



KUSILE POWER STATION

Employer Policies and Procedures

Section 4

Programme, Progress Reporting & Meeting Requirements

Part 2 (FY)

Rev 3_0711

1. Programming

1.1 General programme requirements

Programmes shall be in Primavera P6 format and shall be submitted in electronic format (XER) together with one printed copy.

Unless otherwise directed in writing by the Engineer, the level of detail required is level 4 and programmes shall:

- 1.1.1 include work break-down structure (WBS) (which WBS shall be consistent with the coding structure provided by the Engineer from time to time);

Activity ID	Activity Name
Fly Ash Material Handling System	
Milestones	
MIL1020	Project commence
MIL1030	Project completion
Design	
DES1040	Design Hopper Unit4
DES1050	Detail arrangement Hopper Unit4
DES1060	Client Approval Hopper Unit 4
Procurement	
PRO1050	Procure Hopper Unit 4
Manufacture	
MAN1060	Manufacture Hopper Unit 4
Delivery	
DEL1070	Deliver Hopper Unit 4
Construction	
CON1080	Install Hopper Unit 4
Commissioning	
COM1090	Commission Hopper Unit4

- 1.1.2 show resourced material and manpower quantities and units per activity;
- 1.1.3 show activity durations in days;
- 1.1.4 show late and early start dates, late and early finish dates and total float;
- 1.1.5 provide at least one predecessor and one successor relationship for each activity in the programme, save the start and finish milestones (as such, there shall be no open logic ties for all the Works activities);
- 1.1.6 not utilise any negative lags in predecessor-successor relationships;
- 1.1.7 not utilise any constraints that disrupt the programme software's date calculations, such as Start On, Finish On, Mandatory Start, or Mandatory Finish constraints;
- 1.1.8 in the event of out-of-sequence progress having been reported, repair the logic ties for the activities affected by the out-of-sequence progress so that the programme models the revised flow of work;
- 1.1.9 include activity codes (which activity codes shall be consistent with those provided by the Engineer from time to time);
- 1.1.10 clearly identify and indicate milestones, key events and the critical path; and
- 1.1.11 incorporate other requirements or information required by the Engineer from time to time.

Activities exceeding thirty days in duration shall be broken down into detailed sub-tasks. Commissioning activities shall be scaled in days. Where the Engineer approves use of a twenty-four-hour schedule, then the resource loaded programme shall be detailed in hours. Procurement, construction and commissioning activities shall be fully detailed to show all terminal point release (interface) requirements including civil, mechanical, C&I, electrical and services.

1.2 First Programme

The first programme shall be consistent with the programme submitted with the Tender but shall include any alterations or additions negotiated and agreed to between the Parties as at Contract Date.

If, under Sub-Clause 8.3 [*Programme*] of the Conditions of Contract, the Contractor is required to submit a first programme more than 28 days after the Contract Date, the Contractor shall in any event submit a preliminary first programme within 28 days of the Contract Date. This preliminary programme shall comply with the requirements of the first programme and with the requirements set out in clause 1.1 above, except that the level of detail required therein shall be that of level 2 and not level 4. This preliminary programme is not considered to be a formal programme under Sub-Clause 8.3 [*Programme*] of the Conditions of Contract, but is submitted for information purposes in order to enable the Engineer, at his discretion, to raise comments with a view to avoiding delays when the first programme is submitted.

1.3 Cash Flow

Together with the first programme, the Contractor shall submit a cash flow directly related to this programme detailing the estimated financial monthly expenditure over the entire Contract period based on appropriate quantitative information.

The level of detail of this cash flow shall at least be equal to the level of detail provided in the Schedule of Payments.

The Contractor shall submit a revised cash flow to the Engineer, together with a detailed variance analysis:

- 1.3.1 whenever the Contractor is required to submit a revised programme under the Contract (but only if and to the extent that the previously submitted cash flow is inconsistent with the revised programme); or
- 1.3.2 when there is any deviation to the previously submitted cash flow.

Each cash flow shall be provided to the Engineer in Microsoft Excel © (*.xls) and one printed copy.

1.4 Monthly Progress Programme

The Contractor shall submit a Monthly Progress Programme ("MPP") in electronic XER format to the Engineer by the Friday immediately following the "data date" to which the report relates. The "data date" shall be the 3rd (third) Saturday of the month to which the MPP relates. The MPP shall report the Contractor's actual progress achieved through the data date during the month for each programme activity. The Contractor shall compare the actual progress for each activity against the planned date from the programme to determine actual execution relative to planned execution.

1.5 Commissioning Plan and Sub-Programme

The Contractor shall prepare and submit to the Engineer for his approval a detailed commissioning plan and sub-programme, which shall:

- 1.5.1 comply with the Employer's Requirements and other applicable requirements of the Contract (the Contractor acknowledging that his commissioning plan and sub-programme will need to be integrated by the Engineer into a detailed commissioning plan and programme for the related Project Works, which will include the works of Other Project Contractors);
- 1.5.2 be amended and re-submitted at the expense of the Contractor until approved by the Engineer; and
- 1.5.3 be amended, updated and re-submitted for the approval of the Engineer as necessary and when required by the Engineer.

Compliance with the commissioning plan and sub-programme shall not relieve the Contractor of any responsibility, undertaking warranty or other obligation under the Contract.

Unless the Engineer directs otherwise, the detailed commissioning plan and sub-programme shall be submitted at least twelve months prior to the scheduled start date of commissioning and a preliminary commissioning plan and sub-programme shall be submitted within 56 days after Commencement Date.

1.6 Vendor Document Submittal Schedule

The Contractor shall submit to the Engineer, for his approval and within the Stated Time, a vendor document submittal schedule ("VDSS") which shall contain a full list of the Contractor's Documents and their corresponding submission dates. The VDSS shall be consistent with the programme (and with the VDSS submitted with the Tender, if any, including any alterations or additions negotiated and agreed to between the Parties as at Contract Date).

Whenever the Contractor is required to submit a revised programme under the Contract, he shall, to the extent that the VDSS is inconsistent with the revised programme, also submit a revised VDSS for the Engineer's approval.

Unless the Engineer, within 21 days after receiving the VDSS, gives notice to the Contractor stating the extent to which the VDSS does not comply with the Contract, the Contractor shall proceed in accordance with the VDSS, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the VDSS when planning their activities.

If, at any time, the Engineer gives notice to the Contractor that the VDSS fails (to the extent stated) to comply with the Contractor or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised VDSS to the Engineer for his approval.

2. Monthly Progress Reports

The Contractor shall submit monthly progress reports to the Engineer. The reports shall be submitted in writing in a form approved by the Engineer. An electronic copy and two hard copies of each progress report shall be submitted to the Engineer.

Each report shall cover a period of a calendar month save that the first report shall cover the period up to the end of the first calendar month following the Commencement Date. The "data date" shall be the 3rd (third) Saturday of the month to which the report relates.

Reports shall be submitted by the 4th (fourth) day of the month following the month to which the report relates.

Each report shall include:

- 2.1 an executive summary that provides a narrative summary of matters referred to in 2.2 to 2.23 below;
- 2.2 charts and detailed descriptions of the status of the Works in narrative format, including each stage of design, Contractor's Documents, procurement, manufacture, delivery to the Project Site (or at other places, if any, as may be specified under the Contract as forming part of the Site), construction, erection, commissioning and testing;
- 2.3 for the manufacture of each main item of Plant, the name of the manufacturer, manufacturers location, percentage progress and the actual or expected dates of commencement of manufacture, inspections, pre-delivery tests and delivery to the Project Site (and/or at other places, if any, as may be specified under the Contract as forming part of the Site);
- 2.4 comparisons of actual and planned progress from the programme, detailing activities completed, the percentage progress of each activity in progress, completed and not completed and activities not started (depicted in a 2-bar bar chart format with an upper bar displaying the current status and a lower bar displaying planned status for each activity);
- 2.5 a critical path analysis completely detailing all negative total float paths together with a written description of the issue and root cause and the detailed recovery plan(s);
- 2.6 colour photographs in digital format showing progress in the course of manufacture and on the Site, with each set comprising at least 20 colour photographs, individually marked with the date taken, a description of the subject and the direction of view;
- 2.7 S-curves (developed by the Contractor in accordance with the guidelines issued by the Engineer from time to time, including but not limited to the Partial Credit Guidelines and the basis for the curves) that show both planned and earned progress for the overall Works, overall engineering, engineering by unit, overall procurement, procurement by unit, overall construction, construction by unit, overall commissioning, and commissioning by unit, with each curve based on information from the programme (with construction progress reported in accordance with the progress reported in the FPMS as provided for in 5 below);
- 2.8 up-to-date cash flow (c.f. paragraph 1.3 above), in Microsoft Excel © (*.xls) and one printed copy;
- 2.9 details of actual and planned resources including number of each class of Contractor's Personnel and of each type of the Contractor's Equipment at the Project Site (and/or at other places, if any, as may be specified under the Contract as forming part of the Site) for the relevant period;
- 2.10 a report on quality demonstrating compliance with the quality assurance requirements of the Contract, including a schedule identifying all quality control documents, test results and certificates issued, during the reporting period;

- 2.11 a list of proposed Variations and the status thereof;
- 2.12 a list of all Variations detailing their reference numbers;
- 2.13 a list of site instructions and other instructions received by the Contractor (other than Variations provided for in 2.12) listing the date of receipt and the nature of the instruction;
- 2.14 a list of all notified claims for extensions of time or compensation detailing their reference numbers, the date on which the underlying cause, circumstance or event arose and when it first came to attention of the Contractor, the claimed additional Cost (and reasonable profit where applicable under the Contract) and/or extension to the Time for Completion, the dates on which notice and the details thereof were given to the Engineer under Sub-Clause 20 [*Claims, Disputes and Arbitration*] of the Conditions of Contract and the status thereof;
- 2.15 a risk register and assessment dealing with all areas of concern including details of all notified early warnings and details of other events and circumstances not dealt with above, which may have an adverse cost impact and/or cause delays and details of the corrective or other measures being adopted, or to be adopted to mitigate or overcome such cost impact and/or delay;
- 2.16 a current register of drawings and other documents submitted to the Engineer during the reporting period and the prior reporting period, detailing the date of issue to the Engineer and, if applicable, the date by which the Engineer's approval is required;
- 2.17 a current list of all drawings and documents issued to the Contractor (including the applicable revision) detailing the date of issue and transmittal thereof;
- 2.18 a report on health & safety and environmental matters demonstrating compliance with the health & safety and environmental requirements of the Contract;
- 2.19 a report on industrial relations relevant to the Works including industrial relations at the Project Site (and at other places, if any, as may be specified under the Contract as forming part of the Site) and at places of manufacture;
- 2.20 status report on payments made and outstanding applications for payment;
- 2.21 a status report on progress towards compliance and actual compliance with the Contractors Accelerated and Shared Growth Initiative - South Africa (ASGI-SA) and, if applicable, Competitive Supplier Development Programme (CSDP) obligations under the Contract;
- 2.22 a copy of the Contractor's daily diary (c.f. 6 below) for the period in question; and
- 2.23 such other matters and information (including schedules and charts) as the Engineer may require to be included in the Progress Report from time to time.

3. 3-Week Daily Work Look-Ahead Plan

In addition to the programme, the Contractor shall develop weekly a 3-week daily work look-ahead plan ("3WLAP") each week. The 3WLAP shall be submitted to the Engineer by the close of business each Friday or as otherwise directed by the Engineer.

The 3WLAP shall be a bar chart containing activities and durations and shall otherwise be in a form approved by the Engineer. A cross reference to the Programme activities and corresponding completion dates necessary for the Contractor to meet the Time for Completion must be clearly indicated on the 3WLAP.

The level of detail required for the 3WLAP shall be determined by the Engineer based on the current status and complexity of the Works and the coordination required with the Project Works. Unless otherwise directed by the Engineer the 3WLAP shall:

- 3.1 indicate all planned work that is to be accomplished during the next current week and the two week period thereafter, all in support of, and in accordance with, the Programme.
- 3.2 include specific man-power requirements by class by day;
- 3.3 include Contractor's Equipment requirements by day;
- 3.4 highlight any material or drawing needs from the Employer or Engineer;
- 3.5 reflect the planned and actual activities progress of the previous week;
- 3.6 include any activities that are required to be accomplished by Other Project Contractors that would impact and/or prevent Contractor from starting and/or accomplishing its planned work; and
- 3.7 be presented in the level of detail sufficient for Contractor to direct the efforts of the Contractor's Personnel on a day-to-day basis.

