and regular inspection of jobsite? Who's involved? contractor, [Client], etc.?			
Does project inspect personal tools brought to job?			
Does project inspect PPE brought to job? (i.e. welding helmets, hardhats)			
Does project review location of first aid and the contractor safety office?			
Does project review locations that require special PPE?			
Does safety inspection for electrical comply with OSHA and NEC standards?			
During demolition, is there proper egress provided?			
Has a bomb threat procedure developed and is it being used?			
Has a lock out procedure developed for disciplines?			
Has a plan established for first aid facilities such as dispensary, ambulance, doctor, hospital, etc.?			
Has design done a quality check on the safety requirements on equipment?			
Has design incorporated safety cable design into the structural design by pre punching the columns and utilizing the roof davit points?			
Has lighting plan approved by safety for night work?			
Has PPE been received on site?			
Has safety representative met with the insurance adjuster?			
Has the site security system developed, i.e. fences, guards, etc.?			
Has the tie-in scope of work been reviewed by safety, identifying locations early and what is required to make the tie-in, enabling tie-in specific safety plans to be developed?			
Have we listed special safety requirements for PPE?			
Have we received [Client] permitting system information to be used during tie-in work or any work within the existing plant?			
Hazard Communication - Are methods installed for informing employees of the hazards concerning non-routine tasks and chemicals in piping system?			
Hazard Communication - Are procedures in place for informing contractor employees of chemical hazards installed?			
Hazard Communication - Do we have list of hazardous substances installed?			
Hazard Communication - Is Hazard Communication Program available to employees, their representatives and OSHA?			
Hazard Communication - Is there a written current hazard communication program and is it maintained?			
Hazard Determination - What are the sources of information for Hazard			



EPC Master Checklist

Determination?			
Hazard Determination - What hazards are determined by manufacturers and importers of chemicals purchased?			
Hazard Determination - What hazards for onsite substances not purchased are determined by specified written hazard evaluation procedures?			
Hazard Determination - What's the criteria used for Hazard Determination?			
Hazard Determination - What's the program for reviewing and updating Hazard Determination and MSDS?			
Hazard Determination - Who's responsible for the evaluation Hazard Determination?			
HAZCOM Information & Training - Are employed trained on awareness of chemical hazards and protective measures?			
HAZCOM Information & Training - Are employed trained on location and availability of the hazard communication?			
HAZCOM Information & Training - Are employed trained on operations where hazardous chemicals are present?			
HAZCOM Information & Training - Are employed trained on the location and availability of the required information?			
HAZCOM Information & Training - Are employees trained on initial assignment and whenever a new hazard is introduced?			
HAZCOM Information & Training - HAZCOM - Are employees aware of the standards and the requirements?			
HAZCOM Information & Training - HAZCOM - Is hazard communication standard requirement?			
HAZCOM Information & Training - Is employee training documented?			
HAZCOM Information & Training - Who's designated person responsible for conducting employee training?			
HAZCOM Labels - Are labels legible, in English, prominent or readily available in work area?			
HAZCOM Labels - Are labels protected against removal or defacing?			
HAZCOM Labels - Are portable containers of hazardous substances labeled when not immediately used?			
HAZCOM Labels - Are workplace containers labeled, tagged or marked with identity and hazard warning?			
HAZCOM Labels - Is a written description of alternatives to labeling in plant containers available?			
HAZCOM Labels - Is program for reviewing and updating labels implemented?			
HAZCOM Labels - Who's the designated person responsible for labeling in plant containers and shipped containers?			
HAZCOM Medical Surveillance - Are procedures implemented for providing chemical information in emergency and on-medical emergency requests?			
How many portable toilets are needed for men?			
How many portable toilets are needed for women?			
How many water containers are needed?			
How many workers does lunchroom / break areas need to accommodate?			
If answer to drinking water on site is no, then where will the drinking water be obtained?			
If existing plant, are there any special plant and/or local health and safety regulations which contractors must observe?			
If no safety manager is on the staff, who takes the lead on site safety?			
If OSHA inspection, who will walk jobsite with inspector? Does staff know how to deal with OSHA inspectors?			
If the responsibility of the abatement is contractors, will a specialty subcontractor perform the work?			
If there are no parking facilities, what are the plans to park cars?			
Is a drinking water supply available on site?			
Is a lunchroom or covered facility needed?			
Is a safety incentive plan established?			
Is a site-specific safety plan / manual required?			
Is an eating facility determined and clearly spelled out in the documents?			
Is an emergency phone/line established in the field?			
Is an inspection and test program or GFI established and used?			
Is an orientation plan for contractors developed and used?			
Is complete contractor safety program in effect for design?			
Is complete contractor safety program in effect in construction?			
Is contractor Lockout / Tagging procedure approved and implemented? Note: this is for construction and startup.			
Is contractor Safety Procedure Process accessible to management?			
Is contractor security plan implemented?			
Is contractor using approved rigging equipment and rigging practices?			
Is electrical installation in accordance with national electrical code?			
Is entry plan developed in compliance with spaces with oxygen indicated and combustible gas indicator available?			
Is equipment properly equipped with safety equipment?			
Is equipment such as torches, gauges and hoses maintained properly and in a safe condition?			
Is gate pass procedure developed and is it used?			
Is general site layout reviewed?			
Is guarding of floor holes, floor openings, open sided floors, platforms, runways and			



EPC Master Checklist

stairways adequate?			
Is lighting adequate in the parking area and route to the project?			
Is location of safety suggestion box / forms reviewed?			
Is lockout box or boxes and locks and tags used during lockouts reviewed?			
Is material stored and stacked safely?			
Is operation of cranes, derricks, hoists and elevators in compliance with manufacturer's specifications?			
Is our safety program in compliance with OSHA shoring requirements?			
Is our standard contractor procedure for PPE approved for use and implemented?			
Is parking lot lined, striped or marked in anyway?			
Is permanent perimeter security fence approved and will it go up in lieu of temporary fencing?			
Is potable water supply adequate? Is water supply secure to prevent tampering?			
Is Project Safety Process complete and reviewed with the site team?			
Is project-eating area reviewed?			
Is proper access provided on scaffolding?			
Is proper access provided to steel erection?			
Is proper care and storage being taken of explosives?			
Is proper protection given and taken to guard employees during specific excavation and trenching operations?			
Is proper safety record keeping taking place?			
Is proper storage and handling of flammable and combustible liquids and gases working properly?			
Is removal of materials through floor holes and chutes or lifting?			
Is respirator required area reviewed?			
Is route to the project from the lot free of tripping hazards?			
Is Safety Action Plan developed?			
Is safety department recording and reporting injuries?			
Is Safety plan issued and implemented?			
Is smoking owed on the project site?			
Is there a blasting plan developed?			
Is there a company doctor appointed?			
Is there a copy of Federal Safety and Health Regulations available?			
Is there a copy of the Safety Procedures Checklist on site?			
Is there a Demolition Plan developed?			
Is there a fire prevention and protection program developed?			
Is there a first-aid station and portable emergency first-aid kit on the jobsite?			
Is there a Hearing Conservation Program established by contractors?			
Is there a plan developed for Hazardous Waste Storage and Disposal ?			
Is there a plan developed for Safety Task Assignment Planner ?			
Is there a Respiratory Program established by contractors?			
Is there an adequate supply of personal protective equipment on site?			
Is there an emergency tree established with the field staff?			
Is there an equipment inspection program established with records retention?			
Is there an inspection program established for safety belts? ?			
Is there any arsenic refractory on project?			
Is there any asbestos cinder block on project?			
Is there any asbestos gaskets on project?			
Is there any asbestos insulation on project?			
Is there any asbestos roofing material on project?			
Is there any asbestos transite siding on project?			
Is there any cadmium preservative on project?			
Is there any chromium refractory on project?			
Is there any contaminated earth on project site?			
Is there any fiberglass insulation on project?			
Is there any lead preservative on project?			
Is there any silica cinder block on project?			
Is there any special safety rules applicable to hazardous areas?			
Is there any special safety training for staff employees?			
Is there to be an EMT on project site?			
Is tool room / trailer reviewed?			
Is utilization of employer's Work Injury Report used?			
Is Vessel Closure Certificate from contractor procedures implemented?			
Is Work Injury Report designed and used?			
MSDS - Are MSDS available to employees in their work area?			
MSDS - Are MSDS available to employees, their reps, and OSHA?			
MSDS - Is MSDS installed for hazardous substances?			
MSDS - What procedures are established for follow-up when MSDS installed?			
MSDS - What procedures are established for follow-up when MSDS not received?			
MSDS - What procedures are for maintaining MSDS installed?			
MSDS - What's the description of alternatives to MSDS installed?			
MSDS - Who's the designated person responsible for obtaining and maintaining MSDS?			
Verify that design meets OSHA requirements for lockable disconnects within sight of equipment?			
What are management and [Client]'s expectations on neatness of working area?			
What are the corporate and project rules regarding safety glasses?			



EPC Master Checklist

What are the potential fire, explosion and toxic release hazards?			
What shift work will be done by contract, Subcontract and Vendor?			
What type of project is this? (boiler, Brownfield, existing, Greenfield, maintenance, new construction, etc)			
What's estimated contractor / subcontractor population?			
What's the number of hand washing facilities required?			
What's the policy for talking with the press should a safety accident occur and attract that attention?			
What's vendor population estimate during project?			
Where are vending machines located?			
Where is nearest full facility hospital?			
Who develops the vessel and Confined Space Entry procedure ?			
Who from [Client] is to be notified first in the event of an accident?			
Who has the responsibility for First Line Break Procedure ?			
Who prequalifies contractors' safety records?			
Who's in control of the master key box and has a plan developed?			
Who's responsible for security?			
Who's responsible for the disposal of hazardous waste?			
Who's responsible for the hazardous materials abatement?			
Who's responsible for the Lock Out And Tagging Procedure ?			
Who's responsible for the samples of the disturbance / removal points?			
Who's the project emergency coordinator for off shift hours?			
Will contractor work in or adjacent to a covered PSM area?			
Will project be using an electronic security system?			
Will the project have to bus employees from satellite parking areas?			
Will there be ordering and showing of safety films?			
Will there be safety luncheons in conjunction with safe crew of the month?			

Safety – Jobsite Safety Indicators (TOC)

Issue	Responsibility/Comments	Date	Complete
Abrasive Blasting - Are approved particulate-filter respirator worn by employees in area?			
Abrasive Blasting - Are deadman switch operational?			
Abrasive Blasting - Are hoses in good condition?			
Abrasive Blasting - Are HSHA/NIOSH airline respirators, hoods, aprons and dust collar worn?			
Abrasive Blasting - Is blast-cleaning nozzle held open manually?			
Abrasive Blasting - Is hazardous waste disposal coordinated with [Client]?			
Abrasive Blasting - Is Non-Silica sand used as blast medium?			
Abrasive Blasting - Is paint to be sandblasted identified and requirements in place?			
Abrasive Blasting - Is respiratory program / breathing air requirements in place?			
Aerial Platforms - Are aerial platforms prohibited material lift / used as mobile scaffold?			
Aerial Platforms - Are high visibility barricades erected when working in roadway?			
Aerial Platforms - Are operators trained and operator certification issued? Operator Certification Card			
Aerial Platforms - Are safety harnesses worn when operating articulating boom (JLG type)?			
Aerial Platforms - Does operator inspect before each use and documents using Aerial Lift Forklift Inspection Form?			
Aerial Platforms - Is barricade erected around counterweight of articulating boom (JLG)?			
Aerial Platforms - Is fire extinguisher on equipment?			
Aerial Platforms - Is full inspection / test performed by manufacturer? (maximum 12 months)			
Are areas around line breaks barricaded?			
Are areas below burning barricaded?			
Are back up alarms installed / functional?			
Are barricades in place?			
Are beam straps used to tie off to beams?			
Are breaker boxes covered and breakers labeled?			
Are cables and hoses in good repair on construction equipment?			
Are chocks used as required?			
Are connectors tied off?			
Are correction made to identified hazards?			
Are cranes glass and mirrors in good condition?			
Are electrical cords, hoses and leads elevated?			
Are electrical switches and voltages identified?			
Are energy sources locked out and tagged?			
Are entrant's logged in and out restricted areas?			
Are equipment and cable trays covered and protected?			
Are face shield and goggles worn for grinding?			
Are fire extinguishers charged and current?			
Are flagmen used as required?			
Are flammables clear of exits?			
Are flammables in flammable storage cabinets?			
Are floor openings barricaded or covered?			



