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John A. Dempsey, Jr.
SVP / Fluor Project Director
Vogtle Plant

October 21, 2016

Response Required: Yes No

FLV-WEC-2016-00054

William E. (Robbi) Robinson
ETC Estimate Manager
WECTEC Global Project Services
3735 Glen Lake Drive
Charlotte, NC 28208

Mr. John Crenshaw
Vice President/Project Director
Vogtle Project, Building 120
7828 River Road
Waynesboro, GA 30830

Reference: Estimate to Complete (ETC)

Dear Mr. Robinson/Mr. Crenshaw;

Fluor has completed the management reviews of Fluor's portion of the ETC effort and provides the attached for WEC review and comment. The key documents attached are:

- Basis of Estimate
- ETC Cost Summary for VC Summer
- ETC Cost Summary for Plant Vogtle
- Direct Craft Man-hour Summary – VC Summer
- Direct Craft Man-hour Summary – Plant Vogtle
- Field Non Manual Summary – VC Summer
- Field Non Manual Summary – Plant Vogtle
- Overall resource curve for Fluor Direct Craft and Fluor Field Non Manual Staff – VC Summer
- Overall resource curve for Fluor Direct Craft and Fluor Field Non Manual Staff – Plant Vogtle

In preparing the ETC estimate Fluor has been transparent in providing preliminary information to WEC, and we appreciate the direct communications between the estimating teams. This has been valuable in expediting the preparation of the ETC estimate.

As a result of these estimate alignment efforts and better alignment regarding implementation of some of the project performance improvement ideas at each site, Fluor has been able to take a more aggressive view of the estimated unit rates, resulting in approximately 1.3 MM man hour reduction at each site.

Additionally, Fluor believes that if WEC and Fluor continue to work together in a one team approach to implement the entire list of improvement ideas, over time we should see an even further improvement in direct craft man-hours beyond the current estimate. Based on this we have developed a targeted reduction of direct craft man-hours on the basis that all identified improvements are implemented. Notable Key Improvements Ideas which must be implemented to realize this further reduction are as follows:

- Total List of FAA's to be further evaluated for execution and the previously completed FAA recommendations to be fully implemented
- PIP rev 3 fully implemented (WEC and Fluor items)
- Fluor to manage our scope of work to an Approved Budget. Examples for managing to a budget being: Staffing (PAF's), craft hiring, purchasing, subcontracts, indirects, computers, printer/copiers, project vehicles, equipment, etc.
- Revise pre-approval requirement on overtime to allow for nimble response to critical path or milestone needs without risk of contractual conflicts.
- Clean Engineering Design Drawings and Requisite Materials to be at site on time to support construction schedule. This requires full bulk take offs and purchase requisition of the balance of bulk materials to be completed by WEC home office engineering post haste to support site receiving, inspecting, and bagging/tagging/staging process to align with improved work packages to meet the schedule and work front needs.
- Fluor computer network at site. Wifi network across site to support both Fluor and WEC network tools and computers including FNM staff. Streamlined and functional tablets required for field supervision, QC, and field engineering.

It is important to note that a significant number of the improvement ideas from the Site Improvement Plans are assumed in our Basis of Estimate and required to meet the current estimated man hours, however we believe there is an opportunity to see a compounding improvement when the items above are also implemented. As the improvements are not instantaneous, Fluor is targeting 0.75% per month compounding improvement that if successful would lead to approximately 15% cumulative improvement in later months. Overall this is expected to reduce the estimates for each site approximately as follows:

- VC Summer – 2.2 million direct craft hours, and \$230million.
- Plant Vogtle – 2.2 million direct craft hours, and \$230 million.

Mr. John Crenshaw
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Per your request the detailed commodity account files will be uploaded to WEC's Sharepoint site.

We look forward to meeting with WEC to discuss and clarify any questions that arise during the review process and to jointly further evaluate additional mitigation strategies to lower the ETC results.

Best Regards,



John A. Dempsey Jr.
Fluor Sr. VP – Project Director

CC: Darrell Waters (Fluor)
Jeff Hawkins (Fluor)
David Weiner (Fluor)



Basis of Estimate

WESTINGHOUSE ELECTRIC COMPANY (WEC)

**Plant Vogtle Units 3 & 4
 Waynesboro, Georgia
 Project #: V3GT**

**V.C. Summer Units 2 & 3
 Jenkinsville, S.C
 Project #: S3MM**

Basis of “Estimate to Complete”

REVISIONS			APPROVALS			
REV	DATE	DESCRIPTION	BY	ETL	EDM	PM
A	10/21/16	Issue for WEC Review	WAS/ RAB	SK	RAB	

(ETL: Estimating Team Leader; EDM: Estimating Department Manager; PM: Project Manager)



Basis of Estimate

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Basis of Estimate

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The purpose of this Basis of Estimate (BOE) is to describe the development of the Capital cost estimate for the Fluor scope of work at V.C. Summer and Plant Vogtle Nuclear Power Stations. In general, this BOE describes the scope of work, source of quantities (total and actual to date), estimating methodology, and project execution assumptions.

This BOE is the foundation for the Fluor provided 'Estimate to Complete' (ETC) deliverables and serves as:

1. the source for information required by WEC to integrate into the overall project ETC
2. an important reference document for WEC to assess and develop their risk register and for establishing their overall project cost contingencies
3. the most probable outlook of the Fluor costs for the Construction of the two nuclear projects
4. a source for identified gaps or potential missing scope and quantities for WEC's overall project ETC or in WEC's cost contingency analysis

The allowances identified in this ETC are only associated with the methodology used to develop the ETC. Contingency for scope and quantity changes and other WEC responsible issues are excluded from this ETC.

This ETC estimate is not to be interpreted as an agreement, target price, or firm/fixed price on behalf of Fluor. FEI's contractual arrangement with WEC is Cost Reimbursable with a fixed fee.

1.2 Background

In October 2015, WEC and Fluor entered into a MOU that outlined Fluor Enterprises taking over the construction at Plant Vogtle Units #3 and #4 and V.C. Summer Units #2 and #3 from the previous contractor. A target date of January 1, 2016 was set as the transition date. This date is referred to as "Day One". During the transition planning phase in late 2015, it was agreed that Fluor Enterprises would develop an ETC for both projects, and a validated EPC Schedule for each project that would constitute a re-baseline of the construction scope of the project. Subsequently WEC instructed that the ETC would be based on the June/June target completion schedules, which is now the basis for the ETC.

The Agreement stated that Fluor would provide certain construction services, procurement services for bulk commodities, and would provide Construction Management services.

The ETC was agreed to be based on "to go" quantities and that these quantities would be provided to Fluor Corp by WEC. Purchased "to-date" quantities and associated Purchase Orders were never provided to Fluor and so Fluor has excluded the purchase of all Direct Field Materials in the ETC. This also resulted in Fluor not being able to assess or take into account items that were purchased and can no longer be used. An Estimate schedule was developed that outlined deliverables and their required dates. The go forward date for the ETC was established as April 1, 2016. Therefore all costs incurred prior to April 1, 2016 are excluded from this ETC Estimate.



Basis of Estimate

1.3 Overview - Basis of Estimate

This BOE describes the key components of the estimate, including quantity development, labor costs, indirect costs, productivity adjustments, wage rates, taxes, escalation and contingency. Also included is a list of all allowances, assumptions, qualifications and exclusions that were made in development of the ETC. This BOE also identifies the documents that were used or referenced.

And Estimate Plan was prepared for this ETC estimate, but was never approved. The Estimate Plan included a schedule showing all quantity information was to be provided to Fluor by 27 May 2016. A review of the quantities and “to go” quantities was to be performed and approved by both WEC and Fluor on 15 July 2016. This did not occur due to the quality of the data provided to Fluor. RFI’s and additional data was provided to Fluor in order for the estimate to be developed.

The Estimate Plan also included a GOSP (Governance, Oversight, Support & Perform) Matrix which identified who was going to perform and support various estimating activities. Some items in this GOSP Matrix were to be performed by Fluor, but subsequently were not done per direction given by WEC. The major estimating effort not performed by Fluor was the material pricing of bulk commodities, development of S/C pricing and development of escalation. These and other items are identified later in this BOE and in the Exclusions list.

WEC provided six (6) major working documents and supporting documentation to Fluor that form the basis of this estimate “to go” forecast. These files contain the material and equipment scope and quantities for the VC Summer and the Plant Vogtle AP-1000 Nuclear Power plants.

- MEL Standard plant Quantity file containing material Equipment list
- Module construction list for Vogtle
- Module construction list for VC Summer
- Master bulk material quantities
- Site specific bulk quantities – Vogtle
- Site specific bulk quantities – VC Summer
- Cut/Add list – Vogtle & Summer – Provided after frozen quantities

This estimate is organized by Fluor’s standard cost categories and used Imperial units of measure. Fluor’s standard cost categories and source of pricing are as follows:

- Direct Field Costs containing:
 - Unit and total DFL hours Estimated by Fluor
 - Unit and total DF material cost Excluded, to be added by WEC
 - Unit and total subcontracted cost S/C Log provided by WEC
 - Unit and total permanent equipment cost Excluded, to be added by WEC

1.4 Key Project Milestones and Schedule Dates

The ETC is based on the project milestones and schedule dates shown in the following two tables. Note that the estimate is based upon this schedule and not a ‘validated’ EPC Schedule as originally envisioned.

The Fluor Direct craft resource loading curves developed as part of the ETC effort were developed based on a Level 1 view of the project and not a detailed schedule analysis. Fluor assumed that roughly 97 percent of its Direct work was required by the start date of the Hot Functional Testing (HFT) milestone, and the remaining 3 percent would extend out an additional 5 months.



Basis of Estimate

Table #1 – Key Milestones and Schedule Dates VC Summer

Key Milestones	VCS Unit 2 April 1, 2016 Revised Target Schedule Dates	VCS Unit 3 April 1, 2016 Revised Target Schedule Dates
Licensing		
Contract Award	7/01/2014	NA
Construction		
First Nuclear Concrete	3/9/2013	11/4/2013
CA20 Nuclear Ready to set	5/5/2014	1/20/2016
Set CA01	7/20/2015	8/10/2016
Set Reactor Vessel	9/30/2016	9/30/2017
Set CV Top Head	6/01/2017	6/1/2018
Start Cold Hydro	3/19/2018	3/19/2019
Startup		
Initial Energization	6/01/2017	6/01/2018
Start Hot Functional Testing	6/20/2018	6/20/2019
Fuel On Site	8/01/2018	8/01/2019
Fuel Load	12/31/2018	12/31/2019
COD	6/30/2019	6/30/2020



Basis of Estimate

Table #2 – Key Milestones and Schedule Dates Plant Vogtle

Key Milestones	Vogtle Unit 3 April 1, 2016 Revised Target Schedule Dates	Vogtle Unit 4 April 1, 2016 Revised Target Schedule Dates
Licensing		
Contract Award	7/01/2014	NA
Construction		
First Nuclear Concrete	3/15/2013	
CA20 Nuclear Ready to set	3/15/2014	7/30/2016
Set CA01	8/10/2015	9/30/2016
Set Reactor Vessel	9/30/2016	9/30/2017
Set CV Top Head	6/01/2017	6/01/2018
Start Cold Hydro	3/19/2018	3/19/2019
Startup		
Initial Energization	5/01/2017	5/01/2018
Start Hot Functional Testing	6/30/2018	6/30/2019
Fuel On Site	9/01/2018	9/01/2019
Fuel Load	12/31/2018	12/31/2019
COD	6/30/2019	6/30/2020



Basis of Estimate

1.5 Completed Work

The following scope of work, identified in the Fluor Agreement as Exhibit A (Division of Responsibility) of the Fluor Agreement, as being the responsibility of the Constructor are deemed to be complete and therefore accepted by WEC and is now under their Care, Custody and Control. Therefore the following items are not included in this cost estimate:

- Permanent site access road (Roads item 1, page 45 of 111 in DOR)
- Heavy haul road and crane lift pathways (Roads item 3, page 45 of 111 in DOR)
- Railroad rerouting and extension to support construction within the limits of the site boundary (Railroad item 1, page 45 of 111 in DOR)
- Permanent railway and facilities and Associated security provisions (on-site) (Railroad item 2, page 45 of 111 in DOR)
- Evaluate and upgrade Owners owned rail spur to main line if required. Upgrade to higher capacity is by Contractor. Restore/maintain capacity is by Contractor. (Railroad item 4, page 45 of 111 in DOR)
- Supply Raw Water via minimum 12" diameter pipe at the site boundary (Water Systems item 1, page 45 of 111 in DOR)
- Ring Water hold-up tank (Water Systems item 2, page 45 of 111 in DOR)
- Ring Main for Fire Suppression water on site installed during site preparation. This becomes the permanent Fire Ring Main (Water Systems item 3, page 45 of 111 in DOR)
- Ring Main for Raw water distribution on site – installed during site preparation. The distribution system for Raw Water Ring Main is a permanent installation, with the exception of localized areas. (Water Systems item 4, page 45 of 111 in DOR)
- Raw Water pre-treatment / pre-treatment plant (if needed) (Water Systems item 5, page 45 of 111 in DOR)
- Relocation, extension and distribution on site of W&W supplied existing potable water meeting DCD requirements. This is performed during site preparation and becomes the permanent system (Water Systems item 6, page 45 of 111 in DOR)
- Temporary protection or rerouting of fire header during excavation (Water Systems item 9, page 45 of 111 in DOR)
- Site permits (Site Development item 1, page 45 of 111 in DOR)
- Environment Impact Assessment (Site Development item 2, page 45 of 111 in DOR)
- Soil investigation and boring plan as input for final layout plan (Site Development item 3, page 45 of 111)
- Demolition of existing foundation & structures (Site Development item 4, page 46 of 111 in DOR)
- Installation of construction site Emergency Notification equipment (Site Development item 5, page 46 of 111 in DOR)
- Deforestation (Site Development item 6, page 46 of 111 in DOR)
- Relocation and extension of existing gas lines (Site Development item 8, page 46 of 111 in DOR)
- Relocation, extension and distribution on site of owner supplied existing sewage services (Site Development item 9, page 46 of 111 in DOR)



Basis of Estimate

- Site grading, clearing, plating, grubbing, removal of spoil offsite (Site Development item 10, page 46 of 111 in DOR)
- Slope and shore protection and rip rap within the limits of the site. Assume no more required after April 1, 2016. (Site Development item 11, page 46 of 111 in DOR)
- Construction waste water retention and disposal – Initial Development and Implementation. Fluor is responsible for maintenance and removal. (Site Development item 14, page 46 of 111 in DOR)
- Evaluation of haul routes and site entrance ways (Site Development item 18, page 46 of 111 in DOR)
- Security boundary development (Site Development item 19, page 46 of 111 in DOR)
- Construction site fencing – Initial Development and Implementation. Fluor is responsible for maintenance and removal. (Site Development item 20, page 46 of 111 in DOR)
- General (Site Development item 21, page 46 of 111 in DOR)
- Erosion, Sedimentation and Control Plan – Initial Development and Implementation. Fluor is responsible for monitoring and maintenance. (Site Development item 27, page 46 of 111 in DOR)
- Demolition after initial site preparation in the 2010 timeframe (Site Development item 31, page 46 of 111 in DOR)
- Piling and Caissons if required (Site Development item 32, page 47 of 111 in DOR)
- Supply and Installation of all Construction Support. Maintenance and demobilization of the Construction Support items are part of the Fluor scope (Construction Support items 1 thru 18, page 48 of 111)

1.6 Overview of Physical Scope of Supply

The ETC estimates for the AP1000 plants are based on WEC's "Standard Plant" definition and detailed design quantity information provided to Fluor. The major Structures/ Areas are the Shield/ Containment and Auxiliary buildings making up the Nuclear Island (NI); the Turbine Island (TI) made up of the Turbine Building and Annex Building; and Balance of Plant (BOP) made up of Standard Plant Yard and other Site Specific Scope.