4. Additional Weekly and Daily Reports

Following mobilisation at the Project Site (or at other places, if any, as may be specified under the Contract as forming part of the Site), the Contractor's Site office shall, in addition, submit to the Engineer (in electronic copy and two hard copies):

- 4.1 weekly reports, in the form prescribed by the Engineer, which shall summarise activities at the Project Site (and at other places, if any, as may be specified under the Contract as forming part of the Site), indicating quantities installed for each work breakdown structure activity (in the form of the Field Progress Measurement System ("FPMS") provided for in 5 below), the numbers of each class of Contractor's Personnel and of each type of the Contractor's Equipment thereon, the Plant and Materials thereon and record any areas of concern and details of corrective action being taken; and
- 4.2 daily activity reports, in the form prescribed by the Engineer, summarizing the main activities to be undertaken each day, noting any special activities that require witnessing, together with full particulars and details of obstructions, modified or additional work, incidents, health and safety matters and the numbers of each class of Contractor's Personnel and of each type of the Contractor's Equipment engaged in each of the several portions of the work in progress.

5. Field Progress Measurement System (FPMS) Reporting and Quantity Reporting

5.1 Field Progress Measurement System (FPMS) Reporting

- 5.1.1 The Field Progress Measurement System (FPMS) shall be used by the Contractor as a means to measure and report the Contractor's progress

of the physical Works, and to document and report the progress on a weekly basis, for comparison against the planned progress, and other purposes determined by the Engineer. Each item included in the FPMS must have an "as contracted" quantity, and associated man-hour basis (or other rate as prescribed by the Engineer). The quantity and man-hour data provided shall be used to establish the overall percent completion of the Works.

5.1.2 FPMS is a quantity-based earned value system. The quantities and man-hours shall be updated and reported weekly by the Contractor. The breakdown shall be of sufficient detail to allow installed quantities (i.e., cubic meters, linear meters, number of items, etc.) of work (i.e. concrete, pipe, raceway, cable, instruments, etc.) to be physically verifiable. Each item included in the FPMS shall have a cross-reference to the programme WBS activity.

5.1.3 Progress, as a measurement of percent complete, shall be reported through a method of "earning" installed quantities along with their relative share of the current man-hour estimate (Contractor's current budget) by use of "partial credit guidelines" prescribed by the Engineer. The Contractor's current budget shall consist of the original contracted man-hour quantities, plus Variations (and other related adjustments under the Contract). Overall percent (%) complete of the Contractor's completed Work shall be calculated by taking the sum of earned man-hours for all of the FPMS line items divided by the total current budget of man-hours included in the FPMS.

5.1.4 The FPMS shall satisfy the Engineer's various reporting requirements through the use of the coding Levels (Level 1, Level 2, Level 3, and Level 4), and through the use of WBS and cost codes prescribed by the Engineer as detailed in Part 2.1 [*Cost Code Manual*].

5.1.5 The tool for maintaining and reporting the FPMS shall be Microsoft Excel © (*.xls) format unless otherwise specified by the Engineer.

5.1.6 Unless the Engineer directs otherwise, the initial submittal of the FPMS by the Contractor shall be submitted for the Engineer's review and approval at least 84 days prior to the commencement date of construction.

5.2 Quantity Reporting

5.2.1 The Contractor shall prepare and submit to the Engineer for review an "As-Designed (Engineered)" Bill of Quantity ("BOQ"). Unless the Engineer directs otherwise, the initial submittal of the BOQ shall be provided 84 days after the Commencement Date, and at monthly intervals thereafter. The BOQ shall include the following Works information, as a minimum: the original budget quantities, quantities associated with Variations, designed to date quantities, and forecast at completion quantities for each line item.

5.2.2 The BOQ shall be amended, updated and re-submitted for the approval of the Engineer as necessary and when required by the Engineer.

5.2.3 The level of detail of the BOQ shall be at least at the Level-3 Roll-up level (e.g. linear meters of pipe by metallurgy and size). The BOQ shall also

satisfy the Engineer's various reporting requirements through the use of the coding Levels (Level 1, Level 2, Level 3, and Level 4), and through the use of WBS and Cost Codes as prescribed by the Engineer.

5.2.4 The tool for reporting the BOQ shall be Microsoft Excel © (*.xls) unless otherwise specified by the Engineer.

5.2.5 The BOQ shall be updated and submitted by the Contractor to the Engineer monthly, using the same "data date" and reporting interval established for the MPP in paragraph 1.4 above.

6. Daily Diary

The Contractor shall maintain an up to date daily diary of all Works related activities at the Project Site (and at other places, if any, as may be specified under the Contract as forming part of the Site). The daily diary shall be available for inspection and reproduction by the Engineer at all times.

7. Reports on Disputed Work

For work in respect of which the entitlement of the Contractor is disputed or of an uncertain nature, the Engineer may require the Contractor to submit work detail sheets, for the approval of the Engineer, as a record of work done. The sheets shall be "For record purposes only" and shall not give rise to or evidence any entitlement to an extension to the Time for Completion or any additional compensation.

8. Additional Reports

The Engineer shall be entitled to request, and the Contractor shall be required to provide, additional reports to monitor the progress of the Works and for other purposes determined by the Engineer.

9. Meetings

During the execution of the Works, various weekly and monthly meetings shall be held.

Inter alia, these meetings are to discuss and review in detail the up-to-date progress of the Works. Without limiting the nature of the matters to be discussed at these meetings, if the actual progress of the Works is at any time unsatisfactory, the Engineer shall be entitled to call on the Contractor to advise the reasons for the foregoing and to make proposals for corrective action to be taken.

The Engineer shall be entitled to call meetings required by the applicable Law or otherwise required by the Engineer in connection with the Project Works.

Meetings shall be conducted at the Project Site or at another location directed by the Engineer.

The agenda for meetings shall be determined by the Engineer. The Contractor shall be entitled to propose matters for inclusion on the agenda of any meeting which he is required to attend. The minutes shall be kept by the Engineer and submitted to the Contractor for comment prior to the subsequent meeting and such minutes shall thereafter be formally approved at such subsequent meeting as an accurate record of the issues discussed at the previous meeting. Such minutes shall not necessarily be a verbatim transcript of the discussions at meetings.

Unless otherwise approved by the Engineer, meetings where the Engineer requires the Contractor to be present, whether scheduled or otherwise called by the Engineer, shall be attended by the Contractor's Representative.

Without limiting the above, the Contractor shall be required to attend weekly meetings to review progress and update the Works completion plans. The Contractor's Representative shall be required to present the following at these weekly progress meetings:

- 9.1 current status of Works progress;
- 9.2 detailed three week look-ahead programme;
- 9.3 current and projected manpower by class;
- 9.4 health, safety and quality control issues; and
- 9.5 problem areas or concerns.

10. Photographs for Progress Reporting Requirements

The taking of photographs of the Kusile Power Station including the Project Works is restricted and subject to the approval of the Engineer as provided for under the Contract.

For the purpose of the Progress Reporting Requirements, the Engineer shall be entitled, at any time, to prohibit the taking of such photographs and/or to require that all such photographs be taken only by an official Employer appointed photographer. In the latter event, the Contractor shall be required to make arrangements directly with this photographer for the taking of the photographs required by the Contractor for the purpose of the Progress Reporting Requirements and for the payment thereof.



KUSILE POWER STATION

Employer Policies and Procedures

Section 4

Employer's Health, Safety & Environmental Requirements Schedule

Part 2.1

Rev 0_0311

No.	Document Description.	No of Pages
1.	Cost Code Manual	38



Kusile Power Station Project

Cost Code Manual

Issued as per Part 2 (FY), Subparagraphs 5.1.4 and 5.2.3 of the
Section 4 - Employer Policies and Procedures.

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
02	Hazardous Material Abatement	LS	05	Asbestos Removal	m3						
			10	Aboveground Structures	m3						
			15	Underground Structures	m3						
			20	Contaminated Soils	m3						
			25	Contaminated Water	m3						
			30	Remediation	m3						
			35	Encapsulation	m2						
			40	HazMat Disposal	m3						
			45	OSHA Testing	LS						
			90	User Defined							
04	Demolition	LS									
06	Repair/Modify/Retrofit/Relocate (Scope, not Rework)	LS	05	Site Paving	m3						
						10	Asphalt	m3			
						20	Concrete	m3			
						30	Gravel/Rock	m3			
						90	User Defined				
			10	Concrete	m3						
						10	Slabs/Paving	m3			
						20	Walls	m3			
						30	Equipment Foundations	m3			
						31	Piles	EA			
						90	User Defined				
			15	Buildings	m3						
						10	Steel	TN			
						20	Concrete	m3			
						30	Brick or Block	m3			
						90	User Defined				
			20	Structural/Steel	TN						
						10	Columns	TN			
						20	Beams	TN			
						30	Decking	TN			
						31	Piles	EA			
						40	Supports	TN			
						50	Platforms	TN			
						60	Handrail	TN			
						70	Wall Panels	TN			
						80	Ductwork	TN			
						90	User Defined				
			25	Piping	m						
						10	Rack Piping	m			
						20	Off Rack Piping	m			
						30	Underground Piping	m			
						40	Valves	EA			
						50	Specialty Items	EA			
						90	User Defined				
			30	Mechanical Equipment	EA						
						02	Vessels	EA			
						04	Shop Fabricated Tanks	EA			
						06	Field Fabricated Tanks	EA			
						08	CTG	EA			
						09	STG - Axial Exhaust	EA			
						10	STG - Two Flow Down Exhaust	EA			
						11	STG - Two Flow Side Exhaust	EA			
						12	HRSG - Horizontal	EA			
						13	HRSG - Vertical	EA			
						14	Fuel Oil Fired Boiler	EA			
						16	Pulverized Coal Boiler	EA			
						18	Circulating Fluidized Bed Boiler	EA			
						20	Compressors and Generators	EA			
						22	Fired Heat Exchangers and Boilers - Vendor Furnis	EA			
						23	Fired Heat Exchangers and Boilers - Field Fabricat	EA			

LEVEL 2			LEVEL 3			LEVEL 4			LEVEL 5		
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
						24	Stacks and Chimneys	EA			
						26	Exchangers and Cooling Towers	EA			
						28	Pumps and Drivers	EA			
						30	Fans and Exhaust Systems	EA			
						32	Duct and Breeching - Non-HVAC, Non-Vendor Furn	EA			
						33	Chemical Equipment, Systems, and Skids	EA			
						34	Material Processing Equipment and Skids	EA			
						36	Material Handling and Other Equipment	EA			
						38	Fire and Safety Equipment	EA			
						40	Plant Operations and Support Equipment	EA			
						90	User Defined				
			35	Electrical	m						
						04	Conductors, Cable, and Wiring	m			
						10	Cable Tray	m			
						30	Equipment	EA			
						90	User Defined				
			40	Instrumentation	EA						
						02	Instruments	EA			
						50	Tubing	m			
						84	Control Valves	EA			
						90	User Defined				
			45	Insulation	m2						
						10	Building	m2			
						20	Equipment	m2			
						30	Piping	m			
						90	User Defined				
			70	Hauling Demo/Repair/Modify/Retrofit/Relocate Trash	m3						
			90	User Defined							
08	General Earthwork/Site Work	m2									
			05	Site Clearing and Grubbing – Heavy	m2						
						10	Large Tract Tree Clearing and Disposal	m2			
						20	Razing	m2			
						90	User Defined				
			10	Site Clearing	m2						
						10	Small Tree and Shrub Removal and Disposal	m2			
						20	Small Tree and Shrub Removal and Disposal –Sele	EA			
						30	Sod Stripping	m2			
						40	Topsoil Removal and Stockpile	m3			
						50	Topsoil Placement	m3			
						60	Topsoil Disposal Offsite	m3			
						90	User Defined				
			15	Site Grading	m2						
						10	Rough Grading	m2			
									10	Area	m2
									20	Embankment	m2
									30	Roadway	m2
									90	User Defined	
						20	Finish Grading	m2			
									10	Area	m2
									20	Embankment	m2
									30	Roadway	m2
									90	User Defined	
						90	User Defined				
			20	Right of Way	m2						
			21	Right of Way Restoration	m2						
						10	Transmission Lines	m2			
						20	Pipelines	m2			
						30	Roads	m2			
						90	User Defined				
			25	Soil Compaction, Stabilization/Treatment	m2						
						10	Roller Compaction	m2			
						20	Vibro Flotation	m2			
						30	Soil Stabilization/Treatment	m2			
									10	Asphalt	m2