EPC Master Checklist

Are footpads and mudsills cleaned?			
Are foreman proactive regarding safety?			
Are goggles, hoods, clothing and gloves worn when required?			
Are Harnesses / lanyards always worn above 6 feet?			
Are jobsite informational signs adequate?			
Are ladder feet in good condition?			
Are ladder rungs free of grease and mud?			
Are ladders inspected monthly and is colored tape current?			
Are ladders used in ramps every 25 feet?			
Are lift baskets free of material?			
Are lights caged, with no empty sockets?			
Are materials staged in work areas stored in orderly fashion?			
Are nails in boards removed or bent for safety?			
Are only dielectric ladders used on job?			
Are outriggers fully extended in crane usage?			
Are parking lot and pathways safe for pedestrian traffic?			
Are platform and stair railings installed in active work areas?			
Are proper gloves used according to risk?			
Are rescue procedures / capability in place for conditions?			
Are safety glasses worn with side shields at times while on site?			
Are seat belts used when installed construction equipment?			
Are smoking areas defined / materials controlled?			
Are speed limits enforced?			
Are spills cleaned up before resuming work?			
Are stepladders fully open and tied-off?			
Are tag line in full use?			
Are there adequate personnel and training facilities?			
Are there adequate trash containers?			
Are there leading edge warnings 6 feet from edge?			
Are toeboards installed?			
Are tools / equipment safety stored?			
Are trailers grounded?			
Are walk boards without cracks and knots?			
Are we monitoring atmospheric conditions?			
Are we on compliance with the use of lift tickets?			
Are we operating with safe clearances from power lines?			
Are welding arc blinds or screens in place?			
Are workers in JLGs tied off?			
Are workers on yellow-tagged scaffold tied off?			
Are working platforms clean and slip free?			
Bloodborne Pathogens - Are containers collected / sanitized daily? Sanitation Safety Procedure			
Bloodborne Pathogens - Are housekeeping practices adequate?			
Bloodborne Pathogens - Are portable toilets installed in accordance with table in Sanitation Safety Procedure?			
Bloodborne Pathogens - Are special precautions / engineering / administrative controls implemented?			
Bloodborne Pathogens - Are standard laser warning placards posted when in use?			
Bloodborne Pathogens - Are transformers certified "free from PCB" before handling?			
Bloodborne Pathogens - Are washing facilities with potable water and soap available?			
Bloodborne Pathogens - Is appropriate PPE available?			
Bloodborne Pathogens - Is biohazard waste properly disposed?			
Bloodborne Pathogens - Is documentation on file and retained?			
Bloodborne Pathogens - Is electrical equipment containing PCBs disposed by [Client]/EPA approved?			
Bloodborne Pathogens - Is Gatorade type liquid available?			
Bloodborne Pathogens - Is lid of drinking water sealed / dated?			
Bloodborne Pathogens - Is Non-Portable water clearly identified?			
Bloodborne Pathogens - Is proper PPE worn when Laser equipment is operated?			
Bloodborne Pathogens - Is smoking policy in compliance			
Bloodborne Pathogens - Is vermin control program in place?			
Compressed Air - Are employees prohibited from using compressed air to dust off clothes / hair?			
Compressed Air - Are Monogoggles / Face Shield worn when cleaning with compressed air?			
Compressed Air - Is nozzle installed restricting airflow to 30 PSI?			
Compressed Air - Is valve at nozzle kept open manually?			
Compressed Gas - Are bottles hoisted in approved rack?			
Compressed Gas - Are bottles secured in upright position?			
Compressed Gas - Are compressed gas cylinders prohibited in confined space?			
Compressed Gas - Are gauges removed at end of shift? Protective valve caps replaced			
Compressed Gas - Are no smoking signs posted?			
Compressed Gas - Are protective caps in place during storage / transportation?			
Compressed Gas - Is bottle rack marked as to gas type and full / empty?			
Compressed Gas - Is oxygen and fuel gas cylinder storage - separated from each other by 20 feet or 5-foot barrier with 1 1/2 hour fire rating?			



EPC Master Checklist

Concrete - Are air hose connections over one inch equipped with safety chain?			
Concrete - Are bull hose connections tightened with hammer? (not hand tight)			
Concrete - Are concrete shoots folded and secured during movement?			
Concrete - Are employees prohibited under hoisted concrete buckets?			
Concrete - Are employees trained in concrete / silica hazards and proper work methods?			
Concrete - Are forms removed from area after use?			
Concrete - Are hose connections one inch or less secured with safety wire?			
Concrete - Are nails removed from forms after use?			
Concrete - Are runways designed by qualified person?			
Concrete - Are washing facilities installed and employees used after pour or exposure?			
Concrete - Are wheels chocked on included surfaces?			
Concrete - Do ready mix trucks have backup alarms and backed into position?			
Concrete - Is barrier cream available and used?			
Concrete - Is concrete dust controlled to prevent silica exposure?			
Concrete - Is proper PPE worn while pouring concrete?			
Concrete - Is runway Guardrailing installed?			
Concrete - Is runway kept free of slipping hazards?			
Concrete - Is runway slope flat enough to prevent slipping?			
Confined Space - Are Confined Space Entry Permits issued and retained?			
Confined Space - Are confined spaces cleaned / purged / before entry?			
Confined Space - Are energy sources locked, tagged, tried?			
Confined Space - Are personnel using atmospheric testing equipment trained and documented?			
Confined Space - Are pipelines isolated?			
Confined Space - Do employees receive confined space entry training?			
Confined Space - Does hole watch maintain documented log on entry / exit?			
Confined Space - Is [Client] program integrated into contractor program requirements?			
Confined Space - Is atmospheric testing equipment calibrated and documented?			
Confined Space - Is calibration verification performed before use and documented?			
Confined Space - Is communication system installed to summon help? Radio, air horn, etc			
Confined Space - Is Confined Entry Protocol program on file?			
Confined Space - Is confined space ventilated properly? Plant air not blown into confined space.			
Confined Space - Is continuous monitoring performed?			
Confined Space - Is documentation of training /verification of understanding retained?			
Confined Space - Is harness worn by entrants with lifeline?			
Confined Space - Is hole watch installed?			
Confined Space - Is mechanical retrieving device for vertical entry?			
Confined Space - Is MSDS of material/product in confined space reviewed prior to entry?			
Confined Space - Is permit required for confined spaces posted?			
Confined Space - Is Pre-Entry checklist used?			
Confined Space - Is rescue team / equipment available and adequate?			
Confined Space - Is rotating equipment secured to prevent movement?			
Crane Operations - Are overhead crane inspections conducted by competent person? Documented on Mobile Crane Inspection Daily Form			
Crane Operations - Are overhead crane operators trained by competent persons?			
Crane Operations - Is crane operation qualified in accordance with contractor procedures? Use Operator Physical Proficiency Qualification			
Crane Operations - Is Daily Overhead Crane checklist used?			
Crane Operations - Is operator given written and practical test?			
Crane Operations - Who authorizes the use of overhead crane?			
Cranes - Are annual certifications conducted and documented by third party for overhead cranes?			
Cranes - Are hand signals and load capacities posted properly? cranes			
Cranes - Are inspection done at anytime by [Client] on overhead crane?			
Cranes - Are monthly inspections on overhead crane conducted and documented on Construction Equipment Safety Inspection Checklist?			
Cranes - Are overhead crane deficiencies tracked and corrective action documented?			
Cranes - Are power lines de-energized or 15 feet or more is maintained?			
Cranes - Are repairs made to cranes by authorized personnel?			
Cranes - Is crane hook magniflux checked during daily inspections on overhead crane?			
Cranes - Is Demolition Release Permit in use?			
Cranes - Is swing radius of crane rotating superstructure barricaded?			
Demolition - Is engineer survey conducted and safety procedures developed?			
Demolition - Is silica dust controlled?			
Do harnesses and lanyards have current inspection tape?			
Do ladders extend 3 feet above ledge or roof?			
Do we have adequate sanitary facilities?			
Do we have an active PPE program?			
Do we have attachment points stand 5,000-pound shock?			
Do we have proper shoring or sloping for soil type and condition?			
Do we have proper ventilation in work areas?			



EPC Master Checklist

Do we have spill containment least 2 feet from edge-protected area?			
Does project have hand-washing facilities?			
Electrical - Are battery charger vent caps kept in place during charging?			
Electrical - Are battery rooms and battery charging areas well ventilated?			
Electrical - Are cords / cables run overhead where practical?			
Electrical - Are cords and cables not sliced and protected from damage?			
Electrical - Are cords and cables prohibited from being suspended with nails and wire?			
Electrical - Are cover plates in breaker box?			
Electrical - Are disconnecting switches/breakers labeled as to what they serve?			
Electrical - Are employees are trained per specification?			
Electrical - Are employees prohibited within 15 feet of high voltage lines / equipment?			
Electrical - Are energized parts / electrical circuits protected from accidental contact?			
Electrical - Are high voltage gloves with current / updated voltage certification?			
Electrical - Are high voltage overhead lines clearly marked and identified?			
Electrical - Are lockout locks stored in secured location?			
Electrical - Are portable extension cords three-wire type (hard/extra hard usage)?			
Electrical - Are portable hand held tools grounded or double insulated?			
Electrical - Are signs posted for Only authorized / qualified employees owed in substation?			
Electrical - Are switch disconnects / breaker boxes access kept clear and unobstructed?			
Electrical - Are unused openings of electrical enclosures and fittings closed / plugged?			
Electrical - Is a facility for quick drenching installed?			
Electrical - Is approved / rated Arc Flash PPE used per specification?			
Electrical - Is assured equipment ground conductor program implemented?			
Electrical - Is electrical equipment properly and securely mounted?			
Electrical - Is flash hazard analysis conducted and documented?			
Electrical - Is GFCI used with 120-volt single-phase 15 and 20 amp receptacles?			
Electrical - Is Lock / Tag / Try program documented and implemented?			
Electrical - Is substation secured and proper warning signs posted?			
Emergency Action - Are contractor employees trained in "first responder awareness level"?			
Emergency Action - Are drills conducted / repeated at least annually?			
Emergency Action - Are evacuation routes / assembly points established? (primary and secondary)			
Emergency Action - Is alarm system installed? (fire, evacuation, etc)			
Emergency Action - Is emergency action plan covered in orientation?			
Emergency Action - Is emergency action plan written / documented?			
Emergency Action - Is emergency reporting system in place?			
Excavation - Are excavations / trenches barricaded according to Excavation and Trenches Safety Procedure ?			
Excavation - Are guardrails installed on walkways / bridges cross over? (6 foot elevation)			
Excavation - Are spoils set back minimum 3 feet from edge?			
Excavation - Are support systems / shield systems adequate and approved?			
Excavation - Is a competent person designated / qualifications documented?			
Excavation - Is access / egress installed 25 feet or less of lateral movement?			
Excavation - Is atmospheric monitoring in trenches / excavations over 4 feet deep being used?			
Excavation - Is Confined Space Entry Permit used as necessary			
Excavation - Is Daily Excavation checklist completed and retained?			
Excavation - Is Excavation Permit completed before digging begins?			
Excavation - Is sloping / benching / protective systems proved at depth of 5 to 20 feet?			
Exit / Egress - Are directions to exits clearly marked?			
Exit / Egress - Are doors, passageways, or stairways that are NOT exits clearly marked?			
Exit / Egress - Are exits kept free of obstruction and unlocked?			
Exit / Egress - Are exits marked and illuminated by light source?			
Fall Protection - Are employees trained on f protection with certification on file?			
Fall Protection - Are guardrails erected at 6 feet?			
Fall Protection - Are harnesses and lanyards inspected monthly by competent person?			
Fall Protection - Are lifeline attachments capable of withstanding 5000 lbs per person?			
Fall Protection - Are lifelines installed by competent / qualified personnel?			
Fall Protection - Is F protection plan / procedure for leading edge / precast concrete work in place?			
Fall Protection - Is f protection used when exposed to f of 6 feet or more?			
Fall Protection - Is full body harness / 2 lanyards with locking snaphook issued and worn?			
Fall Protection - Is horizontal lifeline system designed with safety factor of 2 and made of 1/2-inch wire rope?			
Fall Protection - Is lifeline on suspended scaffold independent of scaffold attachment?			
Fall Protection - Is vertical lifeline capable of 5000 lb per person attached?			
Fire Prevention / Protection - Are cabinets grounded to avoid static electricity buildup / discharge?			
Fire Prevention / Protection - Are cabinets labeled "Flammable – Keep Fire Away"?			
Fire Prevention / Protection - Are fire extinguishers inspected and current inspection documented?			