- Containment / Shield Building (NI)
- Auxiliary Building (NI)
- Passive Containment Cooling Ancillary Water Storage Tank (NI)
- Radwaste Building (NI)
- Turbine Building (TI)
- Transformer Area (TI)
- Turbine Building lay down Area (TI)
- Annex Building (TI)
- Standard Plant Yard (BOP)
- Site Specific (BOP)



Basis of Estimate

The ETC estimate used the following Scope Division of Responsibility (DOR):

Description	WEC Responsibility	Fluor Responsibility
Direct & Indirect Craft Labor	Hire and Manage per latest DOR	Hire and Manage per latest DOR; Fluor to price for ETC
Non-Manual Staff Labor	Hire and Manage WEC Required Resources	Hire and Manage; Fluor to price for ETC
Direct Material	Provide MTO to Fluor ; WEC to price for ETC	Procure & Manage as Agent for WEC
Direct Subcontract (L&M)	Provide MTO to Fluor; WEC to price for ETC	Procure & Manage as Agent for WEC
Indirect and Other Costs	Procure and Manage per latest DOR	Procure and Manage per latest DOR; Fluor to price for ETC

The ETC estimate is based upon the following:

	VC Summer	Plant Vogtle
Direct Labor Costs	ETC per Quantities from WEC	ETC per Quantities from WEC
Direct Material Costs	Excluded, ETC to be added by WEC	Excluded, ETC to be added by WEC
Direct Subcontract Costs	Total from WEC's S/C Log plus Fluor Supply Chain Comments, WEC to revise costs to ETC	Total from WEC's S/C Log plus Fluor Supply Chain Comments, WEC to revise costs to ETC
Indirect Manual Costs	ETC per Fluor's Estimating Methodology	ETC per Fluor's Estimating Methodology
Indirect Non-Manual Costs	ETC per Fluor's Staffing Plan	ETC per Fluor's Staffing Plan
Indirect Material Costs	ETC per Fluor's Estimating Methodology	ETC per Fluor's Estimating Methodology
Indirect Subcontract Costs	ETC per Fluor's Estimating Methodology with input from Site Contract Administrator	ETC per Fluor's Estimating Methodology with input from Site Contract Administrator
Other Costs	ETC per Fluor's Estimating Methodology	ETC per Fluor's Estimating Methodology

All "to go" equipment and bulk commodity materials provided in the above listed files as MTO's were developed by WEC and supplied to Fluor for estimating to evaluate the required direct and indirect installation hours. Fluor takes no responsibility for accuracy of scope or quantity base provided by WEC since they were not validated by Fluor.

Cash flow constraints, considerations or restrictions by the Owner and/or WEC were not considered during the considered during the estimating process.

Plant is designed and built to US Codes and Standards, and per the DCD and other NRC requirements

1.7 Basis Documentation

The estimate is based on the following key documentation provided by WEC throughout the Fluor proposal development phase:

Attachment 5 includes the pricing guidelines for Construction Equipment less than 60 tons.



Basis of Estimate

Attachments 6a includes a listing of incorporated "Cut/Add" Changes to the Estimate that were received on October 7, 2016.

WEC presented Equipment and Material files and a file for Modules for the VC Summer project and, the same files for Vogtle. These are described later in the BOE.

2.0 DIRECT FIELD COSTS

2.1 Construction Execution Strategy

2.1.1 Execution Plan

The attached DOR defines the project sub-contracting plan

Fluor will provide construction management, bulk commodity procurement, project controls, field engineering, health safety and environmental (HSE) management, quality control, subcontractor management, and material management services to construct two Westinghouse AP1000 nuclear power units.

Construction of the power block and BOP structures will be self-performed.

Fluor has assumed all permanent plant materials will be available as needed to progress construction effort with no delays or impacts.

2.1.2 Direct Hire Craft labor vs. Sub Contract

The estimate files provided by WEC identify the items that are contracted and which items need to be quantified by Fluor for direct hire installation hours.

The Subcontract Costs were not developed based upon quantities, but were derived jointly by WEC and Fluor from the Subcontract Logs provided by WEC. WEC informed Fluor that Performance and Payment Bonds were included in the S/C value shown in the Subcontract Logs provided to Fluor.

2.1.3 Construction Approach

The AP 1000 has been designed to support a modularized and over the top construction approach. Currently there are structural and mechanical modules identified for each site and site assembly of these modules will be by Fluor. The largest module is expected to weigh 1500 ton. Westinghouse is responsible for the fabrication and shipment of these modules to the site. Fluor is responsible to lift, set, install, connect, and finish out these modules.

2.1.4 Overtime/2nd Shift:

VC Summer includes a \$1.00 per hour differential rate adjustment for night shift, plus associated benefits and burdens.

Vogtle includes a \$0.25 per hour differential rate adjustment for night shift plus half hour paid lunch time, plus associated benefits and burdens. The craft working a



Basis of Estimate

night shift will be paid for 10 hours while only working 9.5 hours. The lunch period is a paid time period.

2.1.5 Work Week

VC Summer's work week is a rolling 3 week shift of 2 weeks at 60 hours per week and 1 week at 50 hours per week. The 60 hours per week is based upon 6 days at 10 hours per day. The 50 hours per week is based upon 5 days at 10 hours per day. The plan is that 40 percent of the ETC hours will be performed on the second shift. Both shifts are working the same work week schedule. This equates to an average work week plan of 56.7 hours per week.

Vogtle's work week is a steady work shift of 60 hours per week. The 60 hours per week is based upon 5 days at 12 hours per day. The plan is that 40 percent of the ETC hours will be performed on the second shift. Both shifts are working the same work week schedule.

2.2 Labor Rate Basis

2.2.1 Vogtle

The craft work at Plant Vogtle will be executed as a Union closed shop. The craft labor rates are based on the current site Project Labor Agreements (except for sheet metal) which is based on-site labor report, date 08-14-16. See Attachment 1c for labor rates, comments and PLA expiration dates.

The craft labor rates shown in Attachment 1c are base wage rates, not composite rates. Composite rates are based upon craft mix and crew mix history and assumptions. A crew mix comprises of a general foreman, foreman, journeyman and apprentices. The site Construction Group assisted in the development of the craft mix and crew mix. See Attachment 4b for information on craft mixes and crew mixes which resulted in the composite average craft labor rates reflected in the estimate.

The compensation adder for craft working a night shift is \$ 0.25/hour. This is shown in Attachment 1c. The impact of the planned overtime and night shift work is captured in Attachment 3b. The premium costs for overtime and night shift work is not included in the craft rates, but is added separately within the Direct and Indirect estimates.

Craft Workers Compensation Insurance is paid under the Owner's OCIP program. Workers compensation is therefore excluded from the estimate. Fluor has included 1.8% for CGL in the ETC since Fluor's corporate guidelines is based upon a recovery of CGL from all projects, regardless of OCIP program. The 1.8% is discounted from the standard rate for a non-OCIP program.

Fluor craft Overhead rate of \$1.00 per craft hour (per contract agreement) is included in the estimate as a separate line.

2.2.2 V.C. Summer

The craft work at Plant VC Summer will be executed as an open shop project. The labor rates are based upon the current site labor agreement and have not been escalated. The craft labor Benefit rate is a carryover of the CB&I Craft Wage Schedule, dated 11/24/14. See Attachment 1a for labor rates and comments. Labor



Basis of Estimate

compensation and burdened rates are as of 08/22/16.

An ALMA was prepared for the project. The recommendation from the ALMA is shown in Attachment 1a. Attachment 1b is an excerpt from the ALMA.

The craft labor rates shown in Attachment 1a are base wage rates, not composite rates. Composite rates are based upon craft mix and crew mix assumptions. A crew mix comprises of a general foreman, foreman, journeyman and helpers. The site Construction Group assisted in the development of the craft mix and crew mix and has agreed to the resulting averages used in this estimate. See Attachment 4a for information on craft mixes and crew mixes which resulted in the average craft labor composite rates reflected in the estimate.

Per Diem is included in the Indirect estimate. Reference Attachments 1a and 2 for the per diem rates in the estimate and its basis. The current site average for craft receiving per diem is 69.6%. However, the average ETC rate used is 76.8% of all craft due to the planned increase of travelers to meet the higher project staffing requirements. Per Diem is not included in the craft labor rate, but added separately within the Indirect Estimate.

The compensation adder for craft working a night shift is \$1.00/hour. This is shown in Attachment 1a. The impact of the planned overtime and night shift work is captured in Attachment 3a. The premium costs for overtime and night shift is not included in the craft labor rates, but is added as a separate line entry within the Direct and Indirect estimates.

Craft Workers Compensation Insurance is paid under the Owner's OCIP program. Workman compensation is therefore excluded from the estimate. Fluor has included 1.8% for CGL in the ETC since Fluor's corporate guidelines is based upon a recovery of CGL from all projects, regardless of OCIP program. The 1.8% is discounted from the standard rate for a non-OCIP program.

Fluor craft Overhead rate of \$1.00 per craft hour (per contract agreement) is included in the estimate as a separate line item.

2.3 Productivity Analysis

A site specific project productivity analysis was performed for Vogtle and VC Summer and is incorporated in the estimate. See Attachment 7 for details of this analysis. The results were reviewed and agreed upon by the Construction teams at Vogtle and VC Summer.

Craft Performance Factors (PFs) were established by Accounts, Areas, and Units. Performance Factors are based on current and previous project experience and information on local unions. The analysis focused on the following attributes that drive craft productivity.

1. Craft Availability – Unemployment and Demand
2. Craft Skill Level & Experience
3. Work Space per Person / Congestion
4. Work Week and Hours
5. 40% Night Shift Work
6. Site Conditions / Logistics
7. Work Heights
8. Climate / Temperature / Precipitation



Basis of Estimate

9. Other Site Specific Performance Conditions

The key results of the Performance Factors are provided below:

Table for Vogtle and VC Summer – PF Results

	Nuclear Island		Turbine Island		BOP
<u>Vogtle Site</u>	Unit A	Unit B	Unit A	Unit B	1.45
ETC Analysis	1.95	1.70	1.89	1.64	
<u>VC Summer Site</u>	Unit A	Unit B	Unit A	Unit B	
ETC Analysis	1.90	1.65	1.83	1.59	1.45

2.4 Quantity Basis

Design quantities for both Standard Plant Design and Site Specific design were provided to Fluor by WEC. Installed quantities were also provided to Fluor by WEC. Fluor used these two sets of values to calculate “to be installed” quantities. Labor effort hours were applied **only** to the items coded “to be installed”.

The HVAC estimate was provided by WEC based on Subcontract pricing and information received from the subcontractor.

2.4.1 MTO Documents

This table lists the documents/files provided to Fluor by WEC and their use in developing the estimate.