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
									20	Fly Ash/Soil Cement	m3
									30	Lime	m3
									40	Lime Slurry	m3
									50	Geo-textile	m2
									60	Pressure Grouting	m3
									90	User Defined	
						90	User Defined				
			30	Site/Area Restoration	m2						
			70	Hauling Debris/Spoil	m3						
			90	User Defined							
10	Excavation/Trenching	m3	01	Mass Cut/Excavation	m3	10	Mass Cut	m3			
						20	Removal of spoils and Haul to Storage	m3			
						30	Disposal	m3			
						90	User Defined				
			04	Structural Excavation (Foundations)	m3						
			07	Trenches/Ditches	m3						
						05	Spillway/Ditch/Swale	m3			
						10	Piping	m3			
						20	Electrical	m3			
						65	Utility	m3			
						90	User Defined				
			45	Rock – Blast	m3						
			46	Rock – Rip	m3						
			70	Haul Dirt & Rock	m3						
			90	User Defined							
12	Backfill	m3	01	Mass Backfill	m3						
			04	Structural Backfill (Foundations)	m3						
			07	Trenches	m3						
						05	Spillway/Ditch/Swale	m3			
						10	Piping	m3			
						20	Electrical	m3			
						65	Utility	m3			
						90	User Defined				
			70	Haul Dirt & Rock	m3						
			75	Import Fill Material	m3						
						10	Sand	m3			
						20	Aggregate/Rock	m3			
						30	Dirt, Soil, Topsoil	m3			
						90	User Defined				
			78	Crushing (Onsite) Rock	m3						
			90	User Defined							
14	Tunneling, Boring, Casing	m	10	Jacking	m						
			20	Tunneling	m						
			30	Casing							
						10	Ventilation and Compression	LS			
						20	Excavation	m3			
						30	Lining	m2			
						40	Grouting	m3			
						50	Hydro Boring	m			
						90	User Defined				
			90	User Defined							
16	Shoring and Underpinning	m2	10	Shoring – Soils/Trenches	m2						
			20	Shoring – Structures	m2						
			30	Shoring – Tunnels	m2						
			40	Underpinning							
			90	User Defined							
18	Slope Protection and Erosion Control	m2	05	Retaining Walls							

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
			10	Slope Paving	m2	10	Concrete	m3	05	Mud Matt/Seal Slabs	m3
									10	Formwork	m2
									15	Falsework	m2
									20	Reinforcing Steel	TN
									30	Embeds	kg
									35	Anchor Bolts (Embedded Only)	EA
									40	Concrete Placement	m3
									50	Strip/Clean/Rub	m2
						50	Shotcrete/Gunnite	m2			
						55	Grout	m3			
						90	User Defined				
			15	Rip Rap	m2						
			20	Stone Slope Protection	m3						
			25	Silt Fences	m2						
			30	Wire Mats	m2						
			35	Sediment Control	m2						
			40	Membrane Systems	m2						
			45	Gabions	m2						
			50	Geo-Textile Fabric	m2						
			90	User Defined							
20	Piles and Caissons	EA	10	Drilled or Auger, Cast-in-Place Piles	EA						
			20	Bell Caissons	EA						
			30	Precast Driven Piles	EA						
			40	Steel Piles	EA						
						02	Pipe Rack / Conveyors	EA			
						06	Tanks/Vessels	EA			
						08	CTG	EA			
						10	STG	EA			
						12	Boiler (HRSG, PC, CFB, etc)	EA			
						16	Transformers	EA			
						20	Generators	EA			
						22	Auxiliary Boiler	EA			
						24	Stack	EA			
						25	Silencer	EA			
						26	Cooling Tower	EA			
						28	Pumps	EA			
						30	Buildings	EA			
						31	Sumps, Containment, Wells	EA			
						34	SCR	EA			
						90	User Defined				
			50	Sheet Piling	m2						
			70	Post-Tension Anchors	EA						
			80	Repair Piles	EA						
			90	User Defined							
22	Roadwork, Paving, and Surfacing (bu m2		10	Asphalt Surfacing	m2						
			20	Gravel Surfacing	m2						
						2	Sand Surfacing	m2			
						3	Dirt Roads	m2			
						5	Sub-grade Prep	m2			
						6	Base Course	m2			
						Add back the deleted ones					
						21	Soil Cement Paving	m2			
						25	Unit Pavers	m2			
						90	User Defined				
									02	2" thick	m2
									03	3" thick	m2
									04	4" thick	m2
									05	5" thick	m2
									06	6" thick	m2

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
									7	7" thick	m2
									8	8" thick	m2
									9	9" thick	m2
									10	10" thick	m2
									12	12" thick	m2
									14	14" thick	m2
									16	16" thick	m2
									18	18" thick	m2
									20	20" thick	m2
									22	22" thick	m2
									24	24" thick	m2
									90	User Defined	
24	Wells	m	90	User Defined							
			05	Water	m						
			10	Wastewater/Injection Well	m						
			20	Test Wells	m						
			30	Observation Well	m						
			40	Drilling and Casing	m						
			90	User Defined							
26	Ponds/Containment Areas	m3	10	Ponds	m3						
			20	Earthen Containment Areas/Dikes	m3						
			40	Liners	m2						
						05	Clay	m3			
						10	Concrete	m3			
									05	Mud Mat/Seal Slabs	m3
									10	Formwork	m2
									15	Falsework	m2
									20	Reinforcing Steel	TN
									30	Embeds	kg
									35	Anchor Bolts (Embedded Only)	EA
									40	Concrete Placement	m3
									50	Strip/Clean/Rub	m2
						15	Fabric	m2			
						90	User Defined				
			90	User Defined							
28	Underground Tanks	EA	10	Oily Water Separator	EA						
			20	Water Storage	EA						
			30	Fuel Storage	EA						
						10	Layout and Excavation	m3			
						20	Install Tank	EA			
						30	Backfill	m3			
						90	User Defined				
			90	User Defined							
30	Site Drainage (excluding piping. For piping see 3.xx.xx.xx.85)	m	05	Storm Drainage	m						
						20	Culverts	EA			
						30	Catch Basins	EA			
						31	Trench Drains	EA			
						80	Manholes	EA			
						90	User Defined				
						10	Grease Interceptors	EA			
						15	Leaching Cesspools	EA			
						20	Sand Filters	EA			
						25	Siphon Tanks	EA			
						30	Septic Tanks	EA			
						31	Septic Field	m2			
						80	Manholes	EA			
						90	User Defined				
			20	De-watering	LS						
						10	Ditching	m			

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
							20 Pumping	MOS			
							30 Well Point System	MOS			
									10 Foundation		m
									20 Utility		m
									90 User Defined		
							90 User Defined				
							25 Sand Drains	EA			
							30 Disposal Wells	EA			
							35 Relief Wells	EA			
							90 User Defined				
32	Site Improvements	LS	05 Fencing		m	10 Chain Link		m			
						20 Security/Barbed Wire/Razor Wire		m			
						90 User Defined					
			10 Gates – Manual		EA						
			15 Gates – Motor Operated		EA						
						10 Personnel		EA			
						20 Vehicular		EA			
						90 User Defined					
			20 Parking Appurtenances		LS						
						02 Parking Lot Markings/Striping		m			
						10 Curbs		m			
						15 Gutters		m			
									01 Excavation		m3
									02 Backfill		m3
									05 Mud Matt/Seal Slabs		m3
									10 Formwork		m2
									15 Falsework		m2
									20 Reinforcing Steel		TN
									30 Embeds		kg
									35 Anchor Bolts (Embedded Only)		EA
									40 Concrete Placement		m3
									50 Strip/Clean/Rub		m2
						20 Parking Barriers		EA			
						30 Parking Bumpers/Wheel Stops		EA			
						35 Parking and Directional Signs		EA			
						90 User Defined					
			24 Walls		m	10 Stone		m2			
						20 Masonry		m2			
						40 Earthen/Soil		m2			
						90 User Defined					
			25 Guard Posts, & Rails		m						
			26 Bollards		EA						
			30 Landscaping		LS						
						05 Sod		m2			
						10 Seeding		m2			
						15 Plants		EA			
						20 Trees		EA			
						25 Shrubs		EA			
						30 Sprinkler System		m2			
						35 Liming		m2			
						90 User Defined					
			35 Signs		EA						
			90 User Defined								
34	Railroad Works	LS	10 New Track		m	10 Rail Steel		TN			
						20 Rail Ties		EA			
						90 User Defined					
			20 Trestle/Bridge		m						
			30 Ballast		m3						
			40 Rail Switch		EA						

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	L2 - SUBDIVISION	L2 UM	L3	L3 - CATEGORY	L3 UM	L4	L4 - ITEM	L4 UM	L5	L5 - DESCRIPTION	L5 UM
DIVISION 0 - CIVIL/SITE (Charge Lump Sum Contractors to Level 3)											
			50	Traffic Control	EA						
			60	Upgrade existing system	LS						
			70	Rail Spur Unloading Area	LS						
			90	User Defined							
36	Marine Work (not concrete)	LS	05	Dredging	m3						
			10	Cofferdams	m3						
			15	Seawalls	m3						
			20	Bulkheads	m						
			25	Breakwater	m3						
			35	Docks and Facilities	EA						
			40	Barge Unloading Facilities	EA						
			45	Underwater Work	EA						
			90	User Defined							
88	Overtime (For Estimating purposes onLS		10	Spot	LS						
			20	Scheduled	LS						
			90	User Defined							
90	User Defined										
92	Civil/Site Testing	EA	01	Subsurface Tests	EA						
			03	Standard Penetration Tests	EA						
			05	Test Borings	EA						
			10	Core Samples	EA						
			15	Seismic Testing	EA						
			20	Compaction Testing	EA						
			25	Pile Load Tests	EA						
			30	Percolation Test	EA						
			90	User Defined							

Abbreviations:

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EA - Each

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Section/unit designation structure:

Code Section/Unit designation

1 Section/Unit 1

2 Section/Unit 2

3 Section/Unit 3

4 Section/Unit 4

5 Section/Unit 5

6 Section/Unit 6

7 Common plant related to Section/Unit 1 through 3

8 Common plant related to Section/Unit 4 through 6

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L3	SUBDIVISION	L3	CATEGORY	L5	DESCRIPTION
L2 UM		L3 UM		L3 UM		L5 UM	
DIVISION 1 - CONCRETE (Charge Lump Sum subcontractors to Level 2 or 3 as appropriate)							
Work Step/ Craft Resp							
10	Cast In Place Concrete						
		1-	Major Foundations				
		11	CT's	m3			
		12	ST's	m3			
		13	Boilers/HRSG	m3			
		14	Cooling Towers	m3			
		15	ID/FD Fans	m3			
		16	Pulverizers	m3			
		17	Intake Structure	m3			
		2-	BOP Equipment Foundations				
		21	Matt / Large Block Pour > 500 CY	m3			
		23	Large Block Pours 50 to 500 CY	m3			
		25	Medium Block Pours 5 to 50 CY	m3			
		27	Small / Misc Pour < 5 CY	m3			
		3-	Slabs				
		31	Slab Area Paving & Mats	m3			
		33	Slab on Grade	m3			
		35	Elevated Slabs	m3			
		37	Area Paving	m3			
		39	Sidewalks, walkways and ramps	m3			
		4-	Grade Beams				
		41	Grade Beam Foundation	m3			
		43	Ring / Tank	m3			
		45	Concrete Trenches	m3			
		47	Retaining Wall Grade Beams	m3			
		50	Column	m3			
		60	Walls (Including Retaining Walls)	m3			
		70	Basins, Pits & Manholes	m3			
		8-	Duct Banks	m3			
		81	Formed	m3			
		82	Not Formed	m3			
		90	User Defined	m3			
				05	Mud Matt/Seal Slabs	m3	
				10	Formwork	m2	
				15	Falsework	m2	
				20	Reinforcing Steel	TN	
				30	Embeds	kg	
				35	Anchor Bolts (Embedded Only)	kg	
				40	Concrete Placement	m3	
				50	Strip/Clean/Rub	m2	
				90	User Defined		
						03	Buildings
						02	Vessels
						04	Shop-Fabricated Tanks
						06	Field-Fabricated Tanks
						11	CTG
						13	STG Down Exhaust
						14	STG Axial Exhaust
						17	Compressors and Generators
						22	Horizontal - HRSG
						23	Vertical - HRSG