EPC Master Checklist

Fire Prevention / Protection - Are flammable materials prohibited within 50 feet of possible ignition source?			
Fire Prevention / Protection - Does flammable / combustible liquid storage have a 12-inch dike?			
Fire Prevention / Protection - Does project have a 20 lb ABC fire extinguisher for every 3000 square feet?			
Fire Prevention / Protection - Does project have a 20 lb. fire extinguisher placed no closer than 25 feet or farther than 75 feet?			
Fire Prevention / Protection - Is a minimum ABC 10 lb extinguisher on each floor by working stairway?			
Fire Prevention / Protection - Is each welding / burning operations is outfitted with a 20lb ABC fire extinguisher?			
Fire Prevention / Protection - Is fire suppresser wire mesh in approved container?			
Fire Prevention / Protection - Is Firewatch used when required with trained personnel? Document and retain			
Fire Prevention / Protection - Is flammable / combustible liquid stored in approved containers / labeled as to content?			
Fire Prevention / Protection - Is LP gas stored outside buildings?			
Fire Prevention / Protection - Is maximum 60 gallon flammable / 120 Combustible in approved cabinet?			
Fire Prevention / Protection - Is project adequately grounding and bonding during transfer of flammable materials?			
Fire Prevention / Protection - Is project restricted to no more than 25 gallons of flammable / combustibles stored outside in containers?			
Fire Prevention / Protection - Is there a minimum 10 lb ABC extinguisher for each separate trailer / office?			
First Line Breaks - Are affected employees trained and documented?			
First Line Breaks - Are hot taps (critical) performed by qualified personnel?			
First Line Breaks - Is First Line Break Procedure implemented on project?			
First Line Breaks - Is Line Break Permit used?			
Guards - Are employees trained in safe methods and of machine operation?			
Guards - Are fan blades within 7 feet of floor protected with guards?			
Guards - Are foot operated switches guarded to prevent accidental actuation?			
Guards - Are moving chains and gears properly guarded?			
Guards - Are pinch points and rotating parts guarded?			
Guards - Are pulleys and belts guarded within seven feet of floor or working level?			
Guards - Do guards have openings no greater than 1/2 inch?			
Hand/Power Tools - Are cheater pipes prohibited with tools usage?			
Hand/Power Tools - Are defective tools are taken out of service and tagged?			
Hand/Power Tools - Are files or rasps used with approved handles?			
Hand/Power Tools - Are fixed woodworking tools equipped with magnetic disconnect switch?			
Hand/Power Tools - Are jacks load blocked before any work under load?			
Hand/Power Tools - Are jacks used according to manufacturer's rated capacity?			
Hand/Power Tools - Are low velocity or captive stud drives used?			
Hand/Power Tools - Are non-sparking tools used to eliminate possible ignition source?			
Hand/Power Tools - Are pneumatic tool air hose connections one inch or less secured with bull hose connections tightened with a hammer?			
Hand/Power Tools - Are pneumatic tool airline connections tied / secured (wire/clips)?			
Hand/Power Tools - Are powder actuated charges stored under lock and key?			
Hand/Power Tools - Are Powder Actuated Fastening tools operated by trained employees?			
Hand/Power Tools - Are power tools grounded or double insulated?			
Hand/Power Tools - Are saws equipped with guards?			
Hand/Power Tools - Are tools designed for guards have guards in place during use?			
Hand/Power Tools - Are tools in good condition?			
Hand/Power Tools - Are tools lowered by approved means?			
Hand/Power Tools - Do end grinders with disk greater than two inches have guards?			
Hand/Power Tools - Do grinders have guards attached?			
Hand/Power Tools - Do pneumatic tools have anti-surge valves installed for lines exceeding 1/2 inside diameter?			
Hand/Power Tools - Does RPM of wheel match or exceed RPM of grinder?			
Hand/Power Tools - Does tool room only issue Hilti gun to authorized operators with cards?			
Hand/Power Tools - Hand/Power Tools - Are tools subject to impact free from cracks / mushroom heads?			
Hand/Power Tools - Is it prohibited to lower electrical tools by their cord?			
Hand/Power Tools - Is proper PPE worn while tools are in use?			
Hand/Power Tools - Is training conducted by manufacturer representative and operator cards issued?			
Hand/Power Tools - On pneumatic tools are air hoses suspended 7 feet overhead where possible?			
Hazardous Waste - Are 55-gon barrels properly marked and dated?			
Hazardous Waste - Are employees trained in proper disposal of hazardous waste?			
Hazardous Waste - Are satellite stations established per [Client] instructions?			
Hazardous Waste - Are warning signs posted per specification?			
Hazardous Waste - Is [Client] responsible for storage / disposal of Hazardous Waste?			



EPC Master Checklist

Hearing Conservation - Are a variety of universal fit protectors available for selection?			
Hearing Conservation - Are employees exposed at or above 8 TWA 85 dBA notified of results?			
Hearing Conservation - Are employees issued universal fit protector or fit tested?			
Hearing Conservation - Are employees trained / repeated annual and documented?			
Hearing Conservation - Are noise surveys performed / documentation on file?			
Hearing Conservation - Is audiometric baseline conducted within 6 months of hire/action level and repeated annually?			
Hearing Conservation - Is personal monitoring conducted / documentation on file?			
Hot Work Permits - Are Firewatches maintained 30 minutes after hot work stops?			
Hot Work Permits - Are Hot Work Permits issued by [Client] or contractor safety representative?			
Hot Work Permits - Are hot work permits issued for only 12 hours?			
Hot Work Permits - Is contractor's Hot Work Permit used and retained?			
Hot Work Permits - Is Hot Work Permit posted at location of hot work?			
Housekeeping - Are cords are kept out of walkways?			
Housekeeping - Are glass containers prohibited on jobsite?			
Housekeeping - Are stairs, work areas, walkways free of hazards?			
Housekeeping - Does project have proper containers installed for trash, construction material and metal?			
Housekeeping - Is scrap and debris removed daily?			
Housekeeping - Is there a clear path to eyewash / shower, fire extinguisher and electrical disconnects?			
Industrial Lift Trucks - Are backup alarms are operational on equipment?			
Industrial Lift Trucks - Are employees trained and given practical checkout on fork trucks? Training is documented			
Industrial Lift Trucks - Are fork trucks equipped with 10 lb. ABC fire extinguisher?			
Industrial Lift Trucks - Are operators issued operators cards?			
Industrial Lift Trucks - Is Daily checkout of equipment conducted using Aerial Lift Forklift Inspection Form ?			
Industrial Lift Trucks - Is roll over protection installed and are employees wearing their seatbelts?			
Is 100 percent tie off enforced?			
Is barricade tape properly positioned?			
Is confined space permit enforced?			
Is electrical wiring safe?			
Is excavation permit procedure enforced?			
Is fire extinguishers installed and charged in crane cab?			
Is fire watch program in effect?			
Is hearing protection worn in required instances?			
Is heavy equipment kept back from edge of danger points?			
Is hot work permit used 100% of the time? and fire watcher			
Is job utilizing a pre-task planner approach?			
Is laydown yard organized for safety and efficiency?			
Is lighting at the proper levels for safe working?			
Is lockout plan implemented?			
Is quality of toolbox safety meetings adequate for employee knowledge?			
Is rigging and hoist in good condition?			
Is there a current crane chart in cab?			
Is there adequate lunch or break areas?			
Is there adequate means of communication to field personnel?			
Is there an ample supply of Drinking water / Gatorade?			
Is there current inspection tape on electric tools / chords?			
Is there s dust control program enforced?			
Is trash collected on a frequent enough basis?			
Is visibility of safety personnel high?			
Ladders / Stairways - Are base of ladders setback ¼ length of ladder from vertical support?			
Ladders / Stairways - Are extension ladders without cage, have rest platform at 20 feet?			
Ladders/Stairways - Are fiberglass ladders used exclusively? (No metal ladders)			
Ladders/Stairways - Are ladders properly barricaded / guarded in passageways / doorways?			
Ladders/Stairways - Are ladders secured at top or held to prevent displacement?			
Ladders/Stairways - Are stairs/ladders installed for change of elevation of 19 inches or more?			
Ladders/Stairways - Do fixed ladders with cage have rest platform at 30 feet?			
Ladders/Stairways - Do steps with four or more risers have handrails / midrails installed?			
Ladders/Stairways - Is anti-slip material placed on stairways?			
Ladders/Stairways - Is area around top and base of ladder kept free of tripping hazards?			
Lockout - Are affected / authorized employees trained?			
Lockout - Are lockout locks used specifically for lockout purposes?			
Lockout - Are Lockout Plan lists at lock box identifying lockout points?			
Lockout - Does contractor authorized employee lock at isolation points?			
Lockout - Does contractor supervision witness's [Client] trying equipment?			



EPC Master Checklist

Lockout - Is annual evaluation conducted of lockout program - use Lockout Tagout Evaluation Form ?			
Lockout - Is equipment tried by contractor supervision on contractor-controlled equipment?			
Lockout - Is Lock Box System used on project?			
Lockout - Is Lock Removal Authorization is used on project?			
Lockout - Is Lockout / Tag and Try program documented?			
Lockout - Is Lockout Plan for specific equipment documented / validated?			
Lockout - Is Systems Lockout Log maintained?			
Lockout - Is there verification of lockout of operational locks at isolation points?			
Marine Operations - Are employees working on or near water issued / wearing life jackets?			
Marine Operations - Are ging buoys with 90 feet on line placed every 200 feet?			
Marine Operations - Are life jackets are US Coastguard approved?			
Marine Operations - Is there a life saving skiff where employees are working over / adjacent to water?			
Material Handling - Are approved chutes used for material drop of more than 20 feet?			
Material Handling - Are employees trained in lift procedure / 50 lb. limit?			
Material Handling - Are lumber piles are not more than 20 feet high?			
Material Handling - Are lumber piles prohibited over 16 feet if handled manually?			
Material Handling - Is material stored within 6 ft. of hoist way or inside floor opening?			
Material Handling - Is material that is dropped through chute dropped to an enclosed/barricaded area?			
Motor Vehicles - Are backup alarms on equipment with obstructed view to rear?			
Motor Vehicles - Are daily inspections conducted on vehicles and documented on Daily Inspection Log ?			
Motor Vehicles - Are Front End loaders / skid loaders using Inspection Service Log for Front End Loaders / Skid Loaders ?			
Motor Vehicles - Is equipment shut down during refueling?			
Motor Vehicles - Is rollover protection on tractors, dozer and brick buggies?			
Occupational/Environmental - Are barricades / radiation signs posted and maintained by technician?			
Occupational/Environmental - Are containers marked "Drinking Water"			
Occupational/Environmental - Are contractor employees prohibited from asbestos in any form?			
Occupational/Environmental - Are employees trained in orientation / toolbox meetings?			
Occupational/Environmental - Are painted/coated surfaces tested for possible lead content?			
Occupational/Environmental - Are qualified / trained employees operating equipment?			
Occupational/Environmental - Asbestos - is dust prevention (wetting) and respiratory protection in place?			
Occupational/Environmental - Does contractor has NRC license / competent person?			
Occupational/Environmental - Is Bloodborne Pathogens (HBV/HIV) Program documented?			
Occupational/Environmental - Is documentation of test on file?			
Occupational/Environmental - Is hepatitis B Vaccine offered to employees occupationally exposed? Hepatitis Consent Form			
Occupational/Environmental - Is insulation, gaskets, roofing material, etc. verified for asbestos?			
Occupational/Environmental - Is there an adequate supply of potable water available?			
Occupational/Environmental - Is training conducted / documented?			
Occupational/Environmental - Is Wet Bulb Globe Temperature (WBGT) testing needed?			
Office Personnel - Are files, desk drawers kept closed when not in use?			
Office Personnel - Are heavier files stored in bottom files?			
Office Personnel - Are telephone cords and office machine wires kept off floors and out of walkway?			
Office Personnel - Is appropriate lighting available?			
Office Personnel - Is key board home row height 28-31 inches?			
Office Personnel - Is leg clearance at least 25 inches?			
Office Personnel - Is Mid-VDU screen height 37-43 inches?			
PPE - Are ANSI approved goggles worn over non-approved Rx glasses?			
PPE - Are ANSI approved Hard Hats worn by E&I personnel?			
PPE - Are appropriate gloves available and worn for specific tasks?			
PPE - Are hard hats meeting ANSI standard, non-electrical worn by employees?			
PPE - Are hard hats worn with welding hood?			
PPE - Are metatarsal foot guards available / worn when required?			
PPE - Are monogoggles and face shield worn while grinding, chipping etc.?			
PPE - Are safety glasses with dark lenses prohibited inside buildings?			
PPE - Are safety glasses with side-approved side shields issued?			
PPE - Are safety glasses worn under welding hood?			
PPE - Are steel-toed work shoes meeting ANSI standards worn?			
PPE - Are visitors required to wear PPE?			
PPE - Is chemical PPE available? Per MSDS			
PPE - Is hearing protection worn in high noise posted areas?			
PPE - Is hearing protection worn while operating or around high noise equipment?			



EPC Master Checklist

PPE - Is PPE Hazard Assessment completed / certification on file?			
PPE - Is PPE training completed / certification of training on file?			
Railroad - Does [Client] give approval for blocking of railroad track			
Railroad - Is danger sign (international blue) at least 50 feet on each side of derailer?			
Railroad - Is derailer placed on each side of track for personnel protection?			
Refueling - Are fuel trucks in compliance with NFPA No. 385-1966?			
Refueling - Are No Smoking Signs posted in refueling area?			
Refueling - Is dispensing nozzle automatic closing type without latch open device?			
Refueling - Is electrical installation is per code?			
Refueling - Is emergency shut off installed at remote location from dispensing area?			
Refueling - Is emergency shut off location posted at fueling area?			
Refueling - Is fuel hose of the approved type?			
Refueling - Is there a bonding clip on the truck for fuel transfer?			
Refueling - Is there a fire extinguisher on the fuel truck?			
Respiratory Protection - Are bottles clearly marked as breathing air?			
Respiratory Protection - Are exhaust pipes extended (if needed) to avoid entry of carbon monoxide fumes?			
Respiratory Protection - Are medical ability physicals given/OSHA medical questionnaire completed? Respirator Medical Evaluation Questionnaire			
Respiratory Protection - Are respirators cleaned per manufacturer recommendations? Respirator Cleaning Procedure			
Respiratory Protection - Are respirators NIOSH approved?			
Respiratory Protection - Are respirators stored in sanitary cabinet (exclusively for respirators)?			
Respiratory Protection - Does organic vapor respirator have change out schedule documented?			
Respiratory Protection - Is air quality certification on file from supplier for Grade D Breathing Air?			
Respiratory Protection - Is alarm set at 10PPM or lower for Carbon Monoxide?			
Respiratory Protection - Is breathing air cylinder stored in a clean container (plastic bag)?			
Respiratory Protection - Is Breathing Compressor positioned to prevent entry of contaminants?			
Respiratory Protection - Is Carbon Monoxide monitor and high temperature alarm installed?			
Respiratory Protection - Is Carbon Monoxide Monitor calibrated and documented?			
Respiratory Protection - Is fit test performed and documented? Custom Fit Harness Form			
Respiratory Protection - Is plant air / instrument air / pure oxygen prohibited from using as breathing air?			
Respiratory Protection - Is training conducted and documented and repeated annually or as needed for respirators?			
Rigging - Are hooks equipment with safety latch?			
Rigging - Are lifting devices (spreader beams, etc) designed by engineer?			
Rigging - Are lifting devices proof tested to 125% of rated capacity?			
Rigging - Are loads above personnel are prohibited?			
Rigging - Are loads suspended for only minimum length of time?			
Rigging - Are softeners used on sharp edges?			
Rigging - Are tag lines used to control loads?			
Rigging - Is care taken to make sure Come-a-long load chain is not wrapped around load?			
Rigging - Is it prohibited to place a hook in flange of beam?			
Rigging - Is Pre-Lift Rigging Checklist completed for 2000 lb. or greater lifts?			
Rigging - Is Rigging Inspection done weekly on rigging equipment?			
Scaffolding - Are handrails and midrails installed at 6 ft.?			
Scaffolding - Are scaffold builders / inspector trained by competent person / documented?			
Scaffolding - Are toe boards (4 inches high) installed at 6 feet?			
Scaffolding - Are users trained by a qualified person / documentation on file?			
Scaffolding - Is approved access installed on scaffolds? (Ladders/stairways)			
Scaffolding - Is competent person designated for supervision of scaffold work?			
Scaffolding - Is scaffold material properly stored, inspected, and in good condition?			
Scaffolding - Is scaffold tag system used per requirements of Scaffold Safety Procedure ?			
Scaffolding - Is suspended scaffold erected with independent lifeline?			
Structural Steel - Are 25% bolts / alignment pins installed during initial connection?			
Structural Steel - Are beam straps used per specification?			
Structural Steel - Are incomplete structure signs posted at access?			
Structural Steel - Are nets used as f protection?			
Structural Steel - Are temporary floors installed per specification?			
Structural Steel - Has company safety director approved net usage?			
Structural Steel - If net is installed, does it limit f exposure distance to no more than 25 feet?			
Structural Steel - Is 100% f protection enforced?			
Structural Steel - Is area barricaded with red danger tape when material being hoisted?			
Structural Steel - Is f protection limiting falls to less than 6 feet?			