Document/ File Name	MTO Quantity Use	Provided by
FROZEN-Quantity Report-ETC Bulk Quantities R3.xls – Posted to Fluor 08/24/2016	Standard Plant total bulk Qtys and installed Qtys both sites	WEC
FROZEN-Quantity Report-ETC Bulk Quantities R5.xls – Posted to Fluor 10/10/2016	To be used for subcontractor scope identification only	WEC
FROZEN-Quantity Report SITE Vogtle-ETC Bulk R3.xlsx – Posted to Fluor 08/29/2016	Plant Vogtle total bulk Qtys and installed Qtys	WEC
FROZEN-Quantity Report SITE Vogtle-ETC Bulk R4.xlsx – Posted to Fluor 10/03/2016	To be used for subcontractor scope identification only	WEC



Basis of Estimate

FROZEN-Quantity Report SITE VCS-ETC Bulk Quantities R4.xlsx – Posted to Fluor 08/22/2016	VC Summer total bulk Qtys and installed Qtys	WEC
FROZEN-Quantity Report SITE VCS-ETC Bulk Quantities R5.xlsx – Posted to Fluor 10/07/2016	To be used for subcontractor scope identification only	WEC
FROZEN_MEL Components R2.xls – Posted to Fluor 08/29/2016	Includes non-equipment items such as door, bath fixtures, valves, duct accessories, instruments, Archt. finishes	WEC
FROZEN_MEL Components R3.xls – Posted to Fluor 10/01/2016 (Includes Site Specific Mels)	To be used for subcontractor scope identification only	WEC
VCSummer Site Specific MEL.xlsx – Posted to Fluor 06/20/2016	Site specific equipment	WEC
Vogtle Site Specific MEL.xlsx – Posted to Fluor 06/20/2016	Site specific equipment	WEC
Additional_Cranes_RevA_09_JUNE_2016.xlsx	Bridge Cranes, Monorails/ Hoists, Vertical lift equip.	WEC/ Moorside
Electric_Components_RevA23_MAY_2016.xlsx	Electrical Equipment	WEC/ Moorside
Electric_Cubicles_RevA_23_MAY_2016.xlsx	Electrical Equipment	WEC/ Moorside
Fuel_Handling_Components_RevB.xlsx	Fuel Handling equipment including cranes, hoists, tools	Wec/ Moorside
HeatExchangers_RevA.xlsx	Heat Exchangers, Cooling Towers, Condensers	WEC/ Moorside
HVAC_RevA_16_May_2016.xlsx	Ductwork, Dampers, & HVAC Equip. Surface area for duct insulation.	WEC/ Moorside
Large_Primary_Equipment_RevB.xlsx	Tanks & Vessels; Cooling Pumps; Containment Vessel	WEC/ Moorside
LoopPiping_RevA.xlsx	Primary Coolant Loop Piping	WEC/ Moorside
Pumps_RevA.xlsx	Pump equipment detail	WEC/ Moorside
RV_and_Components_RevB.xlsx	Reactor Vessel; Internals; & Components	WEC/ Moorside
Tanks_RevC.xlsx	Shop Fab Tanks; PXS Gutter	WEC/ Moorside
TurbineLineParts_RevA_23_MAY_2016.xlsx	Steam Turbine and Condensers	WEC/ Moorside
Valves_Rev B_13_May_2016.xlsx	Valves; Manual and Actuated	WEC/ Moorside



Basis of Estimate

Vessels_RevB.xlsx	Vessels; Shop Fab	WEC/ Moorside
Additional_Items_RevA_31_MAY_2016.xlsx	HVAC Equip. Misc. Hoists; Monorails; Cranes; Pumps; Tanks	WEC/ Moorside
2016 ETC Estimate CUT + ADD Sheet R2 – Posted to Fluor 10/07/2016	Late changes to quantities reports identified after frozen document date	WEC

2.4.2 Allowances

No “uplift” allowances for additional quantities, cut/waste, Owner caused rework, over pour, overbuy is included in the estimate. The only allowances included in the estimate are for Direct Field Labor (DFL) hours when the scope item was unclear or poorly defined and an allowance of hours was established for the ETC estimate. These allowances are identified in the ETC with a unit of measure of “LOT” or “LS”. Additionally all subcontract values are considered an allowance as quantity information was not available in a timely manner to develop a “bottoms up” estimate for the Subcontracts.

2.5 Pricing Basis for Direct Material Costs

Direct Material costs are being estimated by WEC procurement in the form of unit rates based on the MEL estimate file and the site specific data files transmitted to Fluor. WEC will be responsible for adding these material costs to Fluor’s estimate.

2.6 Prime Accounts

The Prime Accounts include the following items within Fluor’s standard Direct Field Costs categories:

- 00 Site Preparation, Roads, Excavation and Piling
- 10 Concrete
- 20 Steel
- 30 Buildings
- 31 HVAC
- 40 Mechanical Equipment
- 41 Modules
- 50 Piping
- 60 Electrical
- 61 Auxiliary Systems
- 70 Instrumentation and Controls
- 80 Paint
- 81 Insulation



Basis of Estimate

The Prime accounts described above were estimated based on a combination of Fluor Standard work effort hours, VCS and Vogtle historical information, quantity data supplied by WEC, engineering and design data supplied by WEC. Additional details regarding these prime accounts, such as quantity, pricing, and general assumptions are provided in the following sections.

2.6.1 Site Preparation, Roads, Excavation and Piling

Balance of Plant (BOP) and Site Specific civil and site work quantities were supplied by Westinghouse and used to develop estimated construction costs.

The following line item(s) have been excluded due to a general lack of scope definition

- Fill Material Processing - 2 LS
- Site Dewatering - 12 LS
- Demolition for Removal - 3 LS
- Directional Boring/Tunneling - 1 LF
- Paving, Concrete - 1 SF

ASSUMPTIONS

1. Erosion Control – 4,028 AC – Allowance of 38.07 Mhrs/Unit
2. Guard Post & Bollards – 803 Ea – Allowance of 3.15 Mhrs/Unit
3. Lift Station – 2 Ea – 1,277 Mhrs/Unit
4. Grade Protection – 964,054 Sf – Allowance .07 Mhrs/Unit
5. Load, Haul and Dump (excess) – 151,665 Cy – Allowance .11 Mhrs/Unit

2.6.2 Concrete

The estimated man-hours per ton of reinforcing steel has been based on shop fabricated steel, it does not include any field fabrication.

It is assumed the man-hours for the operation of the concrete Batch Plant and delivery of ready mix is included within the indirect portion of the estimate, therefore excluded from this account.

The estimate assumes the concrete ready mix quantities provided by Westinghouse are the "Net Quantity" installed; no adjustments have been included for over-pour, testing, etc.

Craft man-hours applied to the provided Grout quantities (Epoxy and Cementitious) has been based on an average of Grouting has been included based on an average rate for applications at Structural Column bases and equipment bases to an average thickness of 2".

2.6.3 Steel

Structural Steel and Miscellaneous Metals quantities were provided by Westinghouse as described in section 2.4.



Basis of Estimate

Per the direction of Westinghouse, supplemental steel quantities have been included in the "Structural Steel (Light)<18ppf" and "Steel (medium), 18-<80ppf" categories. Due the large differences in unit man-hours per ton, the proportional mix was requested from Westinghouse however no response was received. For this ETC, the following table summarizes the composite unit rate mix used in the estimate and will be the basis of change.

Basis of Supplemental Steel vs Light	VC Summer		Vogtle	
	Total Tonnage	Estimated Percent Supplemental	Total Tonnage	Estimated Percent Supplemental
Shield Building	1,765	35%	1,765	35%
Annex Building	1,539	20%	1,318	20%
Auxiliary Building	524	25%	590	25%
Turbine Building	3,181	0%	3,258	0%
Diesel Generator	262	0%	262	0%
Radwaste Building	402	0%	402	0%
Standard Plant Yard	136	0%	171	0%

The Steel craft man-hours estimate assumes all finished shop applied coating will have the appropriate "black out" at all field connection areas, no additional man-hours have been included for removing paint, galvanizing, etc.

The Steel craft man-hours estimate assumes all steel will be shop fabricated off-site, no on-site fabrication has been included

2.6.4 Buildings

Building Standard Plant and BOP Standard Plant building quantities were supplied by Westinghouse and used to develop estimated construction costs.

All quantities were provided to Fluor by WEC as described section 2.4.

The following line item(s) have been excluded due to a general lack of scope definition

- Containment Vessel - 1 EA
- Build-Out, Finishes - 1 LS
- Building Structure/Finishes - 806 SF
- Plumbing - 3 LS
- Pre-Fabricated Buildings - 30,335 EASF
- Finishes - 1 SF

ASSUMPTIONS

1. Overhead Coiling Doors and Operators
 Doors, rolling service, steel, motor operated, fire, class A, 20 gauge, 14' x 14' high, including hardware. Finish Painting is not included.
2. Standard Metal Doors, Frames and Hardware
 1-3/4" x 3'-0" x 7'-0" Hollow Metal Doors, impregnated honeycomb core, fabricated from 18 Gauge Skin, 14 Gauge Channels and baked-on epoxy primer. Pressed Steel Frame is Knockdown (KD) with 4-3/4" or 5-3/4" throat, fabricated of 16 Gauge Steel, Bonderized and Prime Coated. Hardware includes a Standard Duty Cylinder Type Lockset;



Basis of Estimate

- Hinges, Prime Painted, Full Mortise, Ball Bearing; Concealed Automatic Flush Bolts on Inactive Leaf; 1/2" x 4" Aluminum Threshold. Panic Exit Devices are included for Exit Doors. Finish Painting is not included. (Single Leaf: 67% of total door count and Double Leaf: 33% of total door count)
3. Wire Mesh Doors, Partitions, and Frames
Woven wire partitions, for tool or stock room enclosures, channel frame, painted wall panels, 1-1/2" diamond mesh, 10 gauge. wire, 4' w x 10' h and sliding doors, full height, 6' w x 10' h, Finish Painting is not included. (Single Leaf: 100% of total door count)
 4. Special Security Doors
Steel door, flush UL 752 Level 8, both 14 gauge, 1-3/4", 4'-0" x 7'-0", with ballistic core and welded frame, Finish Painting is not included. (Single Leaf: 100% of total door count)
 5. Water Tight Doors
Hinged Watertight Door, 3'-0" x 7'-0", with Mechanical Seal (D3C) Finish Painting is not included. (Single Leaf: 100% of total door count) by Presray Corporation, Wassaic, NY or equal
 6. Building Insulation
Roof deck insulation, fiberglass, 2-7/16" thick, R10
 7. HVAC Systems Security Barriers
Maximum Security Perforated Face Grille (MSPG) by Price Industries Inc., Suwanee, GA or equal
 8. Emergency Eyewash/Safety Showers
Industrial safety fixture, shower, single head, drench, ball valve, pull, freestanding, walk-thru decontamination with eye-face wash
 9. Windows
Windows, aluminum, commercial grade, stock units, sliding, insulating glass, 9'-0" x 5'-0" opening, incl. frame and glazing
 10. Dishwashers
Dishwasher, commercial kitchen equipment, automatic, 190 to 230 racks per hour
 11. Ice Makers
Ice flakers, commercial kitchen equipment, 1,000 lbs per day
 12. Oversized Specialty Security / Shield Doors
Steel door, flush UL 752 Level 8, both 14 gauge, 1-3/4", 5'-0" x 8'-0", with ballistic core and welded frame, Finish Painting is not included. (Single Leaf: 100% of total door count)
 13. RCDT Shield Doors
Steel door, flush UL 752 Level 8, both 14 gauge, 1-3/4", 4'-0" x 7'-0", with ballistic core and welded frame, Finish Painting is not included. (Single Leaf: 100% of total door count)
 14. Hatches
Aluminum or Galvanized Steel Hatches, Low Profile or Sloped Cover, average 32 SF each, Insulated, with Curb, Spring Loaded Hinge Cover and Weather Gasket.
 15. Raised Flooring Systems
2' x 2' metal or metal with wood core panels with High Pressure Laminate surface (HPL). One electrical/equipment panel with box and one vent panel for each 100 Square Feet of floor area. Height is assumed to be 8" to 18" above the existing subfloor. The panels are supported on free standing pedestals or on pedestals with grid system.
 16. Bullet Resistant Enclosures



Basis of Estimate

- Guard house, prefab concrete, level IV, 8' x 8', with bullet resistant doors, windows, exterior roof, lights, wiring & insulation
17. Security Enclosures
Guard house, prefab concrete, level IV, 8' x 8', with bullet resistant doors, windows, exterior roof, lights, wiring & insulation
 18. Wall Gun Ports
Sliding Bullet Resistant Gun Port (SSGP) by Armortex, Schertz, TX or equal
 19. Defensive Fighting Positions
Prefabricated Bullet Resistant Armored Fighting Positions (AFP's) by PROTECH Armor Systems, Pittsfield, MA or equal
 20. Portable Defensive Fighting Positions
Defensive Fighting Position (DFP) by Perimeter Security Products, Churubusco, IN or equal
 21. Security Active Barriers
Ground Retractable Vehicle Barrier (GRAB-400) by Futurenet Security Solutions, Franklin, TN or equal
 22. Plant Security Delay Barriers
Turnstiles, high security, galvanized, electric, 5'-5" diameter x 7' high
 23. Louvers
Louver, aluminum, extruded, with screen, mill finish, average 50 SF each, dual combination, with motor for electric or pneumatic operation, intake or exhaust
 24. Relief Panels
Steel siding, factory sandwich panel, 2" insulation, galvanized, average 25 SF each, polyvinylidene exterior finish, 22 gauge, incl. fasteners
 25. Containment Vessel Seals
Allowance Included for Estimated Craft Labor Man Hours
 26. Showers
Shower, stall, polypropylene, with molded stone floor, 32" x 32", includes drain, built-in shower head, arm, by-pass, integral stops, handles, mixing valve control and door/curtain.
 27. Fireproofing on Structural Steel
Fireproofing, Monokote, Sprayed on Structural Steel, 2" thick
 28. Waterproofing Sealants and Membranes
Membrane waterproofing, on walls, glass fiber fabric, 3 ply, mopped
 29. Masonry Walls and Structures
Concrete block, exterior, tooled joints both sides, normal weight, 2000 psi, 12" x 8" x 16", includes mortar, grout and horizontal joint reinforcing every other course, excludes scaffolding and vertical reinforcing. Finish Painting is not included.
 30. Roofing, Insulation and Flashing
Built-up roofing systems, coal tar pitch with gravel, slag surfacing, coated glass fiber base sheet and 2 plies of glass fiber felt, (type IV), mopped, on nailable decks
 31. Metal Siding
Steel siding, factory sandwich panel, 2" insulation, galvanized, polyvinylidene exterior finish, 22 gauge, incl. fasteners.

2.6.5 HVAC

All HVAC System scope except for subcontracted HVAC insulation is by WEC. The list of HVAC scope to be estimated by WEC includes:



Basis of Estimate

1. Equipment (ACU's, AHU's, Coils, Dampers, EFU's, Exhausters, Fans, Filter Units, Heaters, Humidifiers, Louvers, Plenums and Tanks)
2. Duct, Duct Supports
3. Expansion Joints
4. Filters

2.6.6 Mechanical Equipment

Standard Plant

Erection hours for equipment are based on sizes and weights provided by Westinghouse. Estimating has alerted and discussed this with Westinghouse.

The Nuclear Steam Supply System (NSSS) erection and Steam Turbine Generator erection hours are based upon a recent Darlington nuclear estimate with comparison to Toshiba installation guidance and adjusted per equipment list provided by Westinghouse.

The equipment scope is based on the Westinghouse mark-up of the UK estimate file. There is a possible scope gap for equipment that was not in the original UK estimate file. Westinghouse needs to investigate and provide the necessary estimate cost associated if there are missing items.

Site Specific

The erection hours for the balance of plant and site specific equipment are based on equipment sizes, compared to previous estimates utilizing equipment with similar sizes and weights.

Allowance for installation of shims is included in the estimate.

2.6.7 Modules

A list of modules is referenced in [Attachment 8](#).