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	SUBDIVISION	L3 UM	L3	CATEGORY	L3 UM	L5	DESCRIPTION	L5 UM
DIVISION 1 - CONCRETE (Charge Lump Sum subcontractors to Level 2 or 3 as appropriate)											
									25	Fossil Fuel Boilers (PC, CFB, Oil Fired, etc)	m3
									27	Packaged Fired Heaters and Boilers	m3
									28	Field Fabricated	m3
									29	Stacks, Chimneys and Silencers	m3
									31	Air Cooled Condenser	m3
									35	Heat Exchanger Equipment	m3
									37	Cooling Towers	m3
									41	Fans and Exhaust Systems	m3
									43	Pumps	m3
									45	Marine /CW Support Equipment	m3
									51	Pretreatment System	m3
									52	Cycle Makeup Treatment System (Demin System)	m3
									53	Wastewater Treatment	m3
									54	Zero Discharge System	m3
									55	Chlorination Generation	m3
									57	Chemical Systems, Equipment and Skids	m3
									58	Systems/Equipment Packages	m3
									59	Fire and Safety Equipment	m3
									61	SCR Packages	m3
									62	Electrostatic Precipitators	m3
									63	Fabric Filter / Bag House	m3
									64	Wet Scrubbers	m3
									65	Dry / Semi Dry Scrubbers	m3
									66	Chiyoda Scrubbers	m3
									71	Coal Handling	m3
									72	Limestone Handling	m3
									73	Ash Handling	m3
									74	Gypsum Handling	m3
									75	Waste Handling	m3
									76	Cranes and Hoists	m3
									77	Other Moving Equipment	m3
									78	Plant Operations Support Equipment	m3
									80	Bus Duct	m3
									81	Electrical T&D (See Power Delivery)	m3
									82	Generator Breakers	m3
									83	Low Voltage - Switchgear	m3
									84	MCC (Motor Control Centers)	m3
									85	Med Voltage - Switchgear	m3
									86	Substation/Switchyards (See Power Delivery)	m3
									87	SUS (Secondary Unit Substations)	m3
									90	User Defined	m3
20	Precast Concrete	EA									
			02	Sleepers	m						
			05	Walls	m2						
			10	Beams	m						
			15	Columns	m						
			20	Floor Slab	m2						
			25	Tees	m						
			30	Man-holes/Vaults	EA						
			35	Culverts	EA						
			90	User Defined							
30	Shotcrete and Gunnite (Nonfireproofing)	m2									
			10	Buildings	m2						
			20	Underground/Tunnels	m2						
			90	User Defined							
40	Grout	m3									
			10	Epoxy	m3						
			40	Non-Shrink	m3						
			90	User Defined							
50	Concrete Rehabilitation, Patch, and Repair	LS									

LEVEL 2			LEVEL 3			LEVEL 4			LEVEL 5		
L2	SUBDIVISION	L2 UM	L3	SUBDIVISION	L3 UM	L3	CATEGORY	L3 UM	L5	DESCRIPTION	L5 UM
DIVISION 1 - CONCRETE (Charge Lump Sum subcontractors to Level 2 or 3 as appropriate)											
88	Overtime (For Estimating purposes only)	LS	10	Spot	LS						
			20	Scheduled	LS						
			90	User Defined							
90	User Defined										
92	Concrete Testing	EA									

Abbreviations:

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EA - Each

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Section/unit designation structure:

- Cod Section/Unit designation*
- 1 Section/Unit 1
 - 2 Section/Unit 2
 - 3 Section/Unit 3
 - 4 Section/Unit 4
 - 5 Section/Unit 5
 - 6 Section/Unit 6
 - 7 Common plant related to Section/Unit 1 through 3
 - 8 Common plant related to Section/Unit 4 through 6

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 2 - ARCHITECTURAL & METALS											
03	Buildings - Preengineered/Prefabricated	m2	01	Generation Building (BSA)	m2						
			02	Air Qual Control Bldg (BSB)	m2						
			03	Control Center Building (BSC)	m2						
			04	Administration Building (BSD)	m2						
			05	Security Building (BSE)	m2						
			06	Plant Services Building (BSF)	m2						
			07	Compr Gas Storage Bldg (BSG)	m2						
			08	Circ Water Pump House (BSH)	m2						
			09	Coal Car Unloading Bldg (BSI)	m2						
			10	Coal Crusher Building (BSJ)	m2						
			11	Coal Storage Barn (Silo) (BSK)	m2						
			12	Coal Reclaim Structure (BSL)	m2						
			13	Reagent Prep Bldg (BSM)	m2						
			14	Ash Wtr Recyc Pmp House (BSN)	m2						
			15	Water Treatment Building (BSO)	m2						
			16	Makeup Water Pump House (BSP)	m2						
			17	Yard Services Building (BSQ)	m2						
			18	Warehouses (BSR)	m2						
			19	FGD Byproduct Dewtr Bldg (BSS)	m2						
			20	FGD FO Air Blower Bldg (BST)	m2						
			90	Misc Bldgs (BSU)	m2						
			22	Fuel Oil Unloading (BSV)	m2						
			23	Gen Bldg - Boiler (BSX)	m2						
			24	Boiler Feed Pump Bldg (BSZ)	m2						
			34	MCC/DCS	m2						
			35	HRSG Electrical	m2						
			36	Electrical Building/Enclosure	m2						
			37	FW Pump House	m2						
			43	Electro-Chlorination/Chemical Feed	m2						
			28	Switchyard	m2						
			30	Chemical Storage	m2						
			32	Training and Safety	m2						
			38	Fire Station	m2						
			40	Guard House	m2						
			42	CEM Building/Equipment Shelters/Enclosures	m2						
			44	Vehicle Shop	m2						
			50	Canteen	m2						
			80	Residential/Camp	m2						
			90	User Defined							
						10	Steel Erection	TN			
						20	Wall Pre-fabrication and Erection	m2			
						30	Roof Pre-fabrication and erection	m2			
						40	Field Seams and Pipe Penetrations	EA			
						50	Doors, Window Installation, Frame Openings	EA			
						60	Roof/Wall enclosure Trim Work	LS			
						90	User Defined				
									05	Masonry	m2
									10	Woods and Plastics	m2
									15	Doors and Windows	EA
									20	Thermal and Moisture Protection	m2
									25	Interior Finishes	m2
									30	Special Coatings	m2
									35	Specialties and Furnishings	EA
									40	Metal Framing	TN
									45	Equipment Structural	TN
									50	Metal Decking	m2
									90	User Defined	
11	Structural Steel	TN		Pipe Racks - Modular Fabrication (Structural							
			10	Steel Only)	TN						
			11	Pipe Racks - Stick Built	TN						
			30	Buildings -Site Constructed - Steel	TN						
			41	Substation Structures	TN						

LEVEL 2			LEVEL 3			LEVEL 4			LEVEL 5		
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 2 - ARCHITECTURAL & METALS			45	Other Structural Steel Shapes	TN						
			50	Transfer Towers/Junction Houses	TN						
			60	Conveyor Support Steel	TN						
			70	Crusher Structure	TN						
			80	Indoor Coal Storage Facility / Coal Barn	TN						
			90	User Defined							
			10	Light (0 - 20 lbs/lf)							
			20	Medium (21 - 60 lbs/lf)	TN						
			30	Heavy (61 - 200 lbs/lf)	TN						
			40	Extra Heavy (over 200 lbs/lf)	TN						
90	User Defined										
13	Misc Metals (ie shop & field fab items)	TN	35	Grating /Decking/Checker Plate	m2						
			36	Fabricated Supports	TN						
			37	Handrail/Kickplates	m						
			40	Plate Work	TN						
						00	Misc Metals (ie shop & field fab items)	TN	03	Pipe	TN
									04	Equipment	TN
									05	Electrical	TN
									06	Instruments and Tubing	TN
									90	User Defined	

LEVEL 2			LEVEL 3		LEVEL 4			LEVEL 5			
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 2 - ARCHITECTURAL & METALS											
									10	Concrete Masonry Units	m2
									15	Concrete Bond Beams	m
									20	Glass Block	m2
									25	Stone	m2
									30	Reinforcement	kg
									90	User Defined	
			10	Woods and Plastics	m2				10	Woods	m2
									20	Plastics	m2
									90	User Defined	
			15	Doors and Windows	EA				10	Metal Doors and Frames	EA
									20	Wood Doors and Frames	EA
									30	Overhead Doors and Frames	EA
									40	Other Doors and Frames	EA
									50	Weather Stripping	m
									60	Hardware	EA
									70	Windows	EA
									90	User Defined	
			20	Thermal and Moisture Protection	m2				10	Sealants	m2
									20	Waterproofing	m2
									30	Flashing	m
									31	Gutters	m
									32	Downspouts	m
									40	Building Insulation	m2
									50	Roofing/Roof Coverings	m2
									90	User Defined	
			25	Interior Finishes	m2				10	Ceilings	m2
									20	Wall Systems	m2
									30	Wall Coverings	m2
									40	Floor Coverings	m2
									90	User Defined	
			35	Specialties and Furnishings	EA				10	Furnishings - Office	EA
									20	Cabinetry	EA
									30	Computer Floors	m2
									40	Office Equipment	EA
									50	Laboratory Equipment	EA
									51	Laboratory Furnishings/Furniture	EA
									60	Lounge/Restroom Furnishings and Acc	EA
									79	Fasteners, Nuts, Bolts, Washers, etc.	LS
									90	User Defined	
			40	Metal Framing	TN				10	Metal Studs/Wall Framing	TN
									20	Roof and Ceiling Joists	TN
									30	Steel Floor Decking	m2
									40	Steel Roof Decking	m2
									50	Steel Wall	m2
									90	User Defined	
			90	User Defined							
60	Building Electrical and Lighting		10	Electrical	m				10	Wiring	m
									11	Wiring Devices (Switches, Plates, Receptacles, etc.)	EA
									30	Boxes	EA
									40	Panels	EA
									50	Terminations	EA
									90	User Defined	
									92	Testing	LS
			20	Lighting	m2				20	Lighting	m2
									10	Fixtures and Bulbs	EA

LEVEL 2			LEVEL 3			LEVEL 4			LEVEL 5		
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 2 - ARCHITECTURAL & METALS									20	Fixture Supports	EA
									90	User Defined	
									92	Testing	LS
			90 User Defined								
65	Building Plumbing Systems	LS	00	Building Plumbing Systems	LS	00	Building Plumbing Systems	LS	10	Equipment	EA
									20	Fixtures	EA
									30	Pipe, Fittings and Valves	m
									40	Accessories	EA
									90	User Defined	
									92	Testing	LS
70	Building HVAC Systems	LS	00	Building HVAC Systems	LS	00	Building HVAC Systems	LS	10	Equipment	EA
									30	Duct and Fittings	m
									40	Accessories	EA
									90	User Defined	
									92	Testing - HVAC Balance	LS
88	Overtime (For Estimating purposes only)	LS	10	Spot	LS						
			20	Scheduled	LS						
			90	User Defined							
90	User Defined										
92	Architectural and Metals Testing	LS	00	Architectural and Metals Testing	LS	00	Architectural and Metals Testing	LS	10	Steel - Tensile	EA
									11	Steel - Hardness/Brinell	EA
									90	User Defined	

Abbreviations:

LS -	Lump Sum
EA -	Each

Note:

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Coding Structure:

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1. First digit identifies the section/unit as per section/unit designation structure.
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Section/unit designation structure:

Cod Section/Unit designation

- 1 Section/Unit 1
- 2 Section/Unit 2
- 3 Section/Unit 3
- 4 Section/Unit 4
- 5 Section/Unit 5
- 6 Section/Unit 6
- 7 Common plant related to Section/Unit 1 through 3
- 8 Common plant related to Section/Unit 4 through 6