EPC Master Checklist

Structural Steel - Is Lifeline / F protection installed for f exposure of 6 feet or greater?			
Structural Steel - Is net hung to prevent contact with structures below?			
Structural Steel - Is net installed and tested by a qualified / competent person?			
Structural Steel - Is perimeter cable installed during steel erection?			
Structural Steel - Is project adhering to NO more than 4 floors or 48 feet of unfinished bolting or welding?			
Suspended Platforms - Are personnel wearing harness with lanyard attached appropriately?			
Suspended Platforms - Are platforms constructed according to Suspended Personnel Platforms Safety Procedure ?			
Suspended Platforms - Are platforms designed by a qualified engineer meeting OSHA requirements?			
Suspended Platforms - Are special precautions taken for welding operations?			
Suspended Platforms - Is basket proof tested at 1.5 times its rated load capacity?			
Suspended Platforms - Is basket used for tools and personnel only?			
Suspended Platforms - Is crane equipped with anti-two blocking device (positive acting device)?			
Suspended Platforms - Is crane hoist operated in a power up/down mode? (no free f)			
Suspended Platforms - Is crane hook a positive locking type? (Not moused)			
Suspended Platforms - Is full cycle trial lift (basket empty) loaded to 1.5 times rated load capacity?			
Suspended Platforms - Is full cycle trial lift performed at every new location, re-setup or lift routing change?			
Suspended Platforms - Is full cycle trial lift performed prior to hoisting personnel first time or after modification and repair			
Suspended Platforms - Is lanyard attached to lower load block or overhaul b or inside basket?			
Suspended Platforms - Is Personnel Platform Authorization Form is completed and maintained?			
Suspended Platforms - Is pre-lift meeting held before lifts?			
Suspended Platforms - Is safety cable attached from basket to lower load block or overhaul b?			
Suspended Platforms - Is tag line attached to basket?			
There is no workers riding loads?			
Welding - Are fire watches in place when required?			
Welding - Are gas cylinders secured / transported in upright position?			
Welding - Are Hot Work Permits issued?			
Welding - Are hot work permits only valid for 12 hours?			
Welding - Are preservative coatings verified for welding lead?			
Welding - Are rod butts disposed of in approved receptacles?			
Welding - Are sparks contained / area below barricaded?			
Welding - Are torches and hoses removed from confined space overnight or during shift change?			
Welding - Are valve caps in place when gas cylinders are not in use?			
Welding - Are welding leads and hoses suspended 7 feet where possible?			
Welding - Are welding leads in good condition?			
Welding - Are welding leads without repair within 10 feet of electrode holder?			
Welding - Are welding operations kept 50 feet or greater from painting operations?			
Welding - Are welding shields placed where practical?			
Welding - Is grounding attached to object / not on building structure?			
Welding - Is machinery, equipment and materials covered with fire blanket around welding operations?			
Welding - Is MSDS of preservative coating reviewed and safety precautions followed?			
Welding - Is proper ventilation installed and or respiratory protection installed?			
Welding - Welding cable trays are properly protected from sparks / fire?			
What's over opinion about jobsite safety?			

Safety Management Systems Audit (TOC)

Issue	Responsibility/Comments	Date	Complete
Competent Person System - Does project maintain documentation to support qualifications?			
Competent Person System - Does project maintain log up to date?			
Competent Person System - Does project use competent person designation form?			
Deficiency Tracking System - Are action items from deficiency and action safety tracking form used on project?			
Deficiency Tracking System -Are open items monitored until completed?			
Deficiency Tracking System -Are overdue corrections discussed with project management?			
Employee Recognition - Does project have system in place to recognize performance?			
Hazard Assessment/Planning - Are employees involved in completion of safety task planner?			
Hazard Assessment/Planning - Are pre-job safety checklists used – safety task planner?			
Hazard Assessment/Planning - Is pre-project safety plan used and reviewed?			
Hazard Assessment/Planning - Is there a safety personnel and facilities matrix?			



EPC Master Checklist

Company safety director approves any change			
Medical Mgt. - Does project have a medication log?			
Medical Mgt. - Does project have adequate first aid facilities and supplies?			
Medical Mgt. - Does project have ambulance and emergency response teams?			
Medical Mgt. - Does project have doctor's approvals documented?			
Medical Mgt. - Does project have first aid and CPR qualified personnel?			
Medical Mgt. - Does project have first aid staffing?			
Medical Mgt. - Does project have insurance adjuster contact / coordinator?			
Medical Mgt. - Does project have insurance adjuster contact / coordinator?			
Medical Mgt. - Does project have physician / rehabilitation nurse established on site or locally?			
Medical Mgt. - Does project maintain doctor's prescriptions on file by employee?			
New Hire Physical Exam - Are new hire physical refusals coordinated with personnel?			
New Hire Physical Exam - Does project use medical exam authorization form?			
New Hire Physical Exam - Is employment medical history completed and on file?			
New Hire Physical Exam - Is new hire physical form on file?			
Orientation - Are safety training records retained?			
Orientation - Are tests used to verify understanding of project safety orientation?			
Orientation - Does safety conduct orientation with contractor video?			
Orientation - Have employees completed the HAZCOM awareness quiz?			
Orientation - Is HAZCOM training completed? (lead and cadmium)			
Orientation - Is project safety orientation attendance recorded?			
Orientation - Is safety training leader's guide used?			
Orientation - Is supervisor new employee safety OJT checklist used?			
OSHA Records - Are OSHA logs on retained for five years?			
OSHA Records - Are supplemental records available?			
OSHA Records - Are work injury reports sent to legal department?			
OSHA Records - Does loss run agree with log?			
OSHA Records - Is OSHA case number on records?			
OSHA Records - Is support documentation filed for non-recordables?			
OSHA Records - Is support documentation filed?			
Postings - Are business bulletin board established?			
Postings - Are OSHA / MSHA information posters located in obvious areas on site?			
Postings - Are the worker's compensation posters adequate?			
Postings - Does project have emergency phone numbers?			
Postings - Does project have safety, hazard and environmental policy?			
Postings - Is crane hand signal chart current?			
Postings - Is there a substance abuse notice posted?			
Postings - Is there access to exposure / medical records?			
Postings - Is there an emergency action plan procedure?			
Process Safety Management - Does project have adequate safety training available for project works and visitors?			
Process Safety Management - Have we coordinated our safety plan with any specifics of [Client]?			
Reporting - Are incident investigation reports completed and retained?			
Reporting - Does safety complete the safety project monthly summary report?			
Reporting - Does safety complete the work injury report and distribute?			
Reporting - Does safety do monthly/weekly internal project reporting?			
Reporting - Does safety maintain the modified duty roster?			
Reporting - Does safety summarize the subcontractor monthly safety report?			
Reporting - Is first report of injury used on project?			
Safety and Health Resources - Are appropriate training videos complete?			
Safety and Health Resources - Are contractor approved safety procedures implemented?			
Safety and Health Resources - Are we in compliance with OSHA training requirements guide?			
Safety and Health Resources - Do we have a project specific HAZCOM safety procedure?			
Safety and Health Resources - Do we have copy of [Client] written safety procedures?			
Safety and Health Resources - Do we have copy of safety-training leader's guide on site?			
Safety Committees and Meetings - Are safety meeting minutes on file?			
Safety Committees and Meetings - Are toolbox safety meetings held on required basis?			
Safety Committees and Meetings - Does safety maintain records of toolbox meeting attendance and content?			
Safety Committees and Meetings - Does safety provide and/or prepare material for toolbox meetings?			
Safety Committees and Meetings - Have we formed rotating project craft safety and health committee? Committee does safety inspections			
Safety Committees and Meetings - Have we formed the project management safety review committee?			
Safety Discipline - Are the toolbox meetings the discipline supervisor's responsibility?			
Safety Inspection - Are hazard recognition tours done by inspectors?			
Safety Inspection - Are safety deficiencies tracked to completion?			
Safety Inspection - Are safety inspections briefed in management review meeting?			
Safety Inspection - Are weekly inspections documented using - deficiency and action			



EPC Master Checklist

safety tracking form?			
Safety Inspection - Does supervision conduct or participate in inspections?			
Substance Abuse - Does substance abuse policy address post employment?			
Substance Abuse - Does substance abuse policy address post incident?			
Substance Abuse - Does substance abuse policy address random drug testing?			
Substance Abuse - Does substance abuse policy contain a termination "for cause" clause?			
Substance Abuse - Is drug testing completed per policy?			

Safety Pre-Planning and Mobilization (TOC)

Issue	Responsibility/Comments	Date	Complete
Competent Persons - Does project require competent person for asbestos?			
Competent Persons - Does project require competent person for blasting?			
Competent Persons - Does project require competent person for cadmium?			
Competent Persons - Does project require competent person for concrete and masonry - lift slab operations?			
Competent Persons - Does project require competent person for confined spaces?			
Competent Persons - Does project require competent person for cranes, derricks and equipment?			
Competent Persons - Does project require competent person for demolition?			
Competent Persons - Does project require competent person for electrical (assured grounding)?			
Competent Persons - Does project require competent person for excavations?			
Competent Persons - Does project require competent person for f protection?			
Competent Persons - Does project require competent person for hearing protection?			
Competent Persons - Does project require competent person for ionizing radiation?			
Competent Persons - Does project require competent person for ladders and stairways?			
Competent Persons - Does project require competent person for lead?			
Competent Persons - Does project require competent person for material handling?			
Competent Persons - Does project require competent person for material hoists, personnel hoists and elevators?			
Competent Persons - Does project require competent person for respiratory protection?			
Competent Persons - Does project require competent person for scaffolds?			
Competent Persons - Does project require competent person for steel erection?			
Competent Persons - Does project require competent person for underground construction?			
Confined Space Entry - Are confined space entries being coordinating with [Client]?			
Confined Space Entry - Are harness and lifeline in place?			
Confined Space Entry - Are MSDS sheets obtained on contents of confined space?			
Confined Space Entry - Does confined space entry procedure state that only air-supplied tools are owed?			
Confined Space Entry - Does entrant and attendant receive specific training prior to work taking place?			
Confined Space Entry - Does project have lock/tag/try and isolation procedure from [Client]?			
Confined Space Entry - Does project have rescue equipment per specification in place?			
Confined Space Entry - Has confined space ventilation been assessed and is adequate?			
Confined Space Entry - Is tripod and winch set up used for vertical entry into confined space?			
Confined Space Entry - Who'll issue confined space entry permits?			
Confined Space Entry - Who'll make confined space safe before entry?			
Confined Space Entry - Will confined space use industrial hygiene monitoring?			
Cranes / Hoists - Are the heavy / critical lifts identified?			
Cranes / Hoists - Are there any requirements for certifications or load tests?			
Cranes / Hoists - Are there any requirements for lift plans from [Client]?			
Cranes / Hoists - Are there any requirements for lift plans from contractor?			
Cranes / Hoists - Is crane setup and swing load to maintain distance away from electrical power lines as specified in Cranes and Derricks Safety Procedure?			
Cranes / Hoists - What cranes will be required on site?			
Cranes / Hoists - Will project require annual certification of cranes and material hoists?			
Emergency Action - Are evacuation routes established?			
Emergency Action - Does project have emergency alarm system / codes?			
Emergency Action - Does project need escape respirators?			
Emergency Action - Have assembly areas been determined?			
ExcavationsAre [Client] permit requirements known?			
ExcavationsAre permit requirements in place?			
ExcavationsAre shoring / Sloping requirements known, and being adhered to?			
ExcavationsAre traffic detours used if excavation is next to road?			
ExcavationsDo adjacent structures need additional support?			
ExcavationsHas guardrail system been designed?			
ExcavationsHave local utilities been notified?			
ExcavationsIs safe access installed on excavations?			