The hours included in the estimate file have been reviewed by the relevant and responsible VCS construction managers and this estimate includes their comments. Both site estimating teams from Vogtle and VC Summer performed a module by module estimate review and submitted a combined module estimate in summary format with specific comments on all modules.

Westinghouse did not provide the field weld quantities for the modules. Therefore site estimators at both Vogtle and VC Summer developed weld quantities from the detailed design drawings. The length of weld is what Vogtle estimators concentrated on for their labor hour estimates. VC Summer estimators developed weld volume which includes length and size, type of weld and position of the weld to deposit. The following is mostly VC Summer specific.

The direct craft hours shown on the estimate includes the site location factor multiplier. There are separate categories for the site to:

1. connect the sub module assemblies into modules,
2. move, lift and set the assembled modules into the final location, and



Basis of Estimate

3. to structurally connect the modules to the plant.

For all modules the effort to move, lift and set in final position is based on weight categories.

The installation estimates for the various types of mechanical modules KB, KU, KQ, R and Q are based on a review of the drawings showing the connection details. Both welding and bolting requirements were quantified. For welding requirements the weld volume was calculated based on the weld symbol. The estimate of in place welding hours includes consideration for the position of the weld; flat, vertical, horizontal or overhead. Field drilling of holes and bolt witness torque time is considered.

This estimate was originally based on no site assembly or repair to resolve QA deficiencies for any mechanical modules to be included in this estimate. The starting instruction received by estimating was to consider all off site fabricated mechanical modules as "perfect". During construction management review of the mechanical modules estimate a comment was received to include site fabrication / rework of specific to a detailed list of mechanical modules subsequently forwarded to estimating.

The structural modules shown in this estimate are based on the extrapolation of hours per ton for module assembly and final fit up install from a few very detailed estimates created for specific modules or plant components. The detailed MTO in all cases develops pounds of weld metal to deposit and the labor hours do account for weld position and the differences in metallurgy. Most of the assembly estimates for the CA floor modules are backed up with a detailed weld MTO and estimate.

A detailed estimate and basis of estimate for the IRWST tank was created and it includes for the in place welding bolting and or assembly of components and modules CA01, CA02, CA03, CA55, CA56, and CA57. It was discovered that the IRWST tank floor is Duplex stainless steel and is fully welded together from loose shipped parts and all welded seams require a leak chase. This IRWST tank floor and internal components are included in this estimate as dark blue highlighted items. No concrete is included for the IRWST but the leak chase embedded carbon steel, heavy Duplex embedded plates and stainless steel parts are included. The hours per module ton to install the IRWST was back calculated from the IRWST module parts to forecast "to-go" hours for the modules not based on detailed estimates.

A detailed estimate and basis of estimate was created for Module 31. Module 31 is almost 41 tons and the detailed estimate is based on the design drawings which define the installation sequence that is caused by the physical space around the reactor vessel. The result is that the majority of the pieces of the module must be stick built in place welded assembly. The install in-place hours per ton back calculated for module 31 is 768.6 hrs/ton (including scaffolding, paint and concrete).

A detailed estimate and basis of estimate was created for Module CA20 specific to units 2 and 3. The CA20 estimate(s) account for the remaining module wall and floor work and leak chased Duplex stainless steel loose floor installation. Not included in this module estimate is the concrete and reinforcing steel needed to be cast on the module floors or underneath the leak chased duplex stainless steel floors.



Basis of Estimate

The module CA01 has internal Duplex walls in the refueling pool area that will require a Duplex floor with embeds and leak chased seam welds for the refueling pool. Since the refueling pool floor is also to be created by shipped loose parts, the same labor back calculated from the IRWST tank floor of 19 hrs/sf (with productivity) is applied to the CA01 refueling pool floor. This is included for both unit 2 and unit 3. For unit 3 the B plate welding is included at 17,000 hours.

This estimate includes CB20 as a site assembled by direct craft item. The 150,000 estimated hours to assemble one tank is based on receiving off site fabricated sub modules and welding the sub modules together. This tank is constructed from Duplex and includes welded on carbon steel external structural members. All Duplex seam welds have a leak chase external to the wetted side of the tank interior.

Equipment Piping and Commodity Modules

The estimates encompassing family of modules KB, KQ, KU and R modules were derived from the latest drawing revisions obtained from Documentum. However, it must be noted that a large number of the drawings used were undergoing E&DCR revisions at the time the estimate was constructed.

Estimates prepared for these modules covered the following construction areas;

1. Assembly Hrs.
2. Setting Hrs.
3. Field Fit-up/Tie In Hrs.

As a review comment and provided list of specific mechanical equipment modules will be fabricated or repaired on site. This separate scope list was labor estimated and this is included in this estimate as field fabrication items. The estimated labor hours for the site fabrication or repair fabrication are based on the Highbridge and associates developed estimate for all the non-safety related mechanical modules.

Other than just stated list the fabrication of modules is excluded from this estimate and is subcontracted off site by others. Electrical-controls, piping connections are also excluded and are covered by the technical disciplines respectively, using piping plans, P&IDs, Cable Schedules AKA the Bulk MTOs.

2.6.8 Piping

Standard Plant (VC Summer)

The Piping Estimate is based on an MTO provided by WECTEC via files "Quantity Report – ETC Bulk Quantities R3" and file "MEL Components R2" :

- The piping estimate is based on shop fabricated piping for all above ground piping.
- MTO provided by WECTEC included the Standard plant quantities with total pipe lengths only. The MTO excluded fittings. Piping composite installation hours were developed using Fluor in-house fitting frequency by specification designation from similar projects by area.



Basis of Estimate

- Piping specifications by size per system and isometric drawing are included in the estimate.
- Pipe insulation is included in the insulation account.
- The Pipe Heat Tracing is included in the Electrical account.
- Painting and sandblasting for Carbon Steel pipe is included in the painting account.
- Pipe Supports, Specialty, Hydro-Testing and Flushing are a part of piping account 50.203 "Pipe – Eng. Supports, Specialty, Testing, Other".
- NDE is excluded from the piping account and included in the indirect estimate.
- The MTO for Pipe supports / hangers did not include and sizes or weights. Therefore an allowance is included of 80Mhrs / support.
- Hydro-Testing and flushing is included in estimated hours.
- All valves and inline devices with no size in Standard Plant priced and labored as 5" average pipe size,
- Quick connectors .75", all drains 4",
- Labeling Pipe 1 every 30 ft. 12 unit hours is included in estimate.
- Valve tags are included @ .24 unit hours each.
- Labeling Pipe has been included - 1 label per 30 feet @ .12 unit hours.
- Allowed 25 unit hours for pipe seal and penetrations.
- Allowed 20 unit hours for pipe supports with no size.

Site Specific

The Piping Estimate is based on an MTO provided by WECTEC via files "Quantity Report SITE VCS-ETC Bulk Quantities R4" and MEL Components R2:

- The piping estimate is based on shop fabricated piping for all above ground piping.
- MTO provided by WECTEC included the Standard plant quantities with total pipe lengths only. The MTO excluded fittings. Piping composite installation hours were developed using Fluor in-house fitting frequency by specification designation from similar projects by area.
- Piping specifications by size per system and isometric drawing are included in the estimate.
- Pipe insulation is included in the insulation account.



Basis of Estimate

- The Pipe Heat Tracing is included in the Electrical account.
- Painting and sandblasting for Carbon Steel pipe is included in the painting account.
- Pipe Supports, Specialty, Hydro-Testing and Flushing are a part of piping account 50.203 "Pipe – Eng. Supports, Specialty, Testing, Other".
- NDE is excluded from the piping account and included in the indirect estimate.
- The MTO for Pipe supports / hangers did not include and sizes or weights. Therefore an allowance is included of 80Mhrs / support.
- Hydro-Testing and flushing is included in estimated hours.
- All valves and inline devices with no size in Standard Plant priced and labored as 5" average pipe size,
- Quick connectors .75", all drains 4",
- Labeling Pipe 1 every 30 ft. 12 unit hours is included in estimate.
- Valve tags are included @ .24 unit hours each.
- Labeling Pipe has been included - 1 label per 30 feet @ .12 unit hours.
- Allowed 25 unit hours for pipe seal and penetrations.
- Allowed 20 unit hours for pipe supports with no size.
- Excavation and backfill included in underground piping material and labor.
- Assumed Hose stations @ 1.5".
- Underground pipe with no pipe class description, assumed to be HDPE.

Standard Plant (Vogtle)

The Piping Estimate is based on an MTO provided by WECTEC via files "Quantity Report – ETC Bulk Quantities R3" and file "MEL Components R2" :

- The piping estimate is based on shop fabricated piping for all above ground piping.
- MTO provided by WECTEC included the Standard plant quantities with total pipe lengths only. The MTO excluded fittings. Piping composite installation hours were developed using Fluor in-house fitting frequency by specification designation from similar projects by area.
- Piping specifications by size per system and isometric drawing are included in the estimate.



Basis of Estimate

- Pipe insulation is included in the insulation account.
- The Pipe Heat Tracing is included in the Electrical account.
- Painting and sandblasting for Carbon Steel pipe is included in the painting account.
- Pipe Supports, Specialty, Hydro-Testing and Flushing are a part of piping account 50.203 "Pipe – Eng. Supports, Specialty, Testing, Other".
- NDE is excluded from the piping account and included in the indirect estimate.
- The MTO for Pipe supports / hangers did not include and sizes or weights. Therefore an allowance is included of 80Mhrs / support.
- Hydro-Testing and flushing is included in estimated hours.
- All valves and inline devices with no size in Standard Plant priced and labored as 5" average pipe size,
- Quick connectors .75", all drains 4",
- Labeling Pipe 1 every 30 ft. 12 unit hours is included in estimate.
- Valve tags are included @ .24 unit hours each.
- Labeling Pipe has been included - 1 label per 30 feet @ .12 unit hours.
- Allowed 25 unit hours for pipe seal and penetrations.
- Allowed 20 unit hours for pipe supports with no size.

Site Specific (Vogtle)

The Piping Estimate is based on an MTO provided by WECTEC via files "Quantity Report SITE Vogtle-ETC Bulk R3" and MEL Components R2:

- The piping estimate is based on shop fabricated piping for all above ground piping.
- MTO provided by WECTEC included the Standard plant quantities with total pipe lengths only. The MTO excluded fittings. Piping composite installation hours were developed using Fluor in-house fitting frequency by specification designation from similar projects by area.
- Piping specifications by size per system and isometric drawing are included in the estimate.
- Pipe insulation is included in the insulation account.
- The Pipe Heat Tracing is included in the Electrical account.



Basis of Estimate

- Painting and sandblasting for Carbon Steel pipe is included in the painting account.
- Pipe Supports, Specialty, Hydro-Testing and Flushing are a part of piping account 50.203 "Pipe – Eng. Supports, Specialty, Testing, Other".
- NDE is excluded from the piping account and included in the indirect estimate.
- The MTO for Pipe supports / hangers did not include and sizes or weights. Therefore an allowance is included of 80Mhrs / support.
- Hydro-Testing and flushing is included in estimated hours.
- All valves and inline devices with no size in Standard Plant priced and labored as 5" average pipe size,
- Quick connectors .75", all drains 4",
- Labeling Pipe 1 every 30 ft. 12 unit hours is included in estimate.
- Valve tags are included @ .24 unit hours each.
- Labeling Pipe has been included - 1 label per 30 feet @ .12 unit hours.
- Allowed 25 unit hours for pipe seal and penetrations.
- Allowed 20 unit hours for pipe supports with no size.
- Excavation and backfill included in underground piping material and labor.
- Assumed Hose stations @ 1.5".
- Underground pipe with no pipe class description, assumed to be HDPE.

2.6.9 Electrical

Standard Plant

General

Electrical Equipment Basis of Quantities are based on MEL Components R2

Bulk Material Basis of Quantities are based on Quantity Report – ETC Bulk Quantities R3

- Cable and Terminations
 - Low Voltage Power Cable quantities are based on Quantity Report – ETC Bulk Quantities R3 (Cable-Scheduled)
 - Lighting Cables quantities are based on Quantity Report – ETC Bulk Quantities R3 (Cable-Unscheduled)



Basis of Estimate

- Unit Instrument & Control Cables quantities are based on Quantity Report – ETC R3 (Cable-Schedule)
 - Fiber Optic Cable quantities are based on Quantity Report – ETC Bulk Quantities R3 (Cable-Scheduled)
 - Fire Detection and Communication Cable quantities are based on Quantity Report – ETC Bulk Quantities R3 (Cable-Unexpected)
 - Cable/Wire (scheduled and unexpected) Termination quantities are based on Quantity Report – ETC Bulk Quantities R3 (Terminations), the man-hours included are for 1/C of 1 end of the cable.
-
- Labor for Underground Raceway quantities (conduit straight sections) are based on Quantity Report – ETC Bulk Quantities R3. Underground conduit fittings were not identified and therefore Fluor added 90 degree bends, connectors, and spacers as required to arrive at an overall composite rate.
 - Labor for Aboveground Raceway quantities (conduit straight sections) are based on Quantity Report – ETC Bulk Quantities R3. Aboveground conduit fittings were not identified and therefore Fluor added 90 degree bends, and conduit connections as required to arrive at an overall composite rate. Labor for Aboveground Raceway quantities (cable tray straight sections) are based on Quantity Report – ETC Bulk Quantities R3. Aboveground cable tray fittings, splice plates, and hold down clips have been added as required to arrive at a composite rate.
 - Labor for Aboveground Raceway Engineered Support quantities (conduit and cable tray) are based on Quantity Report – ETC Bulk Quantities R3. They were identified as Conduit and CT Supports.
 - Labor for Aboveground Raceway Non-Engineered Support quantities (conduit and cable tray) are based on Quantity Report – ETC Bulk Quantities R3. They were identified, and are included in the aboveground conduit and cable tray composites.
 - Labor for light fixture quantities is based on Quantity Report – ETC Bulk Quantities R3. Light fixture supports have been added by Fluor.
 - Labor for Underground Grounding Wire quantities are based on Quantity Report – ETC Bulk Quantities R3. Grounding rods, cadwelds, and test wells have been added as required to arrive at a composite rate.
 - Labor for Aboveground Grounding Wire quantities are based on Quantity Report – ETC Bulk Quantities R3. Grounding connections, cadwelds, and test wells have been added as required to arrive at a composite rate.
 - Lightning Protection Wire quantities are based on Quantity Report – ETC Bulk Quantities R3, lightning protection air terminals, surge protectors, and connections have been added as a composite by Fluor.
 - Heat Tracing Cable quantities are based on Quantity Report – ETC Bulk Quantities R3, thermostats, connection kits, support material, and caution labeling have been added as a composite by Fluor.
 - Cathodic Protection, all quantities have been deleted from Quantity Report – ETC Bulk Quantities R3.
 - For specific Electrical Contracts, see Attachment **Attachments 10b and 10c**.