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 3 - PIPING											
2A		2B	3			4					
Grade/Fabrication		Material	Size			Schedule					
1	AG (Shop Fabricated)	0	Carbon Steel		m						
2	BG (Field Fabricated)	1	Stainless		m						
3	AG Field Fab	2	Moly - P91		m						
4	BG - Shop Fab	3	Moly - P22		m						
5	AG Circ Water	4	Moly - (P5, P11, Other)		m						
6	BG Circ Water	5	Plastic/HDPE/Fiber		m						
		6	Cast Iron/Ductile Iron		m						
		7	Concrete / RCP/Concrete Lined		m						
		8	Corrugated Steel		m						
		9	Rubber Lined		m						
			All Tubing in Div 6		N/A						
		05	SB (less than 2 1/2")		m						
		10	2 1/2" to 4"		m						
		20	>4" to 8"		m						
		30	>8" to 12"		m						
		40	>12" to 18"		m						
		50	>18" to 24"		m						
		60	>24" to 30"		m						
		70	>30" to 42"		m						
		80	>42" to 60"		m						
		89	>60"		m						
						10	STD	m			
						20	XS	m			
						30	XXS	m			
73	Stress Relieving/ Heat Treating (Pre and Post)	EA	10	B&V Designed Piping	EA						
			12	Boiler Vendor Designed Piping	EA						
			14	Steam Turbine Designed Piping	EA						
			90	User Defined	EA						
75	Hot Taps	EA									
76	Tie-ins	EA									
77	Engineered Hangers /Supports (for LB and SB Hot Systems)	EA									
78	Fittings (estimating Only)	EA									
79	Nuts/Bolts/Gaskets (Material Only)	LS									
80	Valves (including Motor Operated)- Material Only	EA	80	Piping Valves - Large Bore	EA						
			81	Piping Valves - Small Bore	EA						
			82	Steam Conditioning Valves - Large Bore	EA						
			83	Steam Conditioning Valves - Small Bore	EA						
			84	Control Valves - Large Bore	EA						
			85	Control Valves - Small Bore	EA						
			90	User Defined							
82	Specialty Items	EA	86	Piping Specialty Items - Large Bore	EA						
			87	Piping Specialty Items - Small Bore	EA						
85	Flushing/Pipe Cleaning/ Pigging	LS	15	Chemical Cleaning (Pipe and Boiler)	LS						
			16	Chem Clean waste disposal	LS						
			21	Flushing (as a start-up activity)	LS						
			25	Steam Blows	LS						
			30	Air /Gas Blows	LS						
			40	Hydro Blasting	LS						
			90	User Defined							
88	Overtime (For Estimating purposes only)	LS	10	Spot	LS						
			20	Scheduled	LS						
			90	User Defined							

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 3 - PIPING											
92	Piping Testing /NDE/NDT	LS	10	B&V Designed Piping	EA						
			12	Boiler Vendor Designed Piping	EA						
			14	Steam Turbine Designed Piping	EA						
			19	Other Vendor Turbine Designed Piping	EA						
			90	User Defined							
90	User Defined										

Abbreviations:

LS - Lump Sum
EA - Each

Note:
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Section/unit designation structure:

Cod Section/Unit designation

- 1 Section/Unit 1
- 2 Section/Unit 2
- 3 Section/Unit 3
- 4 Section/Unit 4
- 5 Section/Unit 5
- 6 Section/Unit 6
- 7 Common plant related to Section/Unit 1 through 3
- 8 Common plant related to Section/Unit 4 through 6

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT											
0-	Tanks and Vessels	EA									
02	Vessels	EA									
			05	Towers and Columns	EA						
			10	Internals - Trays	EA						
			11	Internals - Packing	EA						
			12	Internals - Mist Eliminator	EA						
			14	LNG Storage	EA						
			20	Accumulators	EA						
			25	Collectors	EA						
			30	Deaerators	EA						
			35	Scrubbers (Non-AQC)	EA						
						10	Fuel Gas Scrubber	EA			
						20	Solids Handling System (Scrubber)	EA			
						90	User Defined				
			40	Skimmers	EA						
						15	Oily Water Skimmer	EA			
						90	User Defined				
			45	Separators	EA						
						10	Fuel Gas	EA			
						15	Oily Water	EA			
						90	User Defined				
			50	Compressed Air/Gas Storage	EA						
						10	Tanks	EA			
						20	Bottles	EA			
						90	User Defined				
			90	User Defined							
04	Shop-Fabricated Tanks	EA									
			04	Blowdown	EA						
			06	Condensate	EA						
			08	Potable Water	EA						
			10	Instrument Air	EA						
			12	Service Air	EA						
			14	Chemical Storage	EA						
			16	Caustic Storage	EA						
			18	Condensate Collection	EA						
			20	Acid Storage	EA						
			22	Ammonia Storage	EA						
			24	Neutralization	EA						
			26	Water Treating	EA						
			28	Drain Tank	EA						
			36	Surge Tank	EA						
			38	CCCW Head Tank							
			40	Fuel Day Tank							
			90	User Defined							
06	Field-Fabricated Tanks	EA									
			02	Raw Water/Firewater	EA						
			04	Raw Water	EA						
			06	Firewater	EA						
			08	Demin Water	EA						
			10	Seed Tank/Thickener	EA						
			12	Fuel Oil	EA						
			16	Condensate/Process Return	EA						
			20	Neutralization	EA						
			24	Service Water	EA						
			26	Service Water/Firewater	EA						
			28	Potable Water	EA						
			30	Wastewater Storage	EA						
			32	HSD Storage	EA						
			34	Naphtha Storage	EA						
			36	Lime (Limestone) Storage	EA						
			38	Coal Silos	EA						
			90	User Defined	EA						
13	STG Down Exhaust	EA									
14	STG Axial Exhaust										
			25	ST Vendor Supplied - Enclosure	m2						
			30	ST Vendor Supplied - Piping	m						
						10	Large Bore	m			

L2	LEVEL 2 SUBDIVISION	L2 UM	L3	LEVEL 3 CATEGORY	L3 UM	L4	LEVEL 4 ITEM	L4 UM	L5	LEVEL 5 DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT						20	Small Bore	m		10 Carbon Steel 20 Stainless 30 Moly 90 User Defined	
			35	Lube Oil Flush	PC						
			40	ST Vendor Supplied - Off base skids and misc equipment	EA						
			41	ST Vendor Supplied - Turbine Centerline Erection - LP	PC						
			42	ST Vendor Supplied - Turbine Centerline Erection -HP-IP	PC						
			43	ST Vendor Supplied - Generator Erection	PC						
			44	ST Vendor Supplied - Excitation	PC						
			45	ST Vendor Supplied - Hydraulic System	PC						
			50	ST Vendor Supplied - Electrical	m						
						10	Raceway	m			
						20	Cable Pulls	m			
						30	Terminations	EA			
			60	ST Vendor Supplied - Instrumentation	EA						
			70	ST Vendor Supplied - Insulation / Lagging	m2						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
17	Compressors and Generators	EA	05	Black Start Generator	EA						
			10	Emergency Generator	EA						
			15	Gas Compressors	EA						
			20	Plant/Instrument Air Compressor Skids / Air Dryer	EA						
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
25	Fossil Fuel Boilers (PC, CFB, Oil Fired, etc)		11	Vendor Structural Steel	TN						
						10	Light (0 - 20 lbs/lf)				
						20	Medium (21 - 60 lbs/lf)	TN			
						30	Heavy (61 - 200 lbs/lf)	TN			
						40	Extra Heavy (over 200 lbs/lf)	TN			
						90	User Defined				
			13	Stairs, Ladders and Platforms	TN						
			20	Boiler Ductwork Erection	TN						
						10	Primary Air Ductwork	TN			
									10	PA Fan Inlet Duct	TN
									20	PA Fan to Boiler	TN
						20	Secondary Air Ductwork	TN			
									10	FD Fan Inlet Duct	TN
									20	FD Fan to Air Heater	TN
									30	Air Heater to Boiler	TN
						30	Tertiary Air Ductwork	TN			
						40	Flue Gas Ductwork	TN			
									10	Boiler to Air Heater	TN
									20	Discharge of Air Heater	TN
						50	Windbox	TN			
						60	Duct Expansion Joints	TN			
						70	Dampers	TN			
						90	User Defined				
			28	Air Preheater	TN						
			29	Air Heater	TN						
						10	Basket Type	TN			
						20	Tube or Plate and Frame Type	TN			
			30	Vendor Process/Pressure Piping	m						
			31	Coal Piping	m						
						50	Large Bore	m			
						60	Small Bore	m			
									10	Carbon Steel	m
									20	Stainless	m
									30	Moly	m
									90	User Defined	
			40	Vendor Boiler Equipment	TN						

L2	LEVEL 2 SUBDIVISION	L2 UM	L3	LEVEL 3 CATEGORY	L3 UM	L4	LEVEL 4 ITEM	L4 UM	L5	LEVEL 5 DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT						10	Fans	Ea			
									10	Primary Air	EA
									20	Secondary Air/Forced Draft	EA
									30	Influence Draft Fans	EA
						20	Pulverizers	EA			
						30	Burners/Ignitors	EA			
						40	Burner Management	EA			
						50	Soot Blowers	EA			
									10	Steam	EA
									20	Air	Ea
						60	Circulating Pumps	EA			
						70	Coal Feeders	EA			
						90	User Defined				
			42	Fluidized Bed Heat Exchanger	EA						
			44	Cyclones	EA						
			45	Silos, Bins & Hoppers	EA						
						10	Coal Feeders	EA			
						20	Ash Hoppers	EA			
						30	Coal Silos	EA			
						40	Limestone Silos	EA			
			46	Pulverizer/Mills	EA						
			50	Pressure Part Erection	TN						
						10	Drums & Vessels	EA			
									10	Drums / Tanks / Mixing Chambers	
									20	Attemperators / Desuperheaters	
						20	Tubes	EA			
						30	Headers & Links	EA			
						40	Assemblies / Modules	EA			
									10	Furnace / Waterwall	EA
									20	Superheater	EA
									30	Reheater	EA
									40	Economizer	EA
									50	Platen	EA
									90	User Defined	
						50	Downcomers	EA			
									10	Downcomers	EA
									20	Supply/Riser Tubes	EA
									30	Suction Manifold	EA
									90	User Defined	
			60	Non Pressure Parts	EA	60	Vents and Drains	m			
						10	Hangers	EA			
						20	Buckstays/Guides/Bumpers	EA			
						30	Casings & Seals	EA			
						40	Doors & Ports	EA			
			70	Vendor Supplied Insulation / Lagging	m2						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
27	Packaged Fired Heaters and Boilers	EA									
28	Field Fabricated	EA									
			05	Aux. Boiler Not main steam supply	EA						
			10	Incinerators and Flares	EA						
			15	Fired Reaction (Muffle Furnace, 2nd NH ₃ Reforms)	EA						
			20	Vaporizers (Downtherm, Salt Bath)	EA						
			30	Auxiliary Duct Burners	EA						
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
29	Stacks, Chimneys and Silencers	LF									
			11	Vendor Structural Steel	TN						
			21	Ductwork / Breeching	TN						
			24	Silencer	m						
			30	Stacks & Chimneys	m						
						10	Concrete	LF			

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT						20	Steel Stack	LF			
						30	Liner	m			
						40	Standby or Temporary	LF			
						80	Vendor Technical Assistance	Mhrs			
						90	User Defined				
						90	User Defined				
3-	Heat Exchange Equipment	EA									
31	Air Cooled Condenser	EA	11	Vendor Structural Steel	TN	10	Light (0 - 20 lbs/lf)				
						20	Medium (21 - 60 lbs/lf)	TN			
						30	Heavy (61 - 200 lbs/lf)	TN			
						40	Extra Heavy (over 200 lbs/lf)	TN			
						90	User Defined				
			13	Stairs, Ladders and Platforms	TN						
			20	Steam Ductwork Erection	TN						
			24	Siding/Windwalls	m2						
			25	Dampers/Distribution Panels	TN						
			40	Fans	EA						
			45	Condensing Modules	EA						
			48	Accessory Equipment	EA						
			50	Vendor Electrical	m						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
35	Heat Exchanger Equipment		10	Plate and Frame	EA	10	Main/surface Condenser	EA			
			20	Shell and Tube	EA	20	Aux Cooling / Closed Cooling Heat Exchanger	EA			
			30	Air Cooled	EA	32	Condensate Coolers	EA			
			90	User Defined		34	Condensate Pre-heater	EA			
						42	Fuel Gas Pre-heater	EA			
						44	Lube Oil Heater	EA			
						46	Fuel Oil Heater	EA			
						80	Vendor Technical Assistance	LS			
37	Cooling Towers		10	Forced Draft / Mechanical Cooling Tower	EA	10	Wood	EA			
			20	Natural Draft / Hyperbolic Cooling Tower	EA	30	Precast Concrete	EA			
						31	Cast in Place Concrete	EA			
						40	Steel	EA			
						50	Fiberglass	EA			
						90	User Defined				
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
4-	Pumps/Drivers/Rotating Equipment										
41	Fans and Exhaust Systems	EA	10	Fans	EA	10	Primary Air	EA			
						20	Secondary Air / Forced Draft	EA			
						30	Induced Draft	EA			
						90	User Defined		10	Centrifugal Fans	EA
									20	Vane Axial Fans	EA
									90	User Defined	
			20	Exhaust	EA	10	Vacuum Exhausters	EA			
						20	Seal Air	EA			
						90	User Defined				
			30	Blowers	EA						
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
43	Pumps										