EPC Master Checklist

Excavations Will the project need confined space requirements procedures in place for excavation?			
Hazard Assessment PPE - Is PPE required for dusts, vapor fumes and mists?			
Hazard Assessment PPE - Is PPE required for face and eye protection?			
Hazard Assessment PPE - Is PPE required for hard hats?			
Hazard Assessment PPE - Is PPE required for hearing protection?			
Hazard Assessment PPE - Is PPE required for protective clothing?			
Hazard Assessment PPE - Is PPE required for protective toe work boots?			
Hazard Assessment PPE - Is PPE required for radiation?			
Hazard Assessment PPE - Is PPE required for respirators?			
Hazard Assessment PPE - Is PPE required for rubber boots?			
Hazard Assessment PPE - Is PPE required for work gloves?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for benzene?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for cadmium?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for chlorine dioxide?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for chlorine?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for confined space?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for explosive atmosphere?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for hydrogen sulfide?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for metal fumes?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for noise level survey?			
Industrial Hygiene - Does project need Hygiene Monitoring equipment for sulfur dioxide?			
Medical Aid - Does project have first aid supplies adequate to support project personnel?			
Medical Aid - Does project require alcohol testing devices?			
Medical Aid - Does project require bench for reclining treatment?			
Medical Aid - Does project require Bloodborne pathogens kit?			
Medical Aid - Does project require controlled substances test kits and forms/			
Medical Aid - Does project require magnifying light for eye particle removal?			
Medical Aid - Is OSHA 300 Log completed as required?			
Medical Aid - Is project completing and retaining the work injury report?			
Medical Aid - Is project completing and retaining workers compensation first report or on line access?			
Medical Aid - Is project completing first report of injury forms ?			
Medical Aid - Is project using doctor report forms?			
Medical Aid - Is safety using material safety data sheets (MSDS)?			
Medical Surveillance - Does project need medical surveillance for audio metric testing?			
Medical Surveillance - Does project need medical surveillance for benzene?			
Medical Surveillance - Does project need medical surveillance for cadmium?			
Medical Surveillance - Does project need medical surveillance for lead abatement?			
Medical Surveillance - Does project need medical surveillance for respiratory protection?			
Office - Are permits coordinated with [Client]?			
Office - Can project layout drawing be used for evacuation poster?			
Office - Does project have adequate jobsite radios or other form of communication?			
Office - Does safety have contact information for [Client] personnel?			
Office - Does safety have contact information for ambulance service?			
Office - Does safety have contact information for dentists?			
Office - Does safety have contact information for physicians?			
Office - Does safety have contact information for project manager?			
Office - Does safety have contact information for project superintendent?			
Office - Does safety have contractor list and phone numbers, company safety management, hospital, fire department and risk management/legal?			
Office - Does safety have escalation list for emergency notification, OSHA, Police, 911 availability, worker's compensation coordinator and insurance certificate information?			
Office - Does safety office require computer with internet / intranet access?			
Office - Does safety office require contractor file system set up?			
Office - Does safety office require printer?			
Office - Does safety office require schedule?			
Openings - Are floor holes / openings covered?			
Openings - Are guardrail / toe boards installed?			
Openings - Is lifeline installed 6 feet back from edge if primary f?			
Other - Does project require designated eating areas?			
Other - Does project require designated parking locations?			
Other - Does project require designated smoking areas?			
Other - Does project require flammable material storage?			
Other - Does project require handicapped access?			
Other - Does project require hand-washing facilities?			
Other - Does project require listing of locations requiring special precautions?			



EPC Master Checklist

Other - Does project require tool trailer that has needed PPE?			
Other - Does project require vending machines and microwave ovens?			
Other - Does safety office require atmospheric monitor such as MSA Orion?			
Permits - Will project use permits for Cold / Safe Work?			
Permits - Will project use permits for Critical Lifts?			
Permits - Will project use permits for Equipment Isolation (Lockout / Tagout)?			
Permits - Will project use permits for Excavations?			
Permits - Will project use permits for Hot/Hazardous Work?			
Permits - Will project use permits for Line Break?			
Permits - Will project use permits for Scaffolding?			
Permits - Will project use permits for Vehicle Entry?			
Permits - Will project use permits for Vessel Entry (Confined Space)?			
PPE - Are escape respirators needed for project?			
PPE - Are full-face negative pressure respirators needed for project?			
PPE - Is half mask negative pressure respirator needed for project?			
PPE - Is Respiratory protection cascade system needed? Pressure demand w/5 minute escape pack			
PPE - Is SCBA 30 minute respirator needed for project? (rescue only)			
Safety Bulletin Board - Does project bulletin board post OSHA and State posters?			
Safety Bulletin Board - Does project bulletin board post required postings per safety procedures?			
Safety Bulletin Board - Does project bulletin board post Spanish language postings if required?			
Scaffolding - Are scaffold tags in place based on condition of scaffold?			
Scaffolding - Does scaffolding need engineering design and approval?			
Scaffolding - Has project assigned competent person to supervise erection, alternation and dismantling?			
Scaffolding - Is proper scaffold material used?			
Scaffolding - Who'll inst scaffolding?			
Scaffolding - Will project use ladder f protection? (greater than 24 feet high)			
Signage - Will project need signage for contractor safety banners?			
Signage - Will project need signage for emergency evacuation plan and assembly points?			
Signage - Will project need signage for safety policy?			
Signage - Will project need signage for safety signs and posters?			
Signage - Will project need signage for safety suggestion box and forms?			
Special Tools / Equipment - Will project need air movers / fans or other gas freeing equipment?			
Special Tools / Equipment - Will project need air operated tools or equipment?			
Special Tools / Equipment - Will project need explosion proof lighting?			
Special Tools / Equipment - Will project need gas-testing equipment?			
Special Tools / Equipment - Will project need non-sparking tools?			
Special Tools / Equipment - Will project need personal monitors?			
Special Tools / Equipment - Will project need radios – intrinsically safe?			
Structural Steel - Are temporary covers and/or guardrails being used for floor opening?			
Structural Steel - Has project planning prioritized assembly sequence with regard to stairways, grating, and guardrail systems?			
Structural Steel - Is project maximizing assembly on ground level?			
Structural Steel - We project use horizontal lifelines?			
Structural Steel - Will overhead work area be posted/barricaded with perimeter guardrails?			
Structural Steel - Will project employ retractable lifelines?			
Structural Steel - Will project make use of toe boards?			
Structural Steel - Will project mark incomplete structure or restrict access?			
Training - Does safety need chairs for training?			
Training - Does safety need orientation video – English?			
Training - Does safety need orientation video Spanish?			
Training - Does safety need site-specific training / orientation?			
Training - Does safety need subcontractor orientation?			
Training - Does safety need tables for training?			
Training - Does safety need training facility with adequate capacity?			
Training - Does safety need training materials (English and Spanish)?			
Training - Does safety need TV/VCR and /or DVD?			
Utilities - Will [Client] supply Air?			
Utilities - Will [Client] supply electricity?			
Utilities - Will [Client] supply potable water?			
Utilities - Will [Client] supply Sanitary Facilities?			
Utilities - Will contractor supply Air?			
Utilities - Will contractor supply electricity?			
Utilities - Will contractor supply potable water?			
Utilities - Will contractor supply Sanitary Facilities?			



EPC Master Checklist

Scope Definition – Contract / Support Services (TOC)

Issue	Responsibility/Comments	Date	Complete
Contract - Is contract a guaranteed maximum?			
Contract - Is contract an evergreen agreement?			
Contract - Is contract cost plus fixed fee?			
Contract - Is contract EPC?			
Contract - Is contract lump sum?			
Contract - Is contract time and expenses?			
Does scope include contingency analysis?			
Does scope include estimate - budget estimate + or – 10%?			
Does scope include estimate - control estimate + or – 5 %?			
Does scope include estimate - current equipment and material required needed for estimate?			
Does scope include estimate - factored estimate?			
Does scope include estimate - material takeoff needed for estimate?			
Does scope include estimate - order of magnitude estimate + or – 25%?			
Does scope include estimating and cost control – [Client]'s special code of account features?			
Does scope include estimating and cost control – report and format requirements?			
Does scope include expediting requirements – engineering information?			
Does scope include expediting requirements equipment delivery?			
Does scope include integrated EPC schedule?			
Does scope include procurement – spare parts strategy?			
Does scope include procurement schedule?			
Does scope include procurements reports and formats?			
Does scope include proposal schedule?			
Does scope include purchase order issuance responsibilities?			
Does scope include purchase order tracking, log responsibilities?			
Does scope include QA/QC inspection requirements supplier shop inspections?			
Does scope include QA/QC site inspections?			
Does scope include quantity tracking?			
Does scope include re-estimates?			
Does scope include schedule level I?			
Does scope include schedule level II?			
Does scope include schedule level III?			
Does scope include schedule level IV?			
Does scope include schedule of payments?			
Does scope include schedule software and report formats customized or special?			
Does scope include shutdown / tie ins?			
Does scope include spending curves, cash flow?			

Scope Definition – Detail Engineering (TOC)

Issue	Responsibility/Comments	Date	Complete
C/S/A - Does scope include architectural elevations?			
C/S/A - Does scope include architectural plans?			
C/S/A - Does scope include architectural sections and details?			
C/S/A - Does scope include auxiliary pipe support steel?			
C/S/A - Does scope include bill of materials?			
C/S/A - Does scope include calculations?			
C/S/A - Does scope include civil drainage?			
C/S/A - Does scope include civil excavations?			
C/S/A - Does scope include civil pilings?			
C/S/A - Does scope include civil plot plans?			
C/S/A - Does scope include civil topographic?			
C/S/A - Does scope include concrete structure?			
C/S/A - Does scope include demolition drawings?			
C/S/A - Does scope include design standards?			
C/S/A - Does scope include elevated concrete slab?			
C/S/A - Does scope include existing drawing revisions?			
C/S/A - Does scope include miscellaneous steel?			
C/S/A - Does scope include shutdown tie-in drawings?			
C/S/A - Does scope include sketches?			
C/S/A - Does scope include slab on grade?			
C/S/A - Does scope include specifications?			
C/S/A - Does scope include startup assistance?			
C/S/A - Does scope include structural foundations?			
C/S/A - Does scope include structural steel?			
C/S/A - Does scope include subcontract package preparation?			
Mechanical - Does scope include elevation details?			
Mechanical - Does scope include fire protection system design?			
Mechanical - Does scope include general arrangements?			
Mechanical - Does scope include HVAC system design?			
Mechanical - Does scope include isometrics?			
Mechanical - Does scope include mechanical details?			

EPC Master Checklist

Mechanical - Does scope include pipe support loading plans?			
Mechanical - Does scope include piping plans?			
Mechanical - Does scope include piping sections and details?			
Mechanical - Does scope include plot plan / key plan?			
Mechanical - Does scope include plumbing?			
Mechanical - Does scope include stress analysis?			
Power/Controls - Does scope include as built drawings?			
Power/Controls - Does scope include automation?			
Power/Controls - Does scope include control panel arrangement, detail and next loading?			
Power/Controls - Does scope include control system staging?			
Power/Controls - Does scope include DCS configuration input?			
Power/Controls - Does scope include DCS control design?			
Power/Controls - Does scope include DCS CRT display design?			
Power/Controls - Does scope include DCS/PLC point build?			
Power/Controls - Does scope include DCS/PLC system architecture?			
Power/Controls - Does scope include device specification?			
Power/Controls - Does scope include electrical area classifications?			
Power/Controls - Does scope include elementary diagram?			
Power/Controls - Does scope include equipment list?			
Power/Controls - Does scope include installation details – non-standard?			
Power/Controls - Does scope include installation details – standard?			
Power/Controls - Does scope include instrument index?			
Power/Controls - Does scope include interconnection diagram?			
Power/Controls - Does scope include interlock diagram / logic diagrams?			
Power/Controls - Does scope include lighting, ground and communications?			
Power/Controls - Does scope include logic control diagram (LCD)?			
Power/Controls - Does scope include loop diagram?			
Power/Controls - Does scope include material control / takeoff?			
Power/Controls - Does scope include networking?			
Power/Controls - Does scope include PLC programming?			
Power/Controls - Does scope include PLC system design?			
Power/Controls - Does scope include power distribution and pole lines?			
Power/Controls - Does scope include power plan?			
Power/Controls - Does scope include process control diagram (PCD)?			
Power/Controls - Does scope include short circuit / load studies, device coordination?			
Power/Controls - Does scope include single line diagram?			
Power/Controls - Does scope include specifications?			
Power/Controls - Does scope include startup assistance?			
Power/Controls - Does scope include subcontract package preparation?			
Power/Controls - Does scope include supplier data – review / approval?			
Power/Controls - Does scope include training support?			
Process - Does scope include flow diagrams?			
Process - Does scope include instrument list?			
Process - Does scope include line list?			
Process - Does scope include P&ID's?			
Process - Does scope include pump calculations?			
Process - Does scope include tie-in list?			
Process - Does scope include utility diagrams?			
Project Mgt. - Does scope include administration?			
Project Mgt. - Does scope include approval of supplier drawings?			
Project Mgt. - Does scope include as-builts?			
Project Mgt. - Does scope include bid evaluations / recommendations?			
Project Mgt. - Does scope include checkout and startup assistance?			
Project Mgt. - Does scope include constructability reviews?			
Project Mgt. - Does scope include contractor project procedures?			
Project Mgt. - Does scope include design criteria?			
Project Mgt. - Does scope include equipment layouts?			
Project Mgt. - Does scope include equipment specifications?			
Project Mgt. - Does scope include estimating assistance?			
Project Mgt. - Does scope include field support during construction?			
Project Mgt. - Does scope include flowsheets?			
Project Mgt. - Does scope include mass and energy balances?			
Project Mgt. - Does scope include monthly reporting?			
Project Mgt. - Does scope include operating / checkout manuals?			
Project Mgt. - Does scope include P&ID reviews?			
Project Mgt. - Does scope include process calculations?			
Project Mgt. - Does scope include project quality plan – steps – 3rd party review and inspection?			
Project Mgt. - Does scope include project safety procedures – steps?			
Project Mgt. - Does scope include purchase requisition preparation?			
Project Mgt. - Does scope include purchasing and supplier meetings?			
Project Mgt. - Does scope include quality reviews – 3rd party / suppliers?			
Project Mgt. - Does scope include review of design drawings?			
Project Mgt. - Does scope include safety reviews?			
Project Mgt. - Does scope include scope write-ups?			