Site Specific

Electrical Equipment Basis of Quantities is based on MEL Components R2 (VC Components on Data Sheets and Vogtle Components on Data Sheets)



Basis of Estimate

Bulk Material Basis of Quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3

- Cable and Terminations
 - Low Voltage Power Cable quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3
 - Lighting Cables quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3
 - Unit Instrument & Control Cables quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3
 - Fiber Optic Cable quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3
 - Cable/Wire (scheduled and unscheduled) Termination quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3), the man-hours included are for 1/C of 1 end of the cable.
- Aboveground Raceway quantities (conduit straight sections) are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3. Aboveground conduit fittings, 90 degree bends, and conduit connections have been added as a composite by Fluor. Used 90% <3", 7% 3-4", and 3% 5-6".
- Underground Raceway quantities (conduit straight sections) are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3. Underground conduit 90 degree bends, connectors, and spacers have been added as a composite by Fluor. Used 41.4% 4" PCV and 58.6% 4" RGS.
- Conduit – Non-Metallic (503,064LF) on Quantity Report Site VCS-ETC Bulk Quantities R4, man-hours based on 98% <=4" U/G PVC and 2% >4" U/G PVC.
- Lighting quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3. Light fixture supports have been added by Fluor.
- Grounding quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3, grounding rods, cadwelds, etc. have been added as a composite by Fluor.
- Lightning Protection quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3, lightning protection air terminals, surge protectors, and connections have been added as a composite by Fluor.
- Heat Tracing Cable quantities are based on Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3, thermostats, connection kits, support material, and caution labeling have been added as a composite by Fluor.



Basis of Estimate

- Cathodic Protection, all quantities have been deleted from Quantity Report Site VCS-ETC Bulk Quantities R4 and Quantity Report Site Vogtle-ETC Bulk Quantities R3,
- Miscellaneous and Support
- For specific Electrical Contracts, see Attachments 10b and 10c.

2.6.10 Auxiliary Systems

Fluor Auxiliary Systems are a grouping of the Emergency Preparedness System (EFS) and Plant Security System (SES). All procurement is by Owner or Westinghouse. Westinghouse has awarded this work to multiple subcontractors. It is assumed that the MTO files have identified the scope that is either Fluor's or Subcontractor's responsibility to install.

For the EFS, Fluor will be responsible for all cabling, conduit/raceway, end devices and racks. The estimate assumes all of these quantities were supplied in the MTO files given to Fluor. For the SES, Fluor will be responsible for installing everything that has not been awarded to the SES contractor. The estimate assumes all of these quantities were supplied in the MTO files given to Fluor.

Fluor is aware of one ductbank that will be installed within the Unit 1's Controlled Area for communication/security lines. The estimate has been adjusted for access and productivity issues associated with working inside an operating plant's "controlled" area.

Fluor is aware that the Site Specific Communications design is not complete and cannot be estimated at this time.

Fluor is aware that a new owner controlled area will be established west of unit 3 that will impact construction completion of Unit 4. Impacts have not been evaluated at this time.

The following is a listing of subsystems or scope that is considered to be Auxiliary Systems.

Emergency Preparedness System:

- Internet Protocol Plant Paging & Notification System (IPPA)
- Digital Enhanced Cordless Telephone System (DECT)
- Land Mobile Radio System (LMRS)
- Emergency Private Branch Exchange (EPBX)
- Sound Powered Phone (SPP)
- SES intercom System (SESIC)

NON EP Communications

- Closed Circuit Television (TVS)
- Business Network System (BIZ)
- Satellite Phone Communication System (Conduits only)

Plant Security System:

- Protected Area Entry Access Control Equipment/Facilities
- Vital Area Access Control Equipment/Facilities
- BRE's, Gun Ports, and other Security Enclosures (AS 20)



Basis of Estimate

- Intrusion Detection and assessment system (IDS)
- Delay barriers and features (AS21)
- Security Computers and Consoles (JC03)

2.6.11 Instrumentation and Controls

Standard Plant

- Instrument types and quantities are based on MEL Components R2. Man-hours include installation, calibration, and loop check.
- Control Panels and Console quantities are based on MEL Components R2.
- Electronic Cabinet quantities are based on MEL Components R2.
- Local Panel quantities are based on MEL Components R2.
- Instrument Mounting Plate quantities are based on MEL Components R2, man-hours is based on the installation of pre-fabricated plates.
- Computer quantities are based on MEL Components R2.
- Instrument Racks and Support quantities are based on MEL Components R2, installation is based on pre-fabricated Racks and Supports.
- Packaged Instrument System quantities are based on MEL Components R2.
- Aux & Remote Relay Panels quantities are based on MEL Components R2.
- Instrument Specialty quantities are based on MEL Components R2.
- Instrument Valve Manifold quantities are based on MEL Components R2.
- Instrument Tubing and Pipe quantities are based on MEL Components R2, tubing fittings, connections, and supports have been added as a composite by Fluor.
- No allowance has been included for installation of vendor supplied instruments since no count was provided.

Site Specific

For systems delineated as Raw Water, Circulating Water, and Cooling Towers in the DOR, instrument quantities were derived primarily from similar projects for equivalent or similar systems.

- The following equipment is considered a vendor package provided with all necessary instrumentation and installation material. No instruments or required bulk material are included in the Instrumentation quantities:
 - MR01- Self Contained Breathing Apparatus
 - MS01- Water-Cooled Chillers
 - MS02- Air-Cooled Chillers
 - MS03- Decontamination Equipment
 - MS07- Diesel Oil Transfer Packages
 - MS10-Air Handling Units
 - MS11- Air Filtration Units

 - MS12- General Area Room Coolers
 - MS14- Containment Recirculation Fan Cooling Units
 - MS17- Potable Water Chlorinator
 - MS23- VES Air Tank Package
 - MS31-Raw Water System Package



Basis of Estimate

- MS32-Fire Pump Packages
- MS34-Sanitary Waste Treatment Plant
- MS44-Diesel Fuel Offloading Packages
- MS50-PGS Plant Gas Packages
- MS51-PGS Nitrogen Package
- MS52-PGS Hydrogen Package
- MS53-PGS Carbon Dioxide Package
- MS54-Argon Gas Package
- MS55-Sanitary Lift Stations
- MS59-Safety Related Air Filtration Unit
- MS90-Post 72 Hour Temporary Power Supply Units
- MS93-Self-Contained Breathing Apparatus Refill Station

Equipment Basis of Quantity

- ILRT Temporary Instrumentation Package JS30 will be a contracted service supplying temporary testing equipment and services.
- No quantities were included in the estimate for tubing and fittings.
- Temperature elements and indicators are to be quantified as assemblies and are assumed to include an associated thermowell. Thermowells are not listed as a separate instrument.
- Thermocouples and RTDs are assumed to be direct wired to the control system. Temperature transmitters are not provided.
- Instruments installed on or integral to broader components (e.g. – bearing vibration elements, bearing thermocouples, motor winding RTDs, valve position sensors, etc.) are typically furnished by the equipment supplier and not included in the listed quantities.
- Process and Area Radiation Monitors are by Westinghouse and are not included in the provided instrument quantities.
- Radiation Monitors JS21, 22, 23, 24, and JS25 specified by Westinghouse and procured by Fluor are not included in the provided instrument quantities. Westinghouse is responsible for estimating.
- Seismic Monitoring equipment JS01 is by Westinghouse and is not included in the provided Instrument Quantities.
- Meteorological and Environmental Monitoring System JS09 is by Westinghouse and is not included in the provided Instrument Quantities.
- All Control System hardware (e.g. - DCIS, Condition Monitoring, Asset Management, etc.) is by Westinghouse and is not included in the provided Instrument Quantities. All I/O is assumed to be hardwired.
- No scope or quantities are included for a Plant Data Network such as an IT network, Local Area Network (LAN), Wide Area Network (WAN), or any other corporate data infrastructure.

Bulk Material Basis of Quantity

- Bulk material for instrument stands, tubing, and tubing support tray is not included in the provided quantities and should be estimated based on the included instrument quantities.

2.6.12 Painting & Coatings



Basis of Estimate

The WEC provided quantities included "Paint, Architectural", "Painting, Structural Steel", "Specialty Coatings" (at VC Summer only) and "Paint, Other" (at Vogtle only). Any piping painting or coating, if required, is included in the piping section of this document. All other paint and/or coatings will be excluded from the ETC and will be addressed via change process.

1. "Paint, Architectural"
Assumed to be two coats, smooth finish, spray applied latex product or equal. A mix of 90% has been assumed to be field work and 10% to be trim work (non-productive applications). No surface preparation has been included for Paint, Architectural. (for reference only - RS Means has a standard unit rate of .005. The current estimate has included a standard unit of .028 (when adjusted for PF average .045 Mhrs/SFCA).
2. "Paint, Structural Steel" is included as a Subcontract package.
3. "Specialty Coatings" is included as a Subcontract package.
4. "Paint, Other" is included as a subcontract package.

2.6.13 Insulation

All HVAC insulation was identified as subcontract, no quantities were provided by WEC for this scope. Fluor has included the subcontract amount as listed on the register.

Pipe Insulation has been included as a Subcontract package.

Equipment Insulation has been included as a Subcontract package.

Metal Reflective Insulation - Is identified as a Westinghouse subcontractor package. It has been assumed to be included in the allowance established for Insulation in the Subcontract Log.

Note that any support for WEC's insulation contractor(s) is not included in Fluor's ETC. This would include such items as

- Unload Shipment at site and Place in Storage
- Preparation of level and Well-drained assembly area for staging functions
- Planning of site facilities, including storage, lay down yard, temporary preparation area, machine /maintenance workshops, offices, etc.
- Safety Training
- Supply of electrical power, compressed air, water, toilers, dumpster, waste management
- Construction area free of concrete slabs and footings that would prohibit free and open travel by Supplier's construction equipment.
- Placement of RV and RV Supports
- Supply of crane(s) of sufficient capacity and reach over the Containment Wall to unload MRI into Containment
- Dust protection cover for MRI
- Scaffolding for MRI worker
- Sufficient area to store/laydown MRI from BOM.



Basis of Estimate

2.7 Premium Time

Premium time for VC Summer is 36.0% (54.4 hrs / 40.0 hrs). From a cost view, all overtime worked, even on Sundays and holidays, is at a 50% rate over the straight time rate. For all overtime hours and the second shift rate differential, the total premium wages paid out is 14.60% over the straight time rate. Reference Attachment 3a.

Premium time for Vogtle is 42.5% (57.6 hrs / 40.0 hrs). From a cost view, all overtime worked, except on Sundays and holidays, is at a 50% rate over the straight time rate. For Sundays and holidays, double time is paid. For this estimate, it has been assumed that no work going forward will be worked on Sundays or holidays. For all overtime hours and the second shift rate differential, the total premium wages paid out is 14.58% over the straight time rate. Reference Attachment 3b.

2.8 Handling of Punchlist Items

Cost of performing punchlist work is typically included with Cost Contingency. Therefore the Fluor ETC estimate has excluded this cost and considers it to be included with WEC's cost contingency analysis.

3.0 INDIRECT COST

The estimate for indirect cost is based on information generated through site visits and site meetings conducted by the indirect estimator and site staff.

The estimates are prepared using Fluor standard Templates per each of the indirect cost elements of this estimate in house cost data for similar projects using benchmarking for all of the related indirect cost as stated on the project summary sheet.

3.1 Construction Indirect

The indirect estimate is based upon Vogtle's and VC Summer's history in 2016 and Fluor Construction's nuclear experience for each category of Indirect costs, plus an evaluation of the burn rate through June 2016 to adjust the ETC estimate.

This estimate will include costs for the following (but not limited to):

- Construction Management field staff
- Temporary Construction Facilities and Construction Services
- Scaffolding
- Fire Watch
- Construction Equipment and Small Tools/Consumables
- Insurance

3.2 Construction Management

The VC Summer and Vogtle Field Non-Manual Staff Estimates were developed considering the following:

- The Fluor Scope of Work (SOW) and Division of Responsibility (DOR) in accordance with the executed Prime Contract documents.
- The WEC Project Schedule to complete the two Units in June of 2019 & 2020, respectively.
- The estimate for Field Staff hours assumes a commencement date of April 02, 2016



Basis of Estimate

- The estimate is based upon actual contractual compensation rates for personnel, including burdens and assignment provision costs as applicable.
- For yet to be determined (TBD) positions, average position grades were determined by each functional group and associated average base rates were used and uplifted by the contractual compensation rates, including burdens and assignment provisions.
- The estimate excludes hours and costs for WEC/WECTEC seconded personnel.
- The estimate of Field Staff hours is based upon a Direct Hire Craft resource loading, including the night shift support. The estimate of Field Non-Manual staff hours supports the Direct Hire Craft working week.
- Full access to WEC computers/systems on day 1 of Staff arrival on site (currently seeing significant delays. WEC to provide timely support for those systems.
- Full Fluor network at site (Hardware and installation provided by WEC).
- Full site WiFi (for WEC network)
- No rework related to Engineering & Design Change Requests (EDCR's), Nonconformance and Dispositions (N&D's), etc.
- No additional work is deferred to the field then is specifically identified in the estimate of the direct scope.
- No staff is included for support of Field Fabrication of Pipe Spools or Rebar.
- Subcontracts – No claims or litigation actions are assumed to need Fluor support.
- Subcontracts – Revise LOA (approval process) to improve award and change management process.
- Procurement – Allow Fluor to streamline the Permanent Plant Purchase Requisition process.
- This estimate includes support for the craft that will be seconded to WEC for component testing and pre-operational assistance.