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L3	CATEGORY	L4	ITEM	L5	DESCRIPTION
L2 UM		L3 UM		L4 UM		L5 UM	
DIVISION 4 - MECHANICAL EQUIPMENT							
		10	Centrifugal, Turbine Type, Vertical				
		12	Centrifugal, Turbine Type, Horizontal				
		20	Centrifugal, Split Case, Vertical				
		22	Centrifugal, Split Case, Horizontal				
		30	Centrifugal, Volute (Ash/Slurry), Vertical				
		32	Centrifugal, Volute (Ash/Slurry), Horizontal				
		55	Positive Displacement				
				05	1-50 Horsepower		
				10	50-100 Horsepower		
				15	100-200 Horsepower		
				20	200-500 Horsepower		
				25	500-1,000 Horsepower		
				30	1,250-2000 Horsepower		
				35	2,250-4000 Horsepower		
				40	4,500-6000 Horsepower		
				45	7,000-8,000 Horsepower		
				50	9,000-10,000 Horsepower		
				90	User Defined		
						01	Circulating Water
						02	Main Cooling Water
						03	Auxiliary Water Cooling
						04	Closed Loop Cooling Water
						05	Boiler Feed Water
						06	HRSG Blowdown
						07	Auxiliary Boiler Feed Water
						08	HRSG Recirculating
						09	HP/IP Feed Water
						10	LP Feed Water
						11	Condensate
						12	Condensate Vacuum
						13	Condensate Transfer
						14	Condensate Return
						15	Deaerator Feed
						16	Fuel Oil
						17	Fuel Oil Transfer/Unloading
						18	Potable Water
						19	Wastewater Transfer
						20	Oily Water
						21	Fire Water
						22	Makeup Water
						23	Raw Water/Preheat
						24	Demin Water/Transfer
						28	Ammonia Injection
						31	CTG Drain Sump
						32	HRSG Drain Sump
						33	STG Drain Sump
						34	Fuel Oil Area Sump
						35	Oily and Wastewater Sump
						36	Demin Sump
						37	Blowdown Water Sump
						39	Ash Sluice Water
						40	Slurry
						41	Chemical Waste
						43	Sulfur
						44	Sulfur - Duplex Gen. Appl.
						45	Sulfur - Special Submersible
						46	Well Water
						47	Jetting Pumps
						48	Metering
						49	General Service - Horizontal
						50	General Service - Vertical
						51	Fire - Electric
						52	Fire - Diesel

LEVEL 2 SUBDIVISION		LEVEL 3 CATEGORY		LEVEL 4 ITEM		LEVEL 5 DESCRIPTION	
L2	L2 UM	L3	L3 UM	L4	L4 UM	L5	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT						53 Fire - Jockey	EA
						54 Recycle/Reclaim	EA
						55 Vacuum	EA
						56 Irrigation	EA
						57 Lube Oil Transfer	EA
						58 Screen Wash	EA
						59 Chemical Feed	EA
						80 Vendor Technical Assistance	Mhrs
						90 User Defined	
46	Lift Stations	EA					
47	Marine /CW Support Equipment	EA					
		03 Condensate Pump Cans (Steel)	EA				
		05 Sluice Gate	EA				
		10 Traveling Water Screens /Band Screens/Drum Screens	EA				
		20 Trash Rake	EA				
		30 Stop Logs	EA				
		40 Bar Screens	EA				
		41 Bar Screen Scraper	EA				
		50 Condenser Cleaning System	EA				
		60 Circ Water Debris Filter	EA				
		90 User Defined					
5-	Systems/Equipment Packages						
51	Pretreatment System	LS					
52	Cycle Makeup Treatment System (Demin Sy	LS					
53	Wastewater Treatment	LS					
54	Zero Discharge System	LS					
55	Chlorination Generation	LS					
		11 Vendor Supplied Structural Steel	TN				
		13 Stairs, Ladders and Platforms	TN				
		30 Vendor Piping	m				
				10 Large Bore	m		
				20 Small Bore	m		
		40 Vendor Equipment	EA				
		50 Vendor Electrical	m				
				10 Raceway	m		
				20 Cable Pulls	m		
				30 Terminations	EA		
		60 Vendor Instrumentation	EA				
		70 Vendor Insulation	m2				
		80 Vendor TA Time	Mhrs				
		90 User Defined					
57	Chemical Systems, Equipment and Skids	LS					
		08 Potable Water Treatment System	LS				
		12 Cycle Chemical Feed	LS				
		14 Circulating Water Chemical Feed	LS				
		16 Condensate Polishing	LS				
		18 Sampling and Analysis	LS				
		20 Sewage Treatment System	LS				
		24 Circulating Water Sidestream Treatment	LS				
		26 Chlorine Gas Removal System (Scrubber)	LS				
		90 User Defined					
58	Systems/Equipment Packages						
		10 Vacuum Priming	EA				
		11 Fuel Oil Treatment	EA				
		12 Hydrogen System	EA				
		13 Nitrogen System	EA				
		14 Ammonia System - Aqueous	EA				
		15 Ammonia System - Anhydrous	EA				
		16 Urea System	EA				
		17 Carbon Dioxide Storage	EA				
		18 Packaged Process Equipment	EA				
		20 Autoclaves	EA				
		22 Classifiers	EA				
		28 Compactors	EA				
		80 Vendor Technical Assistance	Mhrs				
		90 User Defined					

L2	LEVEL 2 SUBDIVISION	L2 UM	L3	LEVEL 3 CATEGORY	L3 UM	L4	LEVEL 4 ITEM	L4 UM	L5	LEVEL 5 DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT						30	Vendor Piping		10	Large Bore	m
									20	Small Bore	m
						40	Vendor Equipment				
						50	Vendor Electrical		10	Raceway	m
									20	Cable Pulls	m
									30	Terminations	EA
									90	User Defined	
						60	Vendor Instrumentation				
59	Fire and Safety Equipment	LS	01	Design Furnish & Erect Fire systems (Protection & Detection)	lot	09	Foam System	m2			
						10	CO ₂ System	m2			
						15	Sprinkler System	m2			
						16	Precision System	m2			
						20	Wet Pipe	m2			
						25	Dry Pipe	m2			
						50	Smoke Detection System	LS			
						55	Fire Detection System	LS			
						60	Fire Alarm Annunciator and Control System	EA			
						65	Fire Alarm Pull Stations	EA			
						67	Fire Alarm Horns/Strobe Lights	EA			
			30	Fire Hoses, Hydrants and Racks	EA						
			45	Eye Wash Stations & Safety Shower	LS						
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
6-	AQCS Equipment/Packages	EA									
61	SCR Packages	EA	11	Vendor Supplied Structural Steel	TN	50	Large Bore	m			
			13	Stairs, Ladders and Platforms	TN	60	Small Bore	m			
			20	Ductwork / Casing Erection	TN						
			25	Internal Baffles	EA						
			27	Stack & Silencer Erection	TN						
			30	Vendor Piping	m						
			31	Catalyst	EA						
			40	Off base skids and misc equipment	EA						
			50	Vendor Electrical	m	10	Raceway	m			
						20	Cable Pulls	m			
						30	Terminations	EA			
			60	Vendor Instrumentation	EA						
			65	Vendor Control System	EA						
			70	Vendor Supplier Insulation	Mhrs						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
63	Fabric Filter / Bag House	EA	11	Vendor Structural Steel	TN	10	Light (0 - 20 lbs/lf)				
						20	Medium (21 - 60 lbs/lf)	TN			
						30	Heavy (61 - 200 lbs/lf)	TN			
						40	Extra Heavy (over 200 lbs/lf)	TN			
						90	User Defined				
			13	Stairs, Ladders and Platforms	TN	10	Side Enclosure	TN			
			20	Ductwork / Casing Erection	TN	20	Roof Enclosure	TN			
						30	Inlet Ductwork	TN			
						40	Outlet Ductwork	TN			
						50	Cleaning Air Ductwork	TN			

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L3	CATEGORY	L4	ITEM	L5	DESCRIPTION
L2 UM		L3 UM		L4 UM		L5 UM	
DIVISION 4 - MECHANICAL EQUIPMENT							
		25	Dampers/Distribution Panels/Vanes	TN			
		26	Duct Expansion Joints	TN			
		28	Cleaning Air Ductwork	TN			
		30	Fans	EA			
		40	Bags/Cages/Frames/Tubesheets	EA			
		45	Hoppers	EA			
		50	Vendor Electrical	m			
				10	Raceway	m	
				20	Cable Pulls	m	
				30	Terminations	EA	
				50	Electrical Equipment	EA	
		60	Vendor Instrumentation	EA			
		65	Vendor Control System	EA			
		70	Vendor Supplied Insulation / Lagging	m2			
		80	Vendor TA Time	Mhrs			
		90	User Defined				
64	Wet Scrubbers	EA					
		11	Vendor Structural Steel	TN			
				10	Light (0 - 20 lbs/lf)		
				20	Medium (21 - 60 lbs/lf)	TN	
				30	Heavy (61 - 200 lbs/lf)	TN	
				40	Extra Heavy (over 200 lbs/lf)	TN	
				90	User Defined		
		13	Stairs, Ladders and Platforms	TN			
		14	Cladding / Siding	m2			
		20	Ductwork / Casing Erection (A36 Carbon Steel)	TN			
		21	Ductwork / Casing Erection (Fiberglass)	TN			
		22	Ductwork / Casing Erection (Alloy)	TN			
				10	Side Enclosure	TN	
				20	Roof Enclosure	TN	
				30	Inlet Ductwork	TN	
				40	Outlet Ductwork	TN	
				50	Purge Ductwork	TN	
				60	Bypass Ductwork	TN	
		25	Dampers/Distribution Panels/Vanes	TN			
		26	Duct Expansion Joints	TN			
		29	Casing Linings	m2			
		30	Vendor Piping	m			
				50	Large Bore	m	
				60	Small Bore	m	
						10	Carbon Steel m
						20	Rubber Lined CS m
						20	Stainless m
						30	Plastic/HDPE/Fiber m
		40	Scrubber Modules	TN			
		41	Mist Eliminators	TN			
		42	Spray Dryer Absorbers	TN			
		44	Scrubber Reheater	TN			
		48	Accessory Equipment	TN			
				10	Tanks and Vessels	EA	
						10	Reaction Tanks/Mixers/Tanks EA
						20	Quench Tanks/Sprays EA
						90	User Defined
				20	Fans	EA	
				30	Pumps	EA	
				40	Air Compressors	EA	
				50	Slurry Sprays	EA	
				60	Lime Mills	EA	
				70	Rotary Feeders	EA	
		50	Vendor Electrical	m			
				10	Raceway	m	
				20	Cable Pulls	m	
				30	Terminations	EA	
				50	Electrical Equipment	EA	