EPC Master Checklist

Project Mgt. - Does scope include staff/process engineering?			
Project Mgt. - Does scope include startup assistance?			
Project Mgt. - Does scope include studies?			
Project Mgt. - Does scope include weekly reporting?			
Project Mgt. - Does scope include workhour estimate / projections?			

Scope Definition - Scoping (TOC)

Issue	Responsibility/Comments	Date	Complete
C/S/A - Does scope include basic specifications (letter of formal)?			
C/S/A - Does scope include demolition and relocations?			
C/S/A - Does scope include design criteria?			
C/S/A - Does scope include detail engineering workhour estimate?			
C/S/A - Does scope include existing undergrounds?			
C/S/A - Does scope include future expansion plans?			
C/S/A - Does scope include permit support?			
C/S/A - Does scope include preliminary design sketches?			
C/S/A - Does scope include preliminary geotechnical investigations?			
C/S/A - Does scope include scope write-ups?			
C/S/A - Does scope include site plans?			
C/S/A - Does scope include site utility interface points?			
C/S/A - Does scope include tie-in list?			
C/S/A - Does scope include topographic surveys?			
Electronic Communications - Does scope include detail engineering workhour estimate?			
Electronic Communications - Does scope include drawings?			
Electronic Communications - Does scope include electrical lists?			
Electronic Communications - Does scope include email - internet?			
Electronic Communications - Does scope include equipment list?			
Electronic Communications - Does scope include instrument list?			
Electronic Communications - Does scope include piping lists?			
Electronic Communications - Does scope include project milestone dates?			
Electronic Communications - Does scope include reports?			
Electronic Communications - Does scope include specifications?			
Electronic Communications - Does scope include study report / format?			
Electronic Communications - Does scope include training concept?			
Electronic Communications - Does scope include travel policy?			
General - Does scope include [Client] supplied studies, reports, data, etc.?			
General - Does scope include [Client]'s special requirements (confidentiality, etc.)?			
General - Does scope include basic engineering?			
General - Does scope include environmental constraints and permitting?			
General - Does scope include geographic requirements (Louisiana rule 1, dib rules, enterprise zones, etc.)?			
General - Does scope include preliminary plot plan(s)?			
General - Does scope include preliminary process block diagram(s)?			
General - Does scope include preliminary site layout(s)?			
General - Does scope include production capacity / rates / margins / factors?			
General - Does scope include project criteria?			
General - Does scope include project management?			
General - Does scope include raw product requirements?			
General - Does scope include site and community restraints?			
General - Does scope include site selection?			
Mechanical - Does scope include basic specifications (letter of formal)?			
Mechanical - Does scope include demolition and relocations?			
Mechanical - Does scope include design criteria?			
Mechanical - Does scope include existing undergrounds?			
Mechanical - Does scope include future expansion plans?			
Mechanical - Does scope include plot plans?			
Mechanical - Does scope include preliminary major routing sketches?			
Mechanical - Does scope include scope write-ups?			
Mechanical - Does scope include site utility interface points?			
Mechanical - Does scope include startup assistance?			
Power and Controls - Does scope include auxiliary power requirements?			
Power and Controls - Does scope include basic specifications (letter of formal)?			
Power/Controls - Does scope include demolition and relocations?			
Power/Controls - Does scope include design criteria?			
Power/Controls - Does scope include detail engineering workhour estimate?			
Power/Controls - Does scope include existing undergrounds?			
Power/Controls - Does scope include future expansion plans?			
Power/Controls - Does scope include permit support?			
Power/Controls - Does scope include preliminary electrical single line diagrams?			
Power/Controls - Does scope include scope write-ups?			
Power/Controls - Does scope include site power plans?			
Power/Controls - Does scope include site utility interface points?			
Power/Controls - Does scope include tie-in list?			
Process - Does scope include detail engineering workhour estimate?			



EPC Master Checklist

Process - Does scope include detail engineering?			
Process - Does scope include energy balances?			
Process - Does scope include equipment list (define pricing basis)?			
Process - Does scope include flow diagrams?			
Process - Does scope include general arrangements?			
Process - Does scope include inquiry requisition preparation?			
Process - Does scope include major equipment specifications (letter or formal)?			
Process - Does scope include mass balances?			
Process - Does scope include performance parameters for major equipment?			
Process - Does scope include permit support?			
Process - Does scope include process block diagrams?			
Process - Does scope include production control concept (MS)?			
Process - Does scope include scope write-ups?			
Process - Does scope include supplier preferences (bidders list)?			
Process - Does scope include tie-in list?			
Process - Does scope include workhour estimate?			
Specifications - Does scope include 2D CAD (Microstation, AutoCAD, other)?			
Specifications - Does scope include 3D CAD?			
Specifications - Does scope include construction?			
Specifications - Does scope include engineering safety approach (HAZOP, PSM)?			
Specifications - Does scope include equipment?			
Specifications - Does scope include existing drawings status – accuracy / up to date?			
Specifications - Does scope include materials?			
Specifications - Does scope include numbering systems?			
Specifications - Does scope include photogrammetry (as built data)?			

Services (TOC)

Issue	Responsibility/Comments	Date	Complete
Are business cards for staff ordered?			
Are project stationery and envelopes ordered?			
Are the computer requirements developed and implemented?			
Are the project sign requirements established?			
Are visitor registers and passes procured?			
Is a person assigned for project photos?			
Is a post office box set up?			
Is an address listing formulated and issued on a monthly basis?			
Is an Emergency Telephone List developed?			
Is an organizational chart for service group developed?			
Is camera pass procedure developed and implemented?			
Is removal of project computer equipment arranged for?			
Is there a pest control contract issued and active?			
Is there anywhere locally that you can buy used office furniture?			
Is there telephone accessibility for craft personnel?			
What are the closest airport facilities and major airlines?			
What are the receptionist's hours?			
Who provides security on the project?			
Who'll handle mail run needs?			
Will a contract be issued for janitorial services?			
Will a travel agency be used?			
Will there be temporary living quarters set up?			

Siding (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are downspouts installed plumb, without excessive lateral or angled joints, unless indicated or if required to conduct drainage?			
Are edge metal laps coated with required cement on horizontal flange and vertical rise? Does coating cover entire lap and is sandwiched between or as otherwise specified?			
Are Expansion joints installed per specification?			
Are expansion joints, concealed or standing, installed midway between outlets or downspouts or per specification?			
Are gravel stops flush with deck unless otherwise required?			
Are gutters adequately supported and allow for movement, per specification?			
Are gutters pitched where required and provide for drainage to outlets?			
Are hangers or straps installed per specification?			
Are isolation provisions made for dissimilar metals?			
Are joints sealed and caulked neatly and professionally?			
Are lengths as long as practicable and in accordance with specifications?			
Are locations for flashing fabrication and design understood?			
Are paint color schemes approved and does interior color match structural paint colors?			
Are reglets installed in required areas?			
Are scuppers properly installed?			

EPC Master Checklist

Are seams lapped, locked, and soldered per specification?			
Are sheet metal termite shields installed per specification?			
Are side girts and shell supports straight, level and plumb?			
Are skylights, roof hatches, and fans suited for installation with or without flashing or per specification?			
Are slip joints installed in the direction of flow or allowance for movement per specification?			
Are special items furnished; heads, scuppers, linings, etc. on site?			
Are there any architectural finishes which will hold up siding contractor? Example: store fronts			
Are there any installation restraints?			
Are we installing using the proper cap flashing in shapes, sizes, and gauges required provide secure anchorage, allow movement, and have sufficient laps and spacing, per specification?			
Can siding be repaired or repainted if damaged?			
Do louvers have adequate flanges and connections and are watertight against driving rains after installation?			
Do sill flashing and pans extend full depth, are turned up, and extend beyond horns?			
Does [Client] want any extra material ordered for replacements?			
Does base flashing extend up sufficiently?			
Does cap flashing extend per specification into masonry walls or into reglet and is securely anchored?			
Does siding contractor replace temporary protection?			
Does siding installation schedule support project dry-in schedule?			
Does siding meet fire code restrictions?			
Have we reviewed drawings and specifications for sheet metal items called for on one and not the other?			
How do intersecting walls tie into siding?			
How does siding seal to roof for permanent weather roofing?			
Is a temporary opening required with remobilization for closure?			
Is agency inspection complete?			
Is edge metal lapped a minimum of 4 inches with 12 inches staggered nailing or fastening through the back flange unless otherwise required?			
Is flashing embedded in roof membrane assembly and additional strip plies of mopped felt are installed, per specification?			
Is flashing installed to suit conditions: cant, size, gauge, and fabrication?			
Is hip and ridge flashing installed per specification?			
Is inner flange applied over felt, lapped, set with polyisobutylene tape, and properly nailed?			
Is installation of sheet metal into reglets tight, weather proof, proper caulking and lap?			
Is material of approved type, shape, gauge, metal, fabrication, priming, etc., per specification?			
Is method of anchoring lower edge of fascia per specification?			
Is nailer or cant strip installed for fastening flashing to roof deck; is of proper material, secured, and allows venting if specified?			
Is plastic flashing installed per specification?			
Is secure anchorage installed for size, spacing, and fixing of cleats or other equipment mountings, per specification?			
Is sequence and schedule approved?			
Is stepped flashing installed per specification?			
Is there any special architectural finishes on the corners?			
Is vey flashing installed per specification?			
Verify that contact is not made with wall surfaces except for supports, unless otherwise specified?			
Verify that downspouts terminate in drainage lines are neatly fitted and cleaned, and free of building debris or other materials?			
Verify that flashing does not interfere with structural requirements?			
Verify that gutter joints are lapped in direction of flow?			
What are installation tolerances for alignment?			
What shimming is siding erector responsible for, alignment?			
What type siding is used?			
What warranty is required? Is it in the documents?			
What's delivery duration for material?			
Where is material manufactured?			
Which comes first, the siding or the roofing?			
Who does the cap flashing?			
Who'll do the gravel stop?			
Will siding support any loads, such as lights, signs, etc.?			

Startup and Commissioning (TOC)

Issue	Responsibility/Comments	Date	Complete
Are locks and tags procured?			
Are O&M manuals on site?			
Are requirements defined for startup / commissioning?			
Are requirements defined for turnover?			
Are requirements for Care and Custody or "Turnover" complete?			



EPC Master Checklist

Are safety equipment, flashlights, and safety belts available to startup team?			
Are special testing requirements procured?			
Are the requirements for each system well defined?			
Are Turnover items identified in the schedule with System Custody Turnover listed as a milestone?			
Are Turnover items identified in the schedule with System Custody Turnover listed as a milestone?			
Are turnover package issues complete and resubmitted for approval?			
Are vendor representatives scheduled?			
Are we receiving and maintaining documentation chronologically by type?			
Are we starting punch out of facilities at earliest date possible? Process engineers must be involved?			
Are we tracking mechanical completion for each system?			
Can [Client] provide key plant Electrical and Instrumentation maintenance and operation personnel during E&I checkout and start-up planning?			
Do startup and commissioning review, coordination and update meetings have involvement of [Client] plant personnel?			
Do the contractual terms differ with regard to normal contractor care, custody and control procedures?			
Do we have a hydro and flushing plan?			
Do we have a mechanical labor management QA plan?			
Do we have a piping labor management QA plan?			
Do we have a sample Turnover package approved?			
Do we have an electrical labor management QA plan?			
Do we have an electrical QA/QC documentation matrix?			
Do we have chemical cleaning requirements?			
Do we have discipline labor management plan for turnover?			
Do we have functional loops verified?			
Do we have insulation labor plan?			
Do we have minimum pressurizing temperatures for hydro testing?			
Do we have verification of motor run ins?			
Does contract define which drawings will be As Built?			
Does project have a flushing plan that is coordinated with Plant operations?			
Does project have a turnover package matrix by system that defines [Client] expectations?			
Does project have Turnover package requirements verified with [Client] approval?			
Does schedule support defining turnover system, system parameters and turnover package content within 30 days of the completion of P&ID's?			
Does startup system status agree with productivity?			
Does startup team have electronic cable schedule and instrument list?			
Does startup team have electronic line list and valve list?			
Has meeting been scheduled by discipline to review P&ID documents with entire startup team for finite understanding of requirements and system parameters?			
Has startup leader reviewed contractual documents?			
Has startup team reviewed system boundaries?			
Has the project completed an Interface Chart depicting roles and responsibilities of engineering, construction, startup team and [Client]?			
Have final systems sequences been worked backward into the initial planning?			
Have turnover document requirements been finalized and approved by [Client]?			
Have we completed the mark up of P&ID's and electrical single line drawings?			
Have we completely defined "mechanical completion requirements"			
Have we completely defined "turnover" package content?			
Have we confirmed system boundaries are set and isolation valves are installed in appropriate locations?			
Have we created a foundation/slab list with system designations?			
Have we created a sample turnover package and get [Client] comments?			
Have we determined if design documents align with commissioning philosophy?			
Have we developed Commissioning System Boundaries early and assigned piping line numbers, power circuits, instruments and Panel I/O to Commissioning systems boundaries?			
Have we incorporate startup document requirements into QA plans?			
Have we incorporated Turnover dates into schedule and added schedule link?			
Is civil turnover required by system?			
Is commission and startup procedure approved?			
Is Concrete labor management part of QA plan?			
Is construction on system complete?			
Is construction testing complete for system turnover?			
Is construction testing complete?			
Is it understood there will be only one punchlist used by construction to track system completion requirements?			
Is mechanical completion defined for each discipline?			
Is mechanical completion defined?			
Is plumbing testing scheduled before the construction of masonry walls?			
Is project going to use "SWAT TEAM" approach for the completion of punchlist?			
Is sequence of operation understood?			
Is startup sequence established?			
Is there a detailed system walk down process that is approved by [Client]?			