3.3 Temporary Construction Facilities and Services

Temporary Construction Facilities and Services include the following items:

- Temporary Construction Buildings & Facilities
- Weather Protection
- Maintenance and Operation of Construction Buildings & Facilities (includes utilities)
- General Construction Services (warehousing, material transportation, etc.)
- Field Office Supplies and Expenses
- Construction Equipment, Small Tools, Consumables, Weld Rod and Gases
- Cranes over 60 Tons
- Heavy Haul and Special Rigging
- Equipment Fueling, Oil Services, Maintenance
- Insurances

3.3.1 Construction Indirect

3.3.1.1 91-00 Temporary Construction Buildings & Facilities:

The estimate for this account covers the cost of rental for the existing buildings that are on a rental contract. For future buildings and facilities, they were identified by Fluor's Construction Group and added as part of the Functional Area Assessment (FAA). In addition the following facilities were added.

1. Rebar fab shop (VC Summer)
2. Pipe fab shop within the MAB (VC Summer)
3. Building 302 (Future office complex) - VC Summer



Basis of Estimate

4. FAA 12a &b – Site Reorganization (Vogtle)
 - a. Relo buildings 207 and 171
 - b. Refurbish buildings ASB 303 & 307
 - c. Relocate Annex building
 - d. New carpenter shop and form work assembly yard
 - e. Demo “shanty” row west of U4
5. Containment vessel rotational dome cover (material pricing based on recent purchase price) – VC Summer and Vogtle
6. Additional pads for “placing booms”(Vogtle)
7. Rental of off-site indoctrination office (Vogtle)

Pricing for existing rental buildings came from the rental agreements. Pricing for new buildings were obtained from in-house pricing.

The estimate includes maintenance of construction buildings and facilities. The estimate is based upon a staffing plan and a material spend rate plan.

3.3.1.2 91–30 Weather Protection:

The estimate includes shelters, tarps and removable weather enclosures for protecting materials and personnel. A crew has been included to build and maintain weather protection for cold/hot weather installations plus any specific protective care (e.g. controlled environment areas) during the open top construction.

- Miscellaneous Wind Breaks (material pricing based on burn rate)

3.3.1.3 91–40 Construction Utilities:

This estimate includes maintenance, relocation, and repair of onsite utilities for electrical distribution, sewer, water (including temporary fire protection piping) and communication systems.

This estimate includes an allowance for rerouting of previously installed underground utilities due to interferences with permanent plant underground systems.

3.3.1.4 91-50 Utility Bills:

All costs for electricity and other utilities are provided by WEC at Vogtle and VC Summer. This includes utilities for onsite and offsite facilities and warehouses. Exception being the water and power utility bills for the VC Summer Metro Office.

Heating fuel costs are included in Vogtle and VC Summer estimates.

The estimate includes costs for heating oil at Vogtle and VC Summer.

3.3.1.5 91-60 Temporary Roads, Parking and Fences

The estimate includes temporary fencing installation, fencing maintenance and removal, site erosion control, maintenance of gravel lay down areas and dust control with water trucks. Estimate also includes maintenance of the site access rail spurs. An allowance is included for snow/ice removal.



Basis of Estimate

A general description of Construction Services included in this Estimate follows.

3.3.1.6 92-00 Construction Services:

Construction Services costs are either "Time-Driven" or "Craft-hour" driven. The estimate is based on site burn rates as a guide for establishing the forecast "to go" cost.

3.3.1.7 92-11 Job Clean up and Janitorial:

This category consists of the following activities:

- General cleanup (FTE craft plan over time),
- Final clean up (developed a plan)
- Building janitorial service site labor (FTE craft plan over time)
- Dumpster Service for construction and non-construction waste (Fluor's contract administrator provided forecast)
- Toilet Trailers and Port-a-jons are both services by a contractor (Fluor's contract administrator provided forecast)

3.3.1.8 92-12 Site Services:

Site Services includes the following time driven construction services:

- Material handling and delivering to intermediate work areas
- Warehouse work force
- Warehouse supplies, pallets, dunnage, tarps
- Tool room attendants and rod room attendants
- Bussing is required at both sites. Bus operator costs are based upon a staffing plan. The costs for the busses are in the Construction Equipment rate.
- Crews to handle and distribute water and ice. A subcontractor is on both sites to supply additional ice.
- Surveyors site craft crew including instruments (VC Summer only; Vogtle is using non-manual staff)
- Site security is managed by WEC. VC Summer has included purchase of Security supplies and the ETC is based upon current expenditure rate
- Equipment preservation, including preventive maintenance supplies (labor and material plans were developed)
- Upgrades to the existing Time & Attendance system at Vogtle
- Site mockup (For Vogtle, this cost is in the Directs; For Summer, SCANA requests the mock-ups, labor and material costs are based upon an expected spend plan)
- Work stoppage due to wind, lightning, and heat stress
- Show up pay (0.5% on total craft hours at both sites)

3.3.1.9 92-14 HSE Costs:

HSE costs included are as follows. Costs are calculated as a percentage of construction hours:

- Safety Training/Orientation included for Summer and Vogtle
- Drug Testing (WEC pays for the test; Labor is included for random tests at both sites)



Basis of Estimate

- Safety awards and ceremonies included for Summer and Vogtle
- Specific skilled training for heavy equipment, fire safety, etc is included at both Vogtle and Summer
- Safety meetings at Summer and Vogtle is included
- Union/steward meetings are included at Vogtle
- First Aid supplies
- Allowance of craft hours for Employee Review Board is included for Summer

3.3.1.10 92-15 Personnel Testing:

This category consists of the following costs associated with Personnel Testing and are based on a factor of direct craft hours:

- Physicals for crane operators (based on projected operator count plus turnover rate)
- Welder testing

3.3.1.11 92-17 Miscellaneous Professional Services:

It has been assumed that costs for the NRC is by others. This category consists of the following costs for Professional Services to be subcontracted:

- Quality test equipment (M&TE) and calibration equipment (Summer & Vogtle)
- Soil and Concrete testing (Summer & Vogtle)
- NDE testing and inspection (Summer & Vogtle)
- Post weld heat treatment (Summer & Vogtle)
- Authorized Nuclear/ASME Inspector (Summer & Vogtle)
- Battery testing (Vogtle)
- Geotechnical services (Vogtle)
- Remote cleaning & flushing (Summer)

3.3.1.12 92-19 Environmental Control

This section of the estimate includes General Vacuum service for spill cleanups and dewatering which is performed by a subcontractor.

3.3.1.13 92-20 Field office Supplies

This section of the estimate includes for Field office supplies, mobile phones, copiers, plotters, office furniture, advertising and miscellaneous expenses. The ETC is based upon the non-manual hours at the current burn rate.

3.4 Construction Equipment, Small Tools & Consumables, and Heavy Haul

Construction Equipment - The construction equipment account, equipment less than 60 tons, is being managed by WEC. WEC has told Fluor that an all-in rate of \$7.28 per Direct craft hour is to be used for the ETC at both the Vogtle and VC Summer sites. Of this \$7.28, \$2.28 has been assigned to Fluor to include in Fluor's ETC for fuel, oil and gas. WEC is to include the remaining \$5.00 per hour rate in their ETC. The applicable sales tax for fuel oil and gas is assumed to be included in the \$2.28 per hour rate.

In addition, shown in Attachment 5 are the "Ground Rules" WEC sent to Fluor for pricing Construction Equipment less than 60 tons.

For Vogtle, the concrete pump trucks and transporters are provided by subcontractors and are included in the Subcontract Log. For VC Summer, concrete pump trucks and



Basis of Estimate

transporters were identified, along with a plan, and were priced based upon existing rental rates.

Small Tools & Consumables - For Summer, small tools and consumables is based on a monthly burn rate that was converted to a rate per Direct hour. That rate is \$1.95/DFL hour. For Vogtle, AMECO is providing this material up to a tool value of \$1,000. A rate of \$1.44 per DFL hour is included and includes an allowance for loss tools. For tools between \$1,000 and \$3,000, Penn Tools (a Subcontractor) is providing this class of tools and includes the most current ETC from Contracts. For tools above \$3,000, it is included in WEC's rate of \$5.00 per Direct hour.

For welding gases and supplies, the rate is \$0.44 per Direct craft hour at VC Summer. For Vogtle, the rate is \$0.66 per Direct craft hour. These rates are based upon actual burn rates. WEC supplies the welding rods at both Vogtle and VC Summer.

Heavy Haul and Large Cranes – Vogtle is using a Heavy Haul Contractor and therefore the ETC is based upon the Subcontract Log.

At VC Summer, rental costs for a single transporter has been estimated per a rental rate and planned time duration. Other heavy haul equipment at VC Summer is being provided by a subcontractor and therefore the ETC is based upon the Subcontract Log.

The total cost included in the ETC for large cranes, greater than 60T, includes mobilization, demobilization and fuel. For 2nd shift work, assume 50% of equipment from the day shift is being used at night. This night shift rule excludes the 3,000T crane which is not being used at night. The ETC does not include costs related to rebuilding of this equipment. For the HLD, the demobilization costs are included in the Demobilization allowance provided by WEC.

3.5 Scaffolding

The labor scaffolding estimate for V.C. Summer and Vogtle includes a 'scaffolding craft' to 'direct craft' ratio of 15.0%.

WEC has purchased the basic scaffolding material. The miscellaneous scaffolding material cost for items not being provided by WEC, but needed to support the scaffolding operation, is based on a rate of \$1.85 per hour for Vogtle and \$1.15 per Direct hour for Summer.

3.6 Fire Watch

The estimate includes dedicated labor to perform required fire watches. Based upon past burn rates at Vogtle and VC Summer, different ETC unit rates were established for Fire Watch. The rate used at VC Summer is 1.37% per Direct craft hour and the rate used at Vogtle is 1.42% per Direct craft hour.

3.7 Insurances

Per the Agreement with WEC, the ETC has included insurance costs associated with Employment Practices Liability Insurance and Contractor's Pollution Liability Insurance. Pricing was obtained from Fluor's Risk and Management Department.



Basis of Estimate

3.8 Demobilization Plan for Fluor Facilities and Services

The estimate assumes the following regarding demobilization of the temporary infrastructure, services and labor once Mechanical Completion is achieved:

- Demobilization from site will follow the plan and scope established by WEC and as shown in Attachment 9a (VC Summer) and Attachment 9b (Vogtle). Any change in this scope will be considered basis for a Change Order.
- WEC has established an allowance of \$9.3mm for Demobilization effort at VC Summer and \$9.0mm for Demobilization effort at Vogtle. This has been used in the ETC.
- An assumption in these allowances is that Field Non-Manual staff costs are covered elsewhere in the ETC and therefore will not be charged to this WBS. All demobilization effort is assumed to be complete prior to First Fuel Load.

4.0 PRE-COMMISSIONING (Prior to Fuel Load)

O&M Training is by Others with no support from Fluor. Construction Testing is performed by Fluor and is included in the Direct accounts. Component and Pre-Operational Testing is performed by WEC with support from Fluor as described below. Fluor's support role during Pre-Commissioning will be based upon a time phased staffing plan.

4.1 VC Summer and Plant Vogtle Sites

Per the DOR, the Fluor construction organization will provide needed craft support to Westinghouse to perform Component Testing/Flushing, Pre-op and Start-up activities. The separation/distinction between Construction Testing (Provided by Fluor) and Component Testing (Lead by WEC with craft provided by Fluor) is defined as:

- Construction Testing – Consists of cable and switchgear meggars, point to point wire checks, and piping/vessel hydrostatic tests.
- Component Testing /Flushing – Consists of mechanical and electrical check out, system flushing, instrument loop checkout and calibrations, initial energization, uncoupled/coupled motor/driven device runs, valve setup and testing, and initial system and subsystem operation. The jurisdictional control of the equipment/systems formally changes hands from Fluor to WEC at the start of component testing.

The required craft level of effort is based upon Westinghouse's requested staffing plan and hours. Fluor increased the field non-manual component to allow for additional administrative support of the craft during this phase of the work. The staffing plan was priced based upon Fluor's current benefit and burden package rates. The table below summarizes the requested craft and staff positions;



Basis of Estimate

	Unit	Fluor Classification	Man-Months	FTE Hours/ Week	Total Hours
WESTINGHOUSE REQUESTED SECONDED CRAFT					
Electricians Crew	A	Craft	382	55	90,973
Piping Crew	A	Craft	123	55	29,292
Millwrights	A	Craft	13.1	55	3,120
Carpenters Crew	A	Craft	74	55	17,623
Painter/Insulation	A	Craft	30	55	7,145
Laborers	A	Craft	44	55	10,479
Electricians Crew	B	Craft	371	55	88,354
Piping Crew	B	Craft	118	55	28,102
Millwrights	B	Craft	13	55	3,120
Carpenters Crew	B	Craft	68	55	16,194
Painter/Insulation	B	Craft	30	55	7,145
Laborers	B	Craft	44	55	10,479
I&C Crew	A&B	Craft	424	55	100,479
Subtotal:		Craft			413,000
WESTINGHOUSE REQUESTED SECONDED STAFF					
Field Engineering	A&B	Staff	70	55	16,671
Planners	A&B	Staff	56	55	13,336
Craft Supervision	A&B	Staff	155	55	36,794
Subtotal:		Staff			66,801
FLUOR ESTIMATED FNM FOR SECONDED STAFF MANAGEMENT & SUPPORT					
Field Recommend Support	A&B	Staff	83	60	21,563
Subtotal:		Staff			21,563

The craft labor rates and crew make-ups have been included as submitted on 08/31/2016 and subsequently approved by WEC.

The associated indirect costs that follow *craft* hours have been included /excluded based on the below;

- Temporary Facilities and fabrication shops are available and maintained by others; no additional costs have been included.
- Craft man-hours for scaffolding erection and disassembly have been assumed to be included in the requested man-hours; no additional costs have been included.
- Craft man-hours for Safety / Hole watch, fire watch, confined space watch have been assumed to be included in the requested man-hours; no additional costs have been included.
- Craft man-hours for material handling / warehousing have been assumed to be included in the requested man-hours; no additional costs have been included.
- Craft man-hours for equipment operation have been assumed to be included in the requested man-hours; no additional costs have been included.
- Craft man-hours for craft orientation, training, testing, certifications, physicals, chemical screening, security screening, etc have been assumed to be included in the requested man-hours; no additional costs have been included.
- The estimate excludes construction equipment. It is assumed all support construction equipment, including Scaffolding material, and associated operating costs necessary to perform the work will be provided and paid for by Westinghouse
- The estimate assumes all work will be performed on a single day shift with no allowance for casual overtime. Off-shift premiums and incentives have been excluded. Craft labor above



Basis of Estimate

55 hours per week, or on multiple shifts, will be reimbursed per the agreed upon Rate Schedule(s).