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L4	ITEM	L4 UM	L5
								DESCRIPTION
								L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT								
			60	Vendor Instrumentation			EA	
			65	Vendor Control System			EA	
			70	Vendor Supplied Insulation			m2	
			80	Vendor TA Time			Mhrs	
			90	User Defined				
7-	Moving and Handling Equipment	EA						
71	Coal Handling	EA						
72	Limestone Handling	EA						
73	Ash Handling	EA						
74	Gypsum Handling	EA						
75	Waste Handling	EA						
			11	Vendor Structural Steel			TN	
					50	Transfer Towers/Junction Houses		TN
					60	Conveyor Support Steel		TN
					70	Crusher Structure		TN
					80	Indoor Coal Storage Facility / Coal Barn		TN
					90	User Defined		TN
								10 Light (0 - 20 lbs/lf)
								20 Medium (21 - 60 lbs/lf)
								30 Heavy (61 - 200 lbs/lf)
								40 Extra Heavy (over 200 lbs/lf)
								90 User Defined
			13	Stairs, Ladders and Platforms			TN	
			14	Cladding / Siding			m2	
			30	Conveyor Systems			m	
					10	Belt		m
					20	Screw		m
					30	Drag Chain		m
								15 Metal Detector
								20 Magnetic Separators
								25 Scales
								30 Trippers
								40 Drives and Pulleys
								50 Hoods and Covers
								90 User Defined
					40	Feeders		EA
								05 Belt
								10 Rotary Plow/Air Lock
								15 Vibrating
								20 Weigh
								25 Magnetic
								30 Slide Gates and Chutework
								35 Flotron
								40 Chemical
								90 User Defined
			32	Elevators - Material			EA	
			36	Scrubber Solids Equipment			EA	
					10	Tanks and Vessels		EA
								10 Thickener Feed Tank
								20 Thickener Overflow Tank
								90 User Defined
					20	Fans		EA
					30	Pumps		EA
								10 Flocculent additive System
								20 Filter Feed
								30 Vacuum
								40 Filtrate
								90 User Defined
					40	Thickener		EA
					50	Filter Blower/Belts/Pug Mill Mixer		EA
					90	User Defined		
			40	Unloading Systems			EA	
					10	Rail Car - Bottom Dump		EA
					20	Rail Car - Rotary Dump		EA

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT											
						30	Barge / Ship Unloaders	EA			
			42	Stacker / Reclaimer	EA	10	Fixed Boom Conveyor	EA			
						15	Radial Stacker	EA			
						20	Traveling Stacker	EA			
						25	Bucket Wheel Stacker / Reclaimer	EA			
						30	Traveling Tripper	EA			
						35	Portal Stacker Reclaimer	EA			
						40	Drum Reclaimer	EA			
						45	Stationary Feeders	EA			
						50	Rotary Plow Feeder	EA			
						90	User Defined				
			44	Bins & Hoppers	EA	05	Bins	EA			
						10	Hoppers	EA			
			45	Silos	EA	20	Concrete Silo	EA			
						25	Steel Silo	EA			
						90	User Defined				
			46	Crushers, Grinders, Agitators, Blenders, Mixers, and Mills (Pulverize EA		05	Pulverizers	EA			
						10	Clink Grinders	EA			
						15	Ball Mills	EA			
						20	Crusher (Coal, Limestone, etc.)	EA			
						25	Agitators	EA			
						30	Blenders	EA			
						35	Mixers	EA			
						90	User Defined				
			48	Dust Collection / Suppression	EA						
			49	Coal Sampling Systems	EA						
			50	Vendor Electrical	m	10	Raceway	m			
						20	Cable Pulls	m			
						30	Terminations	EA			
						50	Electrical Equipment	EA			
						90	User Defined				
			60	Vendor Instrumentation	EA						
			65	Vendor Control System	EA						
			70	Vendor Supplied Insulation	m2						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
76	Cranes and Hoists	EA	02	Bridge Crane - CTG	EA						
			04	Bridge Crane - STG	EA						
			06	Bridge Crane - Cooling Water Pumps	EA						
			08	Bridge Crane - Maintenance Shop	EA						
			10	Jib Cranes	EA						
			12	Crane Rail	m						
			14	Hoists - Manual	EA						
			16	Hoists - Motor Operated	EA						
			20	Gantry Crane	EA						
			22	Semi-Gantry Crane	EA						
			30	Monorails	EA						
			80	Vendor TA Time	Mhrs						
			90	User Defined							
77	Other Moving Equipment		19	People Moving Equipment /Elevators/Man Lifts	EA						
			85	Handling Carts, Trucks	EA						
			80	Vendor Technical Assistance	Mhrs						
			90	User Defined							
78	Plant Operations Support Equipment	EA	01	Dozers	EA						
			02	Scrapers	EA						
			03	Front End Loaders	EA						
			04	Clamshells and Other Excavating Equipment	EA						
			05	Forklifts	EA						
			10	Cherry Pickers	EA						

LEVEL 2 SUBDIVISION		LEVEL 3 CATEGORY		LEVEL 4 ITEM		LEVEL 5 DESCRIPTION	
L2	L2 UM	L3	L3 UM	L4	L4 UM	L5	L5 UM
DIVISION 4 - MECHANICAL EQUIPMENT		15 Cranes	EA				
		20 Machine Shop Tools	EA				
		25 Maintenance Shop Tools	EA				
		30 Fire Trucks	EA				
		32 Dust Suppression Water Truck	EA				
		35 Pickups	EA				
		36 Construction/Heavy Trucks	EA				
		40 Golf Carts/Four Wheelers	EA				
		45 Bicycles	EA				
		80 Vendor Technical Assistance	Mhrs				
		90 User Defined					
84	Oil, Chemical and Material Fills	LS					
		10 Turbine Oil Fills	LS				
		20 Catalyst (if purchased separately)	LS				
		30 Ammonia	LS				
		40 Limestone	LS				
		50 Coal	LS				
		60 Cycle Chemicals	LS				
		90 User Defined	LS				
88	Overtime (For Estimating purposes only)	LS					
		10 Spot	LS				
		20 Scheduled	LS				
		90 User Defined					
90	User Defined						
91	Heavy Haul	EA					
		08 CTG	EA				
		10 STG	EA				
		12 Boiler / HRSG	EA				
		90 User Defined					
92	Mechanical Equipment Testing	LS					
		10 NDE	EA				
		20 Post Weld Heat Treat	EA				
		90 User Defined					

Abbreviations:

LS - Lump Sum
EA - Each

Note:

Please consult with the Engineer before creating any user defined accounts.

Coding Structure:

A Cost Code is a set of digits developed as follows:

1. First digit identifies the section/unit as per section/unit designation structure.
2. Second digit identifies the Division as defined in this document.
3. Third digit onwards- L2 through L5 designation. Two digits for each level.

Section/unit designation structure:

Code Section/Unit designation

- 1 Section/Unit 1
- 2 Section/Unit 2
- 3 Section/Unit 3
- 4 Section/Unit 4
- 5 Section/Unit 5
- 6 Section/Unit 6
- 7 Common plant related to Section/Unit 1 through 3
- 8 Common plant related to Section/Unit 4 through 6

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 5 - ELECTRICAL											
11	Below Ground / Embedded Conduit										
13	Above Ground Conduit		20	PVC	m						
			21	RGS	m						
			25	Flexible	m						
						01	< =1" (2.54 cm)	m			
						02	< =2" (5.08 cm)	m			
						03	3" (7.2 cm)	m			
						04	4" (10.16 cm)	m			
						05	5" (12.70 cm)	m			
						06	6" (15.24 cm)	m			
			90	Other/User Defined							
21	Cable Pulling										
22	Terminations		21	Wire/Conductors/Cable - High Voltage > 15 kV	m						
			22	Wire/Conductors/Cable - Med Voltage 1000V to 15 kV	m						
			23	Wire/Conductors/Cable - Low Voltage < 1000V	m						
			24	Wire/Conductors/Cable - Control	m						
			25	Wire/Conductors/Cable - Instrument and T/C	m						
			26	Fiber Optic	m						
						03	#1/0 through 1000M cm (53.49 - 507.00 mm^2)				
						10	#8 through #1 (8.37 - 42.41 mm^2)				
						15	#22 through #10 (0.324 - 6.26 mm^2)				
						90	User Defined				
31	Grounding /Lightning Protection	m	06	Ground Cable	m						
			10	Exothermic Connections (Cadweld)	EA						
			20	Compression Connections/Splices	EA						
			90	User Defined							
			92	Testing	LS						
32	Electrical Heat Tracing	m	10	Heat Trace Cable Application to Pipe and Equipment	m						
			20	Aux Power Distribution	m						
						10	Wire/Cable/Conductor	m			
						20	Conduit	m			
						50	Control Boxes	EA			
						60	Transformers	EA			
33	Cathodic Protection	EA	10	Impressed Current							
			20	Sacrificial Anodes							
						05	Anodes	EA			
						10	Wire, Cable and Cable Accessories	m			
						20	Conduit	m			
						25	Ground Wells	EA			
						30	Field Test Stations	EA			
						40	Isolation Flange Kits and Isolators	EA			
						45	Coating and Pipe Connections (e.g., Exot	EA			
						90	User Defined				
						92	Testing	EA			
35	Communications Systems	LS				05	Plant LAN/Computer System	LS			
						10	Plant Fiber Optic System	LS			
						15	Plant Phone System	LS			
						20	Plant PA System	LS			
						25	Plant CCTV System/Security	LS			
						30	Radios	EA			
						31	Pagers	EA			
						90	User Defined				
									10	Cable	m
									20	Conduit	m
									30	Patch Panels	EA
									52	Hardware / Equipment	EA
									50	Terminations	EA
									90	User Defined	
									92	Testing	EA
36	Electrical Accessories	EA									

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5								
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM				
DIVISION 5 - ELECTRICAL															
						02 Separately Mounted Motor Starters		EA	10 Size 0			EA			
									11 Size 1			EA			
									12 Size 2			EA			
									90 User Defined			EA			
						05 Consoles		EA							
						10 Cabinets and Panels		EA			05 Size 96x18x18			EA	
											10 Size 96x24x24			EA	
											15 Size 96x24x36			EA	
											90 User Defined				
						15 Panel boards		EA			05 100A through 200A			EA	
											10 400A through 600A			EA	
											90 User Defined			EA	
						17 Protective Relay Panels		EA							
						Junction Boxes (Track as LF of									
						30 Conduit?)		EA			12 24"x24"x12"			EA	
											18 36"x36"x18"			EA	
											24 48"x48"x24"			EA	
											90 User Defined				
						40 Disconnect Switches		EA			05 30A through 100A			EA	
											15 200A through 400A			EA	
											20 600A through 1200A			EA	
											90 User Defined				
						45 Welding Receptacles		EA			05 480 Vac, 30A			EA	
											10 480 Vac, 60A			EA	
											90 User Defined			EA	
						60 Pull Boxes (Track as LF of Conduit?)		EA							
						70 Meters		EA							
						73 Surge Arrestors		EA							
37	Lighting Site/Plant Lighting & Emergency lighting	m	10	Wire/Conductors/Cable	m										
			20	Conduit	m										
			80	Fixtures, Accessories, Fixture Supports, Poles, etc.	EA										
			90	User Defined											
38	Essential AC and DC Systems	EA	10	Battery Charger	EA	10	480 Vac - 125 Vdc	EA							
						11	480 Vac - 250 Vdc	EA							
						90	User Defined								
			20	Batteries	EA	20	125 Vdc	EA							
						21	250 Vdc	EA							
						90	User Defined								
			30	Inverters	EA	30	125 Vdc - 120 Vac, 1 Phase	EA							
						31	125 Vdc - 120/208 Vac, 3 Phase	EA							
						32	250 Vdc - 120 Vac, 1 Phase	EA							
						33	250 Vdc - 120/208 Vac, 3 Phase	EA							
						90	User Defined								
			40	Isolation Xfmr	EA	40	480 Vac - 120 Vac, 1 Phase	EA							
						41	480 Vac - 120/208 Vac, 3 Phase	EA							
						90	User Defined								
			50	Main DC Panelboard	EA	50	125 Vdc, Indoor	EA							
						51	125 Vdc, Outdoor	EA							
						52	250 Vdc, Indoor	EA							
						53	250 Vdc, Outdoor	EA							
						90	User Defined								
			60	Main AC Panelboard	EA	60	120 Vac, 1 Phase, Indoor	EA							

LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 5 - ELECTRICAL											
						61	120 Vac, 1 Phase, Outdoor	EA			
						62	120/208 Vac, 3 Phase, Indoor	EA			
						63	120/208 Vac, 3 Phase, Outdoor	EA			
						90	User Defined				
			70	Converters (DC/DC)	EA						
			90	User Defined	EA						
39	Security Systems	LS									
41	Cable Tray	m									
42	Cable Tray Covers	m									
43	Wire Way	m									
			20	Fiberglass	m						
			21	RGS	m						
			22	Aluminum	m						
						42	cm)	m			
						48	cm)	m			
						44	cm)	m			
						40	cm)	m			
						46	cm)	m			
						62	cm)	m			
						68	cm)	m			
						64	cm)	m			
						60	cm)	m			
						66	cm)	m			
						90	User Defined				
									06	Ladder	
									08	Solid Bottom	
50	Bus Duct										
			52	Iso Phase Bus Duct	m						
			54	Non Seg Bus Duct	m						
						22	800 - 1200 Amp	m			
						26	1600 - 3200 Amp	m			
						36	4000 - 6000 Amp	m			
						42	6300 Amp	EA			
						44	7000 Amp	m			
						46	7500 Amp	EA			
						48	8000 Amp	m			
						50	9000 Amp	m			
						52	10000 Amp	EA			
						54	11000 Amp	m			
						56	11500 Amp	EA			
						58	12000 Amp	EA			
						58	12000 Amp	m			
						60	14000 Amp	EA			
						90	User Defined				
									52	Straight	m
									53	Fittings	EA
									54	Transition Pieces	m
									56	Terminations - Generator	EA
									57	Terminations - Gen Step-up Xfmr	EA
									58	Terminations - Unit Aux Xfmr	EA
									59	Terminations - Switchgear/Other	EA
									60	Wall Penetrations	EA
									80	Purchased Supports	EA
									90	User Defined	
61	Med Voltage - Switchgear	EA									
63	Low Voltage - Switchgear	EA									
65	SUS (Secondary Unit Substations)	EA									
67	MCC (Motor Control Centers)	EA									
71	Generator Breakers	EA									
						10	< or = 6300 AMP				
						20	> 6300 to < or = 7500	EA			
						30	> 7500 to < or = 10000	EA			
						40	> 10000 to < or = 11500	EA			
						50	> 11500 to < or = 12000	EA			
						60	> 12000 to < or = 14000	EA			

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L3	CATEGORY	L4	ITEM	L5	DESCRIPTION
DIVISION 5 - ELECTRICAL							
				70	> 14000	EA	
				90	User Defined		
73	Transformers	EA					
74	Transformer Oil Fill	EA					
		10	Generator Step-up Xfmr	EA			
		24	Unit Auxiliary Xfmr	EA			
		30	Station Auxiliary Xfmr	EA			
		46	Static Start Isolation	EA			
		48	Generator Neutral Grounding	EA			
		50	Lighting, Distribution or Dry Type	EA			
		52	Dedicated Equipment Power Supply	EA			
		54	T&D/ Substation	EA			
		56	Voltage Regulating	EA			
		90	User Defined				
				10	5 MVA	EA	
				12	10 MVA	EA	
				14	12.5 MVA	EA	
				16	20 MVA	EA	
				18	25 MVA	EA	
				20	30 MVA	EA	
				22	40 MVA	EA	
				24	50 MVA	EA	
				26	75 MVA	EA	
				28	100 MVA	EA	
				30	150 MVA	EA	
				32	200 MVA	EA	
				34	215 MVA	EA	
				36	225 MVA	EA	
				38	250 MVA	EA	
				40	300 MVA	EA	
				42	350 MVA	EA	
				44	400 MVA	EA	
				46	450 MVA	EA	
				48	500 MVA	EA	
				90	User Defined		
						10	< or = 29.5 kV
						20	>29.5 kV to = 115 kV
						30	>115 kV to 138 kV
						40	>138 kV to 169 kV
						50	>169 kV to 345 kV
						60	>345 kV to = 500 kV
						70	>500 kV
						90	User Defined
83	Substation/Switchyards (See Power Delivery)	LS					
		50	Electrical - Less Than 69 kV	m			
		51	Electrical - 69 kV	m			
		52	Electrical - 115 kV	m			
		53	Electrical - 138 kV	m			
		54	Electrical - 169 kV	m			
		55	Electrical - 230 kV	m			
		56	Electrical - 345 kV	m			
		57	Electrical - 500 kV	m			
				01	Overhead Line Wire Drops	m	
				04	Cable/Conductors	m	
				05	Conduit	m	
				06	Cable Tray	m	
				12	Bus	m	
						01	Tubular
						02	Strain
						05	Isophase
						10	Nonseg
						90	User Defined
				14	Switchgear/MCCs	EA	
				16	Transformer	EA	
				22	Electrical Accessories	EA	
						17	Relay Cabinets/Panels
						20	Wireways

LEVEL 2			LEVEL 3			LEVEL 4			LEVEL 5		
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 5 - ELECTRICAL											
									35	Circuit Breakers	EA
									40	Switches and Disconnects	EA
									70	Meters/Metering Units	EA
									73	Surge Arrestor	EA
									77	Potential Transformer	EA
									78	Current Transformer	EA
									90	User Defined	
									24	Lighting	m
									29	DC System (Emergency Power/Light)	EA
									32	Grounding	m
									34	Lightning Protection	EA
									80	Purchased Hangers and Supports	EA
									90	User Defined	
									90	User Defined	
85	Electrical T&D (See Power Delivery)	LS									
88	Overtime (For Estimating purposes only)	LS									
			10	Spot	LS						
			20	Scheduled	LS						
			90	User Defined							
90 User Defined											
91	Heavy Haul	EA									
			15	Transformer	EA						
			90	User Defined							
92	Electrical Testing										
			30	Hi-Potential for 5 kV and above	EA						
			35	Megger	EA						
			40	Continuity Check/Ring Out	EA						
			90	User Defined							

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5				
L2	SUBDIVISION	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
L2 UM										
DIVISION 6 - CONTROL SYSTEMS & INSTRUMENTATION										
02	Instruments									
		02	Instruments (in-line)	EA						
					05	Controllers and Recorders	EA			
					10	Indicators	EA			
					15	Transmitters	EA			
					20	Switches	EA			
								05	Flow	EA
								10	Level	EA
								15	Pressure	EA
								20	Temperature	EA
								25	Analyzer	EA
								30	Limit	EA
								90	User Defined	
					24	Flow Computer	EA			
					25	Converters/Transducers	EA			
								10	Shop Mounted	EA
								20	Field Mounted	EA
								90	User Defined	
					30	Thermowells and Temperature Instruments	EA			
								05	Test Wells	EA
								10	With Thermocouple	EA
								15	With RTD	EA
								20	With Indicator	EA
								25	With Switch	EA
								90	User Defined	
					90	User Defined				
		04	Primary Flow Elements and Meters	EA						
					10	Orifice Plates	EA			
					20	Flow Nozzles	EA			
					30	Flow Meters	EA			
					90	User Defined				
06	Control Systems	EA								
		02	Local Control Stations	EA						
		10	DCIS/DCS	EA						
		20	PLC	EA						
		30	SCADA	EA						
		40	Control Drives	EA						
		50	Material Handling Control System	EA						
		90	User Defined							
08	Monitoring Systems	EA								
		02	Flue Gas Monitoring (O ₂ , CO ₂ , and Nox SO ₂ , etc	EA						
		02	Gas Chromatograph	EA						
		04	Weather	EA						
		10	CEMS	EA						
		25	Field Device Management System (FDMS/AMS)	EA						
		30	Vibration	EA						
		40	Moisture	EA						
		90	User Defined							
51	Tubing - Stick	m								
52	Tubing - Preinsulated/Pre-heat Traced	m								
		10	Copper	m						
		20	Stainless	m						
		40	Carbon Steel	m						
		50	Galvanized	m						
		90	User Defined							
					01	1/2"	m			
					02	3/4"	m			
					03	1"	m			
					04	1-1/4"	m			
					05	1-1/2"	m			
					06	2"	m			

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
L2	SUBDIVISION	L3	CATEGORY	L4	ITEM	L5	DESCRIPTION
	L2 UM		L3 UM		L4 UM		L5 UM
DIVISION 6 - CONTROL SYSTEMS & INSTRUMENTATION							
				90	User Defined		
						05	Process m
						10	Instrument m
						18	Sample Line m
						20	Hydraulic/Lube Oil m
						25	Air Lines m
						90	User Defined
80	Purchased Instrument Enclosures, Racks, Trays, Stands, and Supports EA			05	Enclosures EA		
				10	Racks m		
				15	Trays m		
				20	Stands EA		
				25	Supports EA		
				30	Unistrut (or Equal) m		
				90	User Defined		
88	Overtime (For Estimating purposes only) LS						
		10	Spot LS				
		20	Scheduled LS				
		90	User Defined				
90	User Defined						
92	Control Systems and Instrumentation Testing LS						
		10	Instrument Calibration EA				
		20	Functional Loopchecks EA				
		30	Megger Tests EA				
		90	User Defined				

Abbreviations:

LS -	Lump Sum
EA -	Each

Note:
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Section/unit designation structure:

Cod Section/Unit designation
1 Section/Unit 1
2 Section/Unit 2
3 Section/Unit 3
4 Section/Unit 4
5 Section/Unit 5
6 Section/Unit 6
7 Common plant related to Section/Unit 1 through 3
8 Common plant related to Section/Unit 4 through 6

LEVEL 2 SUBDIVISION		LEVEL 3 CATEGORY		LEVEL 4 ITEM		LEVEL 5 DESCRIPTION	
L2	L2 UM	L3	L3 UM	L4	L4 UM	L5	L5 UM
DIVISION 7 - COATINGS - PAINT, INSULATION, and FIREPROOFING							
10 Paint	m2	10 Field Painting 15 Field Touch up Paint	m2 m2	03 Piping 04 Equipment 06 Steel 07 Ductwork/casing	m2 m2 m2 m2	01 Primer Coat Only 02 Primer and Top Coat 03 Three Coat Paint System 04 Four Coat Paint System 05 Five Coat Paint System 90 User Defined	m2 m2 m2 m2 m2
20 Insulation	m2	03 Piping 04 Equipment 40 Duct and Ductwork	m2 m2 m2	05 Calcium Silicate 06 Calcium Silicate w/Al Jacketing and Lagging 10 Mineral Wool 11 Mineral Wool w/Al Jacketing and Lagging 21 Urethane 23 Sprayed Urethane 30 Blankets 31 Blankets w/Al Jacketing and Lagging 40 Ceramic Fiber 41 Ceramic Fiber w/Al Jacketing and Lagging 50 Lagging 60 Rock Wool 90 User Defined	m2 m2 m2 m2 m2 m2 m2 m2 m2 m2 m2 m2		
30 Fireproofing	m2	03 Piping 04 Equipment 06 Structural Steel 40 Duct 90 User Defined	m2 m2 m2 m2				
40 Refractory Coatings	m2	04 Equipment 40 Duct 90 User Defined	m2 m2	10 Nelson Studs 20 Coating 30 Curing 90 User Defined	EA m2 m2		
50 Special Coatings	m2	05 Coat and Wrap - Pipe, if done on site 10 Chemical Resistant 20 Tank Interior Coatings 30 Galvanizing (Hot Dip)	m2 m2 m2 m2				
88 Overtime (For Estimating purposes only) LS		10 Spot 20 Scheduled 90 User Defined	LS LS				
92 Testing							

LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5					
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 7 - COATINGS - PAINT, INSULATION, and FIREPROOFING											

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LEVEL 2			LEVEL 3		LEVEL 4		LEVEL 5				
L2	SUBDIVISION	L2 UM	L3	CATEGORY	L3 UM	L4	ITEM	L4 UM	L5	DESCRIPTION	L5 UM
DIVISION 8 - CONSTRUCTION INDIRECTS											
31	Field Office Expense	MOS									
33	Temporary Facilities										
35	Site Services	MOS									
36	Winter/Weather Protection	LS									
50	Construction Equipment	MOS									
51	Equipment Repair/Maintenance/Oilers (Labor)	Mhrs									
55	Small Tools and Consumables	LS	05	Hand Tools	LS						
			10	Welding Wire and Rods	LS						
			15	Welding Gases	LS						
			20	Tool Storage / Gang Boxes	LS						
			35	Power Cords	LS						
			40	Rigging	LS						
			80	Small Tool Repair/Maintenance	LS						
			90	User Defined							
60	Safety	LS									
70	Start-Up and Preoperational Testing	LS	10	Startup Spares	LS						
			31	First Fills (BOP)	LS						
			40	Startup Consumables	LS						
			50	Craft Startup Support	Mhrs						
			60	Startup Testing & Inst. Equipment	EA						
			90	User Defined							
71	Performance Testing	LS	05	Capacity Tests	LS						
			10	Emissions Tests	LS						
			15	Testing Assistance	LS						
			20	Reliability Test	LS						
			25	Availability Test	LS						
			30	Acceptance Test	LS						
			90	User Defined							
82	Permits	EA									

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