EPC Master Checklist

Is there a need to dispose of special cleaning solvents and or chemicals?			
Is there a startup subcontract administration plan?			
Is there an early turnover requirement listing, established by [Client]?			
Is there an over test plan in order to coordinate phases of the facility testing?			
Is turnover status report distributed per requirements?			
Verify motor rotation is correct?			
What are [Client] requirements for master sets of data after startup and turnover?			
What regularity are we using for startup / construction coordination meetings?			
What's water source for hydro testing?			
When will the project-integrated schedule include the details of the start-up schedule?			
Where is water to be disposed of?			
Who has verified that the design documents support [Client] required turnover documents?			
Who has verified the availability of required Spare Parts needed during startup and commissioning?			
Who'll run the project through dynamic testing of systems?			
Who'll run the project through static testing of systems?			
Who'll verify that the start-up team is aware of the project goals?			
Who's responsible establishing guidelines for determining when the plant is ready for testing?			
Who's responsible for assimilating the temporary power requirements needed for checkout and start-up if permanent power is not available?			
Who's responsible for calibration and run-in?			
Who's responsible for determining extra sets of gaskets needed during startup and commissioning?			
Who's responsible for determining the "first fill" of lubricants required to support startup and commissioning?			
Who's responsible for developing the test procedures?			
Who's responsible for ensuring test procedures are followed without exception?			
Who's responsible for expediting missing documentation?			
Who's responsible for identifying Vendor Start-Up and Site Acceptance Testing support and procure appropriate resources, duration and number of mobilizations?			
Who's responsible for resolving [Client] disputes over commissioning, start-up and performance testing issues?			
Who's responsible for the marking of P&ID's for proper system startup?			
Who's responsible to verify slide-gate valve bolts are re-tightened after startup?			
Will plant be turned over by system?			
Will the project use directional ultra sonic detector to pinpoint leaks? This will expedite hydro testing.			
Will the project utilize a pre-commissioning team?			
Will we have two sets of P&IDs during construction?			

Structural – Pre Fabricated Structural Wood (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions complete?			
Are cuts sealed per specification?			
Are fastening and connections installed per specification?			
Are field splices and connections verified for correctness?			
Are metal end fittings furnished and fitted by fabricator of structural laminated timber?			
Are type, species, grade and finish as specified?			
Has unscheduled drilling or notching been verified?			
Is bracing schedule per specification?			
Is cutting, notching, drilling and fitting performed in a workmanlike manner?			
Is exposed work is protected per specification?			
Is material properly handled and suitably stored and protected?			
Is proper adhesive is used for exterior exposure?			
Is protective covering is installed?			
Is testing laboratory and inspection report completed before erection?			

Structural Steel (TOC)

Issue	Responsibility/Comments	Date	Complete
Are anchor bolts verified and accepted?			
Are anchor bolts, nuts and washers acceptable?			
Are attachment locations correct?			
Are attachments correctly installed/located?			
Are banding and kick plates installed at holes in grating?			
Are bearing plates installed correctly?			
Are boltholes punched/drilled (not torch cut)?			
Are bolts installed?			
Are burrs and sharp edges removed?			
Are connection surfaces left unpainted?			
Are details clear for roof openings and are identified?			
Are dimensions within tolerances?			
Are elevations/dimensions of installed steel within tolerances?			

EPC Master Checklist

Are faying surfaces of members masked prior to release for paint?			
Are faying surfaces of members verified prior to joint assembly?			
Are framed openings in steel package?			
Are grating clips installed?			
Are hardness tests accepted?			
Are joints properly tensioned/tightened?			
Are material test reports verified?			
Are members installed?			
Are mis-drilled/mislocated holes repaired?			
Are NDE of field welds accepted?			
Are number, location, and size of boltholes correct?			
Are piece numbers/ID members applied/intact?			
Are pipe supports in steel package?			
Are platforms, ladders, and handrails accepted?			
Are proper fasteners installed and acceptable?			
Are safety nets required?			
Are schedule dates confirmed and agreed to?			
Are structural bolts paid for separately or as tons of steel?			
Are structural components checked for straightness prior to erection?			
Are subassemblies members square and level?			
Are the crane operators certified?			
Are there any earthwork or underground construction restrictions?			
Are there any special steel sequences, such as that for elevators, monorails, equipment support steel etc.?			
Are toe plates and handrails completed and acceptable?			
Are torqued bolts marked properly?			
Are unit prices established?			
Are unit rates for extras established?			
Are unit rates for sub contractors broken down between material and labor?			
Are warning beacons required on the cranes or the steel structure?			
Are weep holes installed in checkered plate flooring?			
Are welder qualifications acceptable?			
Are welders and welding operators qualified?			
Are welding procedures approved?			
Can field connections be made outside of fireproofing?			
Do requirements for steel erection including flooring, safety nets, bolting, riveting, fitting up and plumbing up meet standards?			
Does steel sequence allow for proper concrete cure time?			
Does subcontractor realize safety guidelines?			
Has design detailed High Bay Steel in a manner that allows fabrication of roof system at grounded level?			
Has design indicated location of platform utility station locations to assure conduit and steam line awareness?			
Has design minimized or eliminated the use of through-web beam connection?			
Has design minimized the use of boxed-in connections?			
How are connection bolts, nuts, etc., controlled?			
How are connections tested?			
How will expediting of shop drawings be handled?			
How will plumbness be checked and what are the tolerances?			
How will shop approval drawings be approved?			
If building is to have siding what is tolerance of the sheet, girt alignment?			
If erection is subcontracted, will contractor pay for material fabricated but not installed?			
Is [Client] approval received prior to any splicing, temporary boltholes or repair of warped steel members prior to performing activity?			
Is correct bolting/washer materials and joint bolt/washer make-up correct?			
Is fabricator's paint area exposed to weather?			
Is final visual examination of completed welds satisfactory?			
Is foundation released for installation of steel?			
Is grating, deck plate supported, banded, secured and aligned?			
Is grounding complete?			
Is grouting complete without voids?			
Is location, orientation, configuration of installed steel members correct?			
Is NDE acceptable? (MT, PT, RT)			
Is orientation correct?			
Is plumbness verified?			
Is prime coat compatible with finish coat?			
Is responsibility for galvanizing structural and miscellaneous steel specified in design and contract documents?			
Is rigging removed?			
Is steel primed, painted or galvanized?			
Is steel properly sequenced?			
Is steel received and shook out prior to installation?			
Is stock material primed or raw?			
Is structural steel design and delivery sequence construction driven?			
Is structural steel fabricator supplying the miscellaneous items such as frames for louvers, vents, HVAC supports, clips, etc. that are shown on Architectural drawings			



EPC Master Checklist

and not on Civil/Structural drawings?			
Is structure plumb, level and square within tolerances?			
Is there any leave out steel and has it clearly defined?			
Is touch up covered in the bid documents?			
Is touch up paint completed and acceptable?			
Is visual examination of welding accepted?			
Is welding procedure for galvanized materials approved?			
What days is steel delivered?			
What kind of equipment is needed for major lifts?			
What protection is given to painted steel when being shipped?			
What type of back up is required by [Client] for payment?			
What's the definition of proper handling, cleanliness and paint displacement?			
What's torquing method to be used?			
When do handrails go up and what protection is used?			
Where is steel fabricated and will shop inspections be made?			
Who does the erectors crane inspection?			
Who establishes elevations for the setting of base plates?			
Who expedites bar joist, bent plate for roofs and frames for masonry?			
Who grouts and shims base plates?			
Who grouts base plates?			
Who installs leave out steel?			
Who provides anchor bolts and base plates?			
Who provides sleeves for handrails and abrasive nosings?			
Who provides, installs, maintains and removes safety cables?			
Who verifies the receiving, shake out and erection progress and tie back into progress report?			
Who'll check sequence in shop, both drawings and fabrication?			
Who'll do metal decking and what is acceptable fastening system?			
Who's responsible for anchor bolt fabrication, installation and location accuracy?			
Who's responsible for erection equipment sequence?			
Who's responsible for temporary erection stability?			
Who's responsible for weld inspection and cleaning painting of associated thickness?			
Will girts be removed for elevated slab pours?			
Will subcontractor off load and handle steel, how close must his lay down area be to his work?			
Will the steel be fabricated without paint, with primer or with finish coat of paint and/or galvanized?			
Will there be an assigned shop inspector - expeditor?			
Will there be any use for stainless steel or galvanized items on the site?			

Temporary Facilities (TOC)

Issue	Responsibility/Comments	Date	Complete
Are arrangements made for temporary security?			
Are construction work areas and laydown areas clearly defined?			
Are temporary offices arranged for?			
Are temporary phone systems arranged?			
Are there any existing buildings available for construction use as temporary facilities?			
Are we able to use sea vans or seatrains, with preinstalled shelving, benches, lights and HVAC for satellite tool rooms, mini warehouses and changing rooms?			
Are we hanging temporary lighting fixtures and cabling clear of structural steel that receives sprayed on Fire Proofing or in a way that allows for easy non-disruptive removal?			
Are we maximizing the use of permanent power system equipment during construction to reduce costs? .			
Are we using manufactured items in lieu of field-fabricated items? Examples are: Toilet trailers, Shelving systems, Knockdown temporary buildings, Power distribution panels, Print shacks and gang boxes?			
Are we using prefabricated temporary construction power units?			
Are we using prefabricated trailers for Construction "Site" Offices?			
Are we using single contractor to maintain construction roads?			
Are we using twist lock plugs on for temporary service?			
Do we have a plan for providing clean, dry air for the checkout of pneumatic controls?			
Do we have adequate bins and shelving for the storage of items such as fittings and small valves?			
Do we have construction office plan?			
Do we have sensitive electrical and instrumentation items stored in a controlled atmosphere?			
Does [Client] have mobile radios they want us to use?			
Does [Client] need office space in contractor office complex?			
Does design schedule support early installation of sanitary sewer system minimize use of chemical toilets?			
Does fabrication shop have adequate safe power?			
Has a safety representative verified that ground fault protection is installed on temporary power installations?			
Has an IT network system been developed and ready for deployment? Including: computer system, telephone systems, servers, email and copying systems.			



EPC Master Checklist

Has temporary power plan been completed?			
Has the project considered using pre-engineered metal structures or modular prefabricated construction for out buildings and warehouse?			
Have field sanitary facilities plans been developed? Who's responsible?			
Have temporary power requirements be reviewed with design, construction and [Client]?			
Have the requirements for Safety Facility been completed?			
Have warehousing requirements been established with regard to temporary facilities?			
Have we considered the use of Sea Containers for satellite fabrication shops complete with tools and equipment?			
Have we defined any permanent system equipment that can be used for temporary power?			
Have we determined whether any of the permanent facilities can be made available during construction?			
Have we established the requirements for subcontractors Office Trailer Area?			
Have we laid out the Fabrication Shop with the entire fabrication process in mind to maximize efficiency?			
Have we maximized site layouts to promote efficient construction?			
Have we provided centrally located "engineered" oxygen/acetylene bottle storage racks?			
Have we provided isolated 'clean' power for Hygienic Welding Machines?			
If it is an existing site, are there sanitary facilities at the jobsite?			
If there is a sewer line available, can contractor use septic tanks or must we use chemical toilets or both?			
Is a temporary lighting plan developed and laid out?			
Is electricity available for construction purpose?			
Is fabrication shop outfitted with proper and sufficient tools and equipment?			
Is field office layout or trailer complex completed?			
Is onsite fabrication shop adequately supplied with tools and equipment?			
Is project routing temporary power along routes least likely to be excavated during construction?			
Is proper amount of water available for construction purposes? What's the source, the GPM and pressure?			
Is responsibility for temporary facilities clearly defined?			
Is service for potable water developed?			
Is supply of drinking water known? Is it a well, city water or country water?			
Is telephone service provided?			
Is temporary furniture arranged for?			
Provide racks for storing small pipe, conduit and miscellaneous steel shapes.			
Verify that there is enough temporary power available for checkout and startup?			
What are requirements for Welder Testing?			
Who furnishes and maintains sanitary facilities?			
Who furnishes potable water?			
Who furnishes temporary electrical?			
Who provides trailers on the project?			
Who'll furnish the construction parking area?			
Who'll inst, maintain and remove temporary construction walls and ceilings?			
Who'll maintain the construction parking area?			
Will design and installation of permanent fencing be early enough to use for construction?			
Will design develop an approved slurry mix of sand and cement to facilitate backfill around congested areas?			
Will design release schedule and installation schedule allow us to maximize the use of permanent piping systems for temporary services?			
Will our laydown area have a suitable working surface such as gravel, adequate drainage and sufficient dunnage?			
Will project require an installation for Rigging Testing?			
Will project require the installation of a Carpenter Shop?			
Will project require the installation of a Laydown Area?			
Will project require the installation of a Medical Facility?			
Will project require the installation of a Parking Lot or multiple Parking Lots?			
Will project require the installation of Fabrication and Metal Shops?			
Will project require the installation of Lunch Tents?			
Will project require the installation of On Site testing labs?			
Will project require the installation of Portable Toilets?			
Will project require the installation of Resource Camps?			
Will project use temporary power during installation of underground utilities to reduce exposure to construction equipment?			
Will temporary roads become permanent?			
Will the project pre-engineered buildings transfer to [Client] operations or maintenance?			
Will the project require off-site remote parking with busing to and from entry points?			
Will the project use mobile light plants to provide or supplement area lighting during construction?			
Will we have a tie in to electrical power?			
Will we have a tie in to potable water?			
Will we have a tie in to the sanitary lines?			