The associated indirect costs that follow *Staff* hours have been included /excluded based on the below;

- Office supplies / materials, Telephone, communications and network capabilities for staffing have been assumed to be provided by Westinghouse; no additional costs have been included.
- The estimate excludes any additional casual overtime (Hours beyond the requested 55 hour workweek).
- The estimate assumes 25% of requested staff will be non-exempt employees and therefore eligible for time and half (1.5x) for all hours beyond standard work week of forty hours.
- The estimate assumes 60% of staff will be on Per Diem, the monthly Per Diem amount included is \$3,055/mo plus \$345/mo for home trips. This is consistent with the Indirect Estimate.
- The estimate assumes the requested hours for staffing includes hours related to travel time to and from home of record per assignment policy.

Quality and Testing staffing, per the Westinghouse requested staffing plan, has been excluded.

5.0 COMMISSIONING AND START-UP SUPPORT (Post Fuel Load)

The commissioning and startup approach for the project is the responsibility of Westinghouse. Westinghouse has not requested Fluor to include any costs or to provide support for this effort. Therefore this is excluded from Fluor's ETC.

6.0 ESCALATION

Escalation is excluded per verbal direction from WEC.

7.0 SALES TAX

V.C. Summer is tax exempt for all materials purchased on this project.

For Vogtle, permanent plant material is tax exempt. For non-permanent plant material and indirect consumables, these materials are taxed at 7%. The cost for Sales Tax on Indirect Materials and Consumables is reflected in the Indirect Field Cost section of the ETC. Note that since WEC is responsible for pricing all Direct materials, any non-permanent materials included in WEC's estimate will incur Sales Tax which WEC must capture in their ETC estimate.

8.0 WARRANTY

Both projects have a 24 month warranty requirement after Substantial Completion (COD) is achieved. Per the Agreement with WEC, all warranty work will be reimbursable, exclusive of Fee.

For this estimate, since Fluor will have demobilized from the sites for most of this warranty period, it is expected that WEC would use other resources to perform the warranty work. Therefore this is excluded from Fluor's ETC.



Basis of Estimate

9.0 CONTINGENCY

Cost, Schedule and Event Contingency are excluded. It is the responsibility of WEC to develop the overall Contingency for these two projects. Fluor will assist as required in defining high/low ranges of this estimate for WEC's use.

10.0 FEE

The Agreement between WEC and Fluor established a Fixed Fee for these projects of \$300 million. This is made up of:

1. \$100mm for VC Summer
2. \$100mm for Vogtle
3. \$100mm for attaining Set Milestones at VC Summer

This fee is paid to Fluor by an invoicing process for all Fluor labor costs. A fee rate of 4.0% is applied to all burdened labor costs (per Exhibit J to the Agreement) and paid by WEC until \$100mm is paid for each project. G&A is also being reimbursed at various rates, as established in Exhibit J of the Agreement, and is shown in the ETC.

A total Fee of \$100mm is shown in the ETC for Vogtle and \$200mm for VC Summer.11.0

11.0 EXCLUSIONS

- No sustained Capital Costs prior to April 01, 2016
- Constructive acceleration measures to recover schedule to achieve Mechanical Completion in June 2018 for the first unit and June 2019 for the second unit
- Impact of "out of sequence" work driven by WEC direction to achieve Payment Milestones
- Additional impact to craft hours due to Owner and/or WEC caused delays, interruptions, rework, backcharges, or untimely adjustments to craft compensation is considered to be included in WEC's contingency analysis
- Schedule float and associated time-driven costs
- Permanent Plant Material Costs and Associated Sales Tax (this includes Freight, Import Duties, Taxes and Heavy Haul costs associated with Permanent Plant Material) to be included in WEC's ETC estimate
- Non Permanent Plant Material or Consumables Costs, Direct Field Cost Items, and associated sales tax, if any, is assumed to be included in WEC's ETC estimate
- Any upgrades or repairs to off-site roads
- Installation of DCS and Simulator
- Material Take-off Allowances
- Engineering & Design Change Requests (E&DCR's)
- Non-Conformance and Dispositions (N&D's) except for construction defects
- Direct Field Costs for the following items since they were not identified in the MTO's:
 1. Installation, calibration and testing of vendor supplied instruments
- Installation of Weapons and Mobile Communications Gear (per DOR by Owner)
- Installation of BIS electronics



Basis of Estimate

- Installation of Plant Furniture, Furnishings & Equipment, except for those specified.
- Except for one ductbank, no other work has been identified as being outside of the project's battery limits. Any scope of work going to the existing plant facilities will terminate at the project's battery limits.
- Site radiation detectors
- Site seismic monitoring system
- All Vendor Rep Assistance
- Engineering Services and HO Support Services
- Tie-ins to Existing Facilities or Refurbishment of Existing Facilities
- Usage costs for electricity, water and sewage
- Premium cost for Builders Risk Insurance and payment of a deductible per occurrence
- Any impact associated with the NRC's final review and closure of all ITAAC requirements.
- Switchyard(s), including interconnects to the utility grid
- In/out allowance of \$500 per craft worker is not part of the compensation package for the VC Summer project and is therefore excluded
- Subsistence allowance has been excluded for the union craft at the Vogtle site
- Site craft tents (still under evaluation)
- Upgrades to IT Infrastructure and providing computers/tablets to Field personnel
- All construction and pre-construction utility bills
- Site Security clearances and background checks
- Escalation
- All Permits and Licenses are by WEC
- Purchase of Land
- Interest on investment and financial charges
- Costs related to identifying and/ or removal of any hazardous materials encountered.
- Costs associated with environmental impact statements
- Underground obstructions
- Labor unrest (Strikes)
- Force Majeure (**Uncontrollable Circumstances such as excessive snow, rain, HSE stand downs, etc. that has impacted the schedule**)
- 1st Fills of Chemicals and Fuels (Material only)
- Commissioning and Startup costs (post Fuel Load)
- Owners operational costs and Operational Readiness (includes Fuel Load)
- Management and performance of warranty work
- Additional transfer of module work from the MAB to the field is excluded other than what is specifically identified in the module list Attachment 8.



Basis of Estimate

ESTIMATE DISCLAIMER

"This report was prepared for WEC by Fluor Enterprises, Inc. ("Fluor") and other independent consultants and is based in part on information not within the control of either Fluor or the consultants. Neither Fluor nor the consultants have made an analysis, verified, or rendered an independent judgment of the validity of the information provided by others. While it is believed that the information contained herein will be reliable under the conditions and subject to the limitations set forth herein, neither Fluor nor the consultants guarantee the accuracy thereof. Use of this report or any information contained therein shall constitute a release and agreement to defend and indemnify Fluor and such consultants from and against any liability (including but not limited to liability for special, indirect or consequential damages) in connection with such use. Such release from and indemnification against liability shall apply in contract, tort (including "negligence" of Fluor or those consultants, whether active, passive, joint or concurrent), strict liability, or other theory of legal liability; provided, however, such release, limitation and indemnity provisions shall be effective to, and only to, the maximum extent, scope or amount allowable by law."

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ATTACHMENTS

- Attachment 1a – Basis of Labor Rates (VC Summer)
- Attachment 1b – Extract of HR's ALMA (Area Labor Market Analysis) for VC Summer
- Attachment 1c – Basis of Labor Rates (Vogtle)
- Attachment 2 – Craft Per Diem Calculation (VC Summer)
- Attachment 3a – Craft OT & Night Shift Premium Calculation (VC Summer)
- Attachment 3b – Craft OT & Night Shift Premium Calculation (Vogtle)
- Attachment 4a – Crew Mix / Craft Mix (VC Summer)
- Attachment 4b – Crew Mix / Craft Mix (Vogtle)
- Attachment 5 – Construction Equipment Pricing Ground Rules (for Vogtle and VC Summer)
- Attachment 6 - List of Pending Late "Cut/Add" Changes from WEC for the Estimate
- Attachment 7 – Productivity P.F. Presentation (VC Summer & Vogtle)
- Attachment 8 – Module List – Combined both sites
- Attachment 9a – Demobilization Allowance (VC Summer)
- Attachment 9b – Demobilization Allowance (Vogtle)
- Attachment 10a – Subcontracts DOR
- Attachment 10b– VC Summer Contracts Log
- Attachment 10c – Vogtle Contracts Log

Basis of Labor Estimate

Description	VC Summer HR Recommendation		VC Summer 2016 Execution Plan	
Journeyman Base Rate: (without incentive adders) (2 or more processes) (\$2 over Certified Plus Rate) (\$4 over Certified Plus Rate)	Helper (D3 rate)	\$20.70	Helper (mixed grades; use 80% of Jymn)	\$22.80
	Boilermaker	\$28.50	Boilermaker	\$28.50
	Carpenter	\$28.50	Carpenter	\$28.50
	Cement Mason	\$28.50	Cement Mason	\$28.50
	Electrician	\$28.50	Electrician	\$28.50
	Insulator	\$26.50	Insulator	\$26.50
	Ironworker	\$28.50	Ironworker	\$28.50
	Laborer (Helper 3D)	\$16.00	Laborer	\$16.00
	Millwright	\$28.50	Millwright	\$28.50
	Operator (Heavy: 300 to 399 Tn)	\$32.30	Operator (Heavy)	\$32.30
	Painter	\$26.50	Painter	\$26.50
	Pipefitter	\$28.50	Pipefitter	\$28.50
	Welder (Combo + Stainless)	\$32.00	Welder (Combo + Stainless)	\$32.00
	Sheet Metal	\$28.50	Sheet Metal	\$28.50
	Operator - Truck Driver (Lt)	\$22.50	Operator - Truck Driver (Lt)	\$22.50
	Operator - Truck Driver (Hvy)	\$29.50	Operator - Truck Driver (Hvy)	\$29.50
Foreman	\$31.50	Foreman	\$31.50	
General Foreman	\$33.50	General Foreman	\$33.50	
Per Diem / Subsistence	\$70 per day for 5 days worked plus 2 (100% of craft = \$ 98/day) (provided to Helper 3D and above, except to Laborer))		\$70 per day for 5 days worked plus 2 days incentive for 77% of craft or \$ 75.13/day (provided to Helper 3D and above, except to Laborer)	
NCCER	Written Assessment is Training Certification; Performance Verification (PV) is Certified Plus		\$1.00 /hour for Training Cert. for 23% of craft & \$1.00 /hour for Certified Plus for 10% of craft	
Average Work Week :			Rolling 3 weeks - ave. 52.1 hrs/wk 2 wks @ 5x12's and 1 wk @ 5x10's less 8% for absenteeism	
Shift Differentials:	\$1.00 /hr; meals unpaid - Night Shift		\$1.00 /hr; meals unpaid - Night Shift	
Benefits	Standard Rate (Applied on all Foreman & Below Wages)	10.00%	15.59% on all S.T. wages (maintain CBI craft benefit policy)	
Benefits	Standard Rate (Applied on all GF Wages)	39.00%	39.0% on 40 hrs of wages	
Burdens - FICA	Standard Rate (Applied on Wages < \$118,500)	6.20%	6.20% on all wages	
Burdens - Medicare	Standard Rate (Applied on Wages < \$200,000)	1.45%	1.45% on all wages	
Burdens - FUI	Standard Rate (Applied on Wages < \$7,000)	0.80%	0.60% on all wages	
Burdens - SUI	Standard Rate (Applied on Wages < \$14,000)	2.63%	1.39% on all wages	
Burdens - CGL	Standard Rate (applied on all hours at S.T. rate)	2.80%	Have proposed 1.80% on all wages WEC wants 0%	
Worker's Compensation:	OCIP Program; Excluded		OCIP Program; Excluded	
Total Benefits & Burdens			Applied to all S.T. Wages; Varies for Prem. Portion of OT Pay (Excl. General Foreman; Incl. CGL)	27.03%

SECTION 0 – INTRODUCTION

Fluor Project Management has requested a craft compensation review and wage recommendation in support of the VC Summer project in Jenkinsville, SC. The project is scheduled to transition current workforce in the first quarter of 2016. This document will provide a brief summary of today's craft labor market, compare wage rates in the region, and highlight projects expected to compete for craft workers.

This report reflects the latest craft labor market conditions available to Fluor at this time, including market indicators, area specific and regional wage summaries and trends.

Key market indicators from the U.S. Bureau of Labor Statistics, Alpha Resources, and other compensation related sources are:

- The national unemployment rate is 5.0%, down from 5.7% in January 2015.
- The South Carolina statewide unemployment rate is 5.6%, down from 6.6% in January 2015.
- US Construction unemployment rate is 6.2%, down from 9.8% in January 2015.
(October 2015 Statistics)

The U.S. Census Bureau's Construction Put-In-Place figures suggest overall construction is growing at a rate of 13.7% (July 15/July 14). Strength in non-residential and residential construction leads the way, up 18.2% and 15.6% respectively. This suggests that labor pressure is being applied on all three sides of the construction market –residential, commercial and industrial according to Industrial Info Resources.

Anirban Basu, Chief Economist for the Associated Builders and Contractors, made the following comments regarding the expanding economy and skilled labor shortages:

*“Construction was one of the few bright spots in today's report as residential and nonresidential construction remain two of the nation's five leading growth segments. The industry's unemployment rate is down 1.5 percentage points from September 2014 and is essentially at its lowest point in eight years. There are 125,000 fewer unemployed construction workers than there were one year ago, and construction employment is up by 205,000 positions on a year-over-year basis, one of the best performances of any industry in both absolute and percentage terms. The construction unemployment rate continues to head lower, falling by 0.6 percentage points in September to 5.5 percent. According to Alpha Resources, **“The monthly and year over-year growth in employment are both consistent with the notion that construction wage growth will continue to accelerate.”** – October 2015*

1 – CURRENT MARKET DATA

Regional and State Wage Summary

The following Alpha Resources data (3rd Qtr 2015) summarizes industrial construction open shop base wages in the Mid-Atlantic region as well as the State of South Carolina. The *Available Rate Range* documents the lowest wage rate and the highest wage rate reported by contractor participants for each craft discipline. The *Average Rates* document the average of the low end of the range as well as the average of the high end of the range – the spread created by the *Average Low Rate* and the *Average High Rate* is interpreted as the “competitive range” for skilled workers within each craft discipline. NCCER or craft skills certification is the most common qualifier for the high end of the wage range.

Mid-Atlantic Regional Open Shop Construction Base Wage Summary										
Craft Type	Civil		Mechanical		Welder		Electrical		Hvy Equip	
	Low	High	Low	High	Low	High	Low	High	Low	High
Construction Available Ranges	18.00	32.00	18.00	32.00	21.50	37.00	21.00	35.00	18.00	35.00
Construction Average Rates	23.82	26.63	24.87	27.65	27.26	30.14	25.62	27.98	26.38	29.84
Avg Per Diem/Utilization: \$74.03 (83%)										

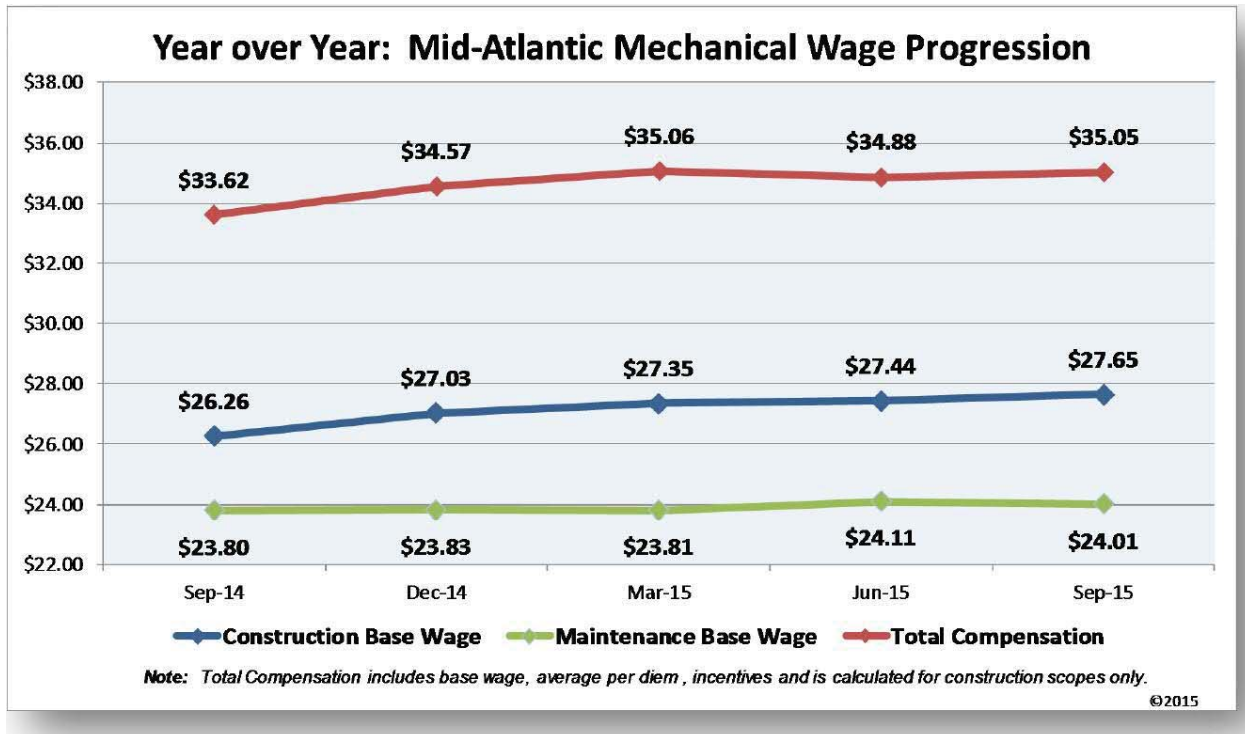
South Carolina Open Shop Construction Base Wage Summary										
Craft Type	Civil		Mechanical		Welder		Electrical		Hvy Equip	
	Low	High	Low	High	Low	High	Low	High	Low	High
Construction Available Ranges	21.00	29.50	22.00	30.00	25.00	35.00	24.00	30.00	24.00	34.50
Construction Average Rates	24.00	26.63	25.04	27.63	28.25	30.25	26.18	27.64	27.70	29.48
Avg Per Diem/Utilization: \$79.17 (86%)										

Important - Using Alpha Resources Craft Compensation Data Effectively

Although the average base wage ranges and per diem values remain important benchmarks to measure escalation in the market as a whole, report users should pay close attention to the “grey area” between the “average high rate” and the “highest rate reported” in the regional wage summaries. This “grey area” is an important indicator of wage competitiveness moving forward in an escalating market and robust build cycle. This same “grey area” should be closely considered in risk evaluation for wage determinations on future work. A detailed list of project data points used to compile this summary is located in [Exhibit #1](#).

Mid-Atlantic Regional Wage Progression

The following graphs trend wage progression of mechanical crafts in the Mid-Atlantic region as documented by multiple point-in-time labor studies. The blue line trends documented base mechanical rates and the red line trends *Total Compensation Rates* which include average per diem and hourly incentive values found in the region during the reporting period.



Since last quarter, average mechanical construction base wages have increased 0.8% while *Total Compensation* (which includes average mechanical base wage, hourly incentives and per diem) has increased 0.5% in the Mid-Atlantic market.

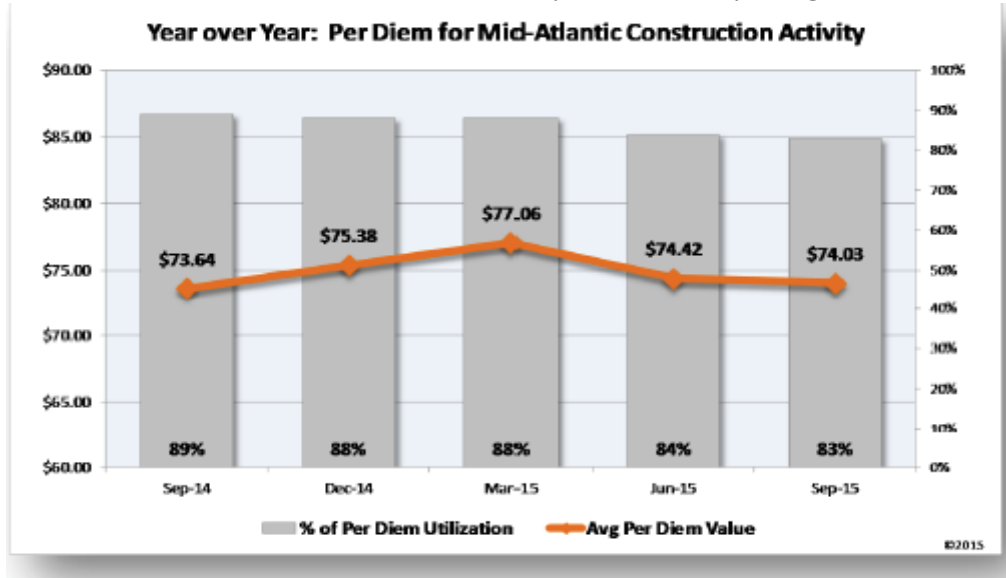
Year over year, mechanical base wages for construction activities have increased 5.3% to a current average value of \$27.65 per hour. During the same period, *Total Compensation* has increased 4.3% to a current average value of \$35.05 per hour.

Currently, 83% of construction activity identified utilizes per diem as a compensation component averaging \$74.03 per day. Further, 9 data points (18%) report using per diem as an attendance incentive by paying 7 days per week (or one extra day) if the employee works all scheduled hours for the week.

The use of hourly incentives based on company service, safety, attendance, completion, etc., was limited to 6 construction data points averaging \$1.25 per hour. In addition, 7 construction data points (12%) report the use of travel pay.

Mid-Atlantic Per Diem Utilization and Average Value

Per diem continues to be heavily utilized in the Mid-Atlantic market with 83% of construction scopes reporting per diem with an average value of \$74.03 per day. Year over year, per diem availability has decreased 6% while the average value has increased 0.5%. The use of per diem as an attendance incentive by paying per diem 7 days per week (or one extra day) if the employee works all scheduled hours for the week has decreased with 9 data points (18%) reporting this incentive.



Major Projects Expected to Compete for Regional Manpower Resources

The oil and gas shale boom continues throughout the United States where the shale business supports over 600,000 jobs. The major regions attracting craft resources include are the Gulf Coast States. The Eagle Ford shale in Central Texas accounts for over 120,000 jobs with early signs of decrease activity.

In an effort to determine market competitive wage strategies, we observed several major construction projects proposed in the region that could impact craft labor compensation and availability of skilled industrial construction workers. The projects are in various stages of development.

Projects – Mid-Atlantic	Location	Estimated Craft Peak	Mobilization	Completion
Mercedes Truck	Charleston, SC	1,000	2016	2019
Volvo	Charleston, SC	500	2016	2018
Southern LNG	Elba Island, GA	1,250	2015	2017
Dominion Cove Point LNG	Lusby, MD	4,000	2014	2018
Dominion Power	Greensville Co., VA	1,000	2015	2017
Cypress Creek Power	Dendron, VA	1,200	2013	2018

SECTION 2 – WAGE RECOMMENDATION STRATEGY

Due to the complexity of transitioning the current workforce from company to company and the unknown recruiting, retention, attendance and performance metrics for the project, Craft Compensation recommends a phased wage strategy:

- Phase I:** Retain the current compensation package during the transition period.
- Phase II:** At the end of the transition period, review project metrics to confirm existing compensation package or present new compensation recommendation. The new compensation plan will be issued within 60 days post transition.

This strategy should make the transition less confusing for craft employees as well as site management.

Project metrics will be tracked to identify potential trends that could indicate a non-competitive compensation package include but are not limited to: high employment rejection, new hire no-show rate, an employee turnover rate higher than 10% and an absenteeism rate that exceeds 5%. The project performance factor and completion schedule are also factors indicating a potential compensation impact.

It is recommended that a craft compensation review committee (owner, project team and/or Craft Services) be instituted to monitor the package on an on-going basis.

The following “current” craft wage package and details/incentive chart will be used during the transition period.

Note: Also see [exhibit #2](#) which compares the current job title list with Fluor titles. The document also shows gaps and outstanding questions that will need to be answered prior to mobilization.

Current Job Title	A Entry Level	B Helper 1	C Helper 2	D Helper 3	E Helper 4	F Helper 5	Jrny	Jrny PV	Fmn	GF
Boilermaker	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Carpenter	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Cement Finisher	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Custodian	\$11.50	\$12.80	\$14.60	\$16.00					\$22.50	
Equipment Mechanic	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Equipment Mechanic - Oiler	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60					
Facilities Worker	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Field Assistant	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60		\$29.50		
Field Machinist	\$14.20	\$15.75	\$18.90	\$22.05	\$25.20	\$28.35	\$30.50	\$31.50	\$33.50	\$35.50
General Supervisor										\$35.50 \$37.50 \$40.00
Heat Stress Technician	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Instrument Fitter	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Instrument Tech							\$29.50 \$31.50 \$33.50			
Insulator	\$12.40	\$13.80	\$16.50	\$19.30	\$22.00	\$24.80	\$26.50	\$27.50	\$29.50	\$31.50
Ironworker	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Laborer	\$11.50	\$12.80	\$14.60	\$16.00					\$27.50	\$29.50
Millwright	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Operator Heavy - 80 to 299 Ton							\$31.30		\$33.30	\$35.30
Operator Heavy - 300 to 399 Ton							\$32.30		\$34.30	\$36.30
Operator Heavy - 400 to 599 Ton							\$33.30		\$34.30	\$36.30
Operator Heavy - 600 Ton +							\$34.30		\$34.30	\$36.30
Operator Heavy - Batch Plant (Goldhofer Hauler)							\$30.30		\$32.30	\$34.30
Operator Heavy - Specialty Equipment (Concrete Pump Truck)							\$29.50 \$31.50 \$33.50		\$34.30	\$36.30
Operator Heavy - Specialty Equipment (Hvy Lift Derrick)							\$38.30		\$34.30	\$36.30
Operator Light - Truck Driver, Bus Driver							\$22.50			
Operator Medium							\$29.50		\$31.50	\$33.50
Painter	\$12.40	\$13.80	\$16.50	\$19.30	\$22.00	\$24.80	\$26.50	\$27.50	\$29.50	\$31.50
Pipefitter	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Rigger	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Rodbuster	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Runner	\$9.70	\$10.80	\$12.90	\$15.10	\$17.20	\$19.40				
Scaffold Carpenter	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Survey - Rod-Chain Person	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60				
Surveyor - Instrument Person							\$29.50 \$30.50 \$31.50			
Surveyor - Party Chief							\$31.50 \$33.50 \$35.50			
Warehouseman	\$13.30	\$14.80	\$17.70	\$20.70	\$23.60	\$26.60	\$28.50	\$29.50	\$31.50	\$33.50
Welder - Combination Process					\$24.00	\$27.00		\$30.00	\$32.00	\$34.00
Welder - Combo + Machine					\$28.00	\$31.60		\$35.00	\$37.00	\$39.00
Welder - Combo + Stainless					\$25.60	\$28.80		\$32.00	\$34.00	\$36.00
Welder - Single Process					\$23.60	\$36.55		\$29.50	\$31.50	\$33.50

VC Summer Project Compensation Package Details and Incentives	
Lead Person	Paid \$1.00 above respective craft journeyman level
General Supervisor	Functions as lead General Foreman
Per Diem	Craft maximum daily per diem is \$70.00
	\$70.00 per day for Helper Level 3 (D). Paid in accordance with project per diem guidelines.
	Laborer & Custodian not eligible for per diem
	Eligibility includes permanent residency of more than 50 miles from project
	Daily per diem eligibility includes requirement to work a minimum of 10 hours of work day or current set schedule
	Paid 7 days when employee works scheduled work week. If regular schedule is not worked, per diem is paid for days worked.
Shift Differential	\$1.00 per hour for night shift.
Light Equipment Operator	Compactor, farm tractor, street sweeper, water truck, other trucks, skidsteer, bobcat, small forklift, hoist, mini-excavator