EPC Master Checklist

Underground Utilities (TOC)

Issue	Responsibility/Comments	Date	Complete
Are conduit connections made tightly?			
Are conduit seals installed in accordance with drawings?			
Are conduits free of stoppages, grout and leakage?			
Are elevations set for PIV's and hydrants?			
Are field bend radius correct per drawings and specification – bends are free of deformities?			
Are field changes documented on as-built drawings?			
Are locations and elevations known for manholes?			
Are pipe caps on ends?			
Are reinforcing bars installed when specified?			
Are rigid steel elbows used for stub-ups, including PVC Runs?			
Are soils test to verify material selections required?			
Are stub-up concrete encasements correct?			
Are stub-up dimensions and locations correct?			
Are the conduit size, type and location verified for conformance to specifications and drawings?			
Are trench forms free of debris?			
Does design and installation schedule for piping, grounding, duct banks and ductwork support installation during site work and foundation phase of the project?			
Have we considered the use of fiberglass ground wells rather than the clay pipe?			
Have we reviewed underground utilities to make certain that we have eliminate or minimized the routing of water lines over underground cable?			
Is backfill and compaction correct?			
Is cast iron soil pipe supported per specification?			
Is cathodic protection required?			
Is concrete color in accordance with specifications?			
Is concrete coverage adequate, spaces not left exposed?			
Is conduit sloped to drain into manholes?			
Is minimum concrete coverage in accordance with specifications on sides of conduits?			
Is trench verified for conflicts with other underground construction?			
Is trenching verified for location, elevation and forming?			
What are backfill requirements in ditches?			
What type of material is used for underground?			
What's required regarding underground inspection and testing?			
Who provides encasements around piping?			
Who provides vaults and manholes?			
Who's responsible for any tie ins to city and associated permitting?			
Who's responsible for installing metering devices?			
Who's to provide trenching for the underground?			
Will hydrants be ordered early because of delivery lead-time?			
Will manholes be precast, fiberglass or poured in place?			

Validation (TOC)

Issue	Responsibility/Comments	Date	Complete
Are validation reviews handled on individual turnover document basis, to expedite process?			
Do we have establish system boundaries for validated and non-validated systems in the project as early as possible?			
Have the responsibilities for Validation and Commissioning Master Plan been defined?			
Have we completely defined "validation requirements"?			
Have we confirmed the use of the Engineer of Record 'As-Built' P&ID as the Regulatory/Validation document?			
Have we implemented a tracking matrix for validation documents, including status?			
Is [Client] providing the Schedule and Resource requirements for Validation activities to facilitate appropriate project support?			
When will we provide training to staff and subcontractors on proper execution of GMP required documents that will be included in the turnover packages?			

Warehousing (TOC)

Issue	Responsibility/Comments	Date	Complete
Are any special rigging requirements identified?			
Are arrangements made for radio repair on a blanket order?			
Are blanket orders written for UPS, Airborne, Federal Air Express, etc.?			
Are communications between storage areas developed?			
Are construction lay down areas furnished?			
Are construction lay down areas maintained?			
Are delivery hours developed and are they printed on POs?			
Are initial supplies of hard hats, safety glasses and side shields received?			
Are inside storage plans developed?			
Are markings in compliance to applicable standards (ASTM, ASME, etc)?			
Are necessary office equipment card file, stamps, specialty items and copier			

EPC Master Checklist

requisitioned and received?			
Are off loading equipment requirements determined?			
Are open orders set up at local hardware stores and rental equipment dealers for short-term rentals			
Are padlocks for the project procured?			
Are provisions made for initial fuel and lubrication needs?			
Are provisions made for scrap sales?			
Are receiving summaries issued on a daily basis?			
Are storage areas gridded off? Are they properly marked?			
Are there any offsite warehouse needs?			
Are there any special requirements on setting up trailers within the state for inspection?			
Are there special requirements for [Client] equipment receipts?			
Are we received information for any special storage requirements on process and/or contractor ordered material?			
Are we reviewing each equipment delivery for complete supplier documentation?			
Are we using a bar coded identification system to aid in tool and bulk material inventory control?			
Can we get blanket approval for regular and spot overtime for warehouse personnel or must they be approved by [Client] for every hour?			
Do shipments require Itemized Packing Sheet for vendor furnished items? Upon receipt on site, uncrate and check boxes for items and note condition and acceptance			
Do we have a protection program in place for piping gasket faces?			
Do we have good delivery information on process equipment?			
Does project have a centralized location for deliveries?			
Has a Clearance Report developed and is it in use?			
Has an Equipment Tagging And Checkout Procedure developed for getting [Client] material out of the warehouse?			
Has receiving inspected for hidden or internal damage?			
Has verification been made for conformance to P.O. requirements?			
Have we arranged for labor to lubricate new equipment?			
Have we arranged for labor to lubricate the existing equipment?			
Have we developed a complete min-max supply system for crafts?			
Have we developed and issued a complete lube oil and lubrication schedule for rotating equipment?			
Have we identified material and equipment that needs QC inspection?			
Have we ordered lubrication material for existing and new equipment?			
Have we reviewed certified material test reports?			
In conjunction with the construction manager, have permanent radio numbers assigned and where will they			
In the schedule, what timing is permanent warehouse going to be built on and can it be used for construction deliveries?			
Is a computer required for use in the warehouse?			
Is a log initiated for collect freight bills?			
Is a master lock system developed?			
Is a numerical purchase order file set up?			
Is a plan developed for the liquidation of surplus equipment and materials?			
Is a warehouse storage facility plan developed?			
Is a warehouse withdrawing record system being used?			
Is an alphabetical vendor file set up?			
Is an authorized signature list developed for the clearance and gate pass?			
Is an outside laydown yard and facility plan developed?			
Is equipment received being inspected?			
Is Field Material Requisition Procedure developed?			
Is heating and cooling provided for storerooms?			
Is identification for equipment tags identified and has proper equipment and material ordered?			
Is Material Receiving Report used?			
Is Material Shipping Report Procedure developed and implemented?			
Is OS&D Procedure developed and implemented?			
Is procedure set up for off-hours delivery - Friday, Saturday and Sunday and nighttime?			
Is program implemented to ensure cable reels are returned promptly for credit and no additional charges are incurred?			
Is there a local vendor with a fifth wheel that can be used for trailer moving & setups?			
Verify documents accompanying any shipment?			
Verify inspection release for shipment from supplier?			
Verify tagging, marking and identification to the P.O. requirements?			
Verify that equipment is entered into maintenance program?			
Verify that equipment is in proper storage?			
What are [Client]'s requirements for frequency of inventories for small tools and material?			
Who's responsible for repair of equipment that is stored?			
Who's responsible for spare parts?			
Who's responsible for temporary lubrication and permanent lubrication of equipment prior to [Client] take over?			
Will there be a need to build an onsite warehouse or will trailers be used?			



EPC Master Checklist

Warranty (TOC)

Issue	Responsibility/Comments	Date	Complete
Are equipment warranties filed together or preferably have been made electronically?			
Are there any mechanical guarantees or warranties?			
Are there parameters set for [Client] versus contractor implementation of warranty items?			
Do we have process guarantees identified?			
Do we have record - spread sheet - developed showing warranty start dates and ending dates for each warranted portion of the project?			
Do we have repair and replacement on project? How are we tracking? What's deductible per occurrence?			
How long are the guarantees or warranties?			
Is warranty administration plan in place?			
Who'll administer the warranty?			

Welding (TOC)

Issue	Responsibility/Comments	Date	Complete
Are corrective actions for welds reported?			
Are dimensions, angles, gaps and tolerances acceptable?			
Are fillet or socket weld contours in conformance with the applicable code?			
Are fillet or socket welds surface free from coarse ripples, grooves and merges smoothly with the surfaces joined?			
Are fillet sizes correct?			
Are reexamined welds marked with QC inspector's symbol, number or accepted stamp or mark?			
Are repairs made in accordance with the original WPS or an approved procedure?			
Are there any restrictions on welding at the site which could require additional expense?			
Are unacceptable welds reported to the appropriate craft supervisor?			
Are unaccepted welds documented properly?			
Are unaccepted welds reexamined by QC inspector?			
Are we documenting pipe welds on visual inspection report or entering into the computer weld tracking system?			
Are we documenting structural welds on structural welding visual inspection report?			
Are we inspecting internal alignment and root opening prior to welding?			
Are we inspecting welds for surface discontinuities such as undercut?			
Are we properly protecting surfaces?			
Are we using qualified personnel to perform visual examinations accordance with the contractor visual inspection procedures which is in accordance with the ASNT (SNT-TC-1A) or AWS (QC-1)?			
Are weld filler material requirements verified?			
Are weld joints subjected to visual examination on a random surveillance basis?			
Are weld joints visually inspected after completion of the assembly or after final erection and welding?			
Are weld procedure electrical characteristics verified?			
Are welder qualifications and identification verified?			
Are welders stamping or marking their assigned symbol adjacent to the weld made?			
Are welding sequence requirements verified?			
Are welding testing procedures implemented?			
Are weldments marked with QC inspector's symbol, number or accepted stamp or marked?			
Are welds free from cracks, incomplete fusion, overlap, excessive piping porosity, slag and other similar defects?			
Are welds that are not accessible for examination after final assembly inspected immediately prior to the condition resulting in the inaccessibility, and if post weld heat treatment is required, visual examination is conducted on the weldments after the post weld heat treatment is complete?			
Do we have application of welder identification when required?			
Does visual inspection of the welds begin immediately after the completed welds have cooled to ambient temperature?			
Does visual inspector maintain and use visual inspection tools? (Portable Light, Calibrated Tape Measure, Set of Weld Size Gauges, 4X Magnifier and 6" Vernier Calipers, etc)			
For ferrous material 1/4-in. and over, are low-stress steel die stamps having a rounded used?			
For ferrous material less than 1/4-in., Is welder's symbol documented on the base metal using approved paint markers?			
Have we inspected completed welds for proper reinforcement?			
Have we inspected end preparation and joint configuration as established by applicable weld procedures and engineering specifications?			
Is cleanliness of final weldment acceptable?			
Is final acceptance of visual inspection for welds in ASTM, A514 and A517 or other special materials completed after 48 hours of the weld completion or when required by code or specification?			
Is Fit up of the following type joints - Fillets, Butt, Non-Butt and Tack welds correct?			

EPC Master Checklist

Is inspection of welding accomplished by the direct visual examination of the welds or the use of visual aids, such as Magnifiers, Optical Instruments, and Bore scopes?			
Is inspector verifying complete information regarding location, type, size, and extent of welds?			
Is internal alignment acceptable?			
Is interpass temperature within requirements?			
Is lighting in the test area verified by the use of a light meter that reads white light intensity in foot-candles when required by the specifications?			
Is material identified for both base and weld before welding?			
Is portable lighting available for the inspection of inaccessible areas that are not properly illuminated by the conventional lighting system?			
Is project adhering to the maintenance of pre-heat requirements?			
Is proper cleaning being done between welding passes?			
Is QC inspector flagging and documenting the unacceptable welds? Inspector must use number or other acceptable identification, location of, nature of defect, and the area of the weld that is unacceptable.			
Is root pass checked for incomplete penetration, cracks, porosity, slag, fusion lines and quality workmanship?			
Is test area is adequately illuminated for the proper evaluation of indications revealed on the test surface?			
Is throat size verified?			
Is welder ID documented on the isometric drawings by the applicable crafts?			
Is workmanship acceptable?			
Verify for pre-heat requirements.			
Verify for proper welding materials, position, and other essential variables of applicable weld procedures?			
Verify for tack welds that are to be incorporated into the final weld?			
Verify the root pass for incomplete penetration, cracks, porosity, slag, fusion lines and quality workmanship?			
When and where is welder testing done?			

Welding – Post Weld Heat Treatment (TOC)

Issue	Responsibility/Comments	Date	Complete
Are appropriate isometric drawings marked to indicate progressive completion of heat-treated piping systems?			
Are performance charts given to the QC Supervisor for review and approval?			
Are power failures reported to the Chief Inspector?			
Are procedures for post-weld heat treatment submitted by the heat treatment subcontractor or contractor Engineering and submitted to the Quality Control Department for approval?			
Is chart verified for correct weld and line identification?			
Is inspector dating and signing performance charts after completion of the heat treatment process?			
Is inspector making notations on performance chart where there were deviations from the required heating cycle?			
Is insulation completed per specification?			
Is proper heating cycle verified for specified rate of temperature rise, holding time, and cooling rate?			
Is recorder hooked up and functional?			
The WPS applicable project specifications and codes determine the requirements and methods of post-weld heat treatment to be used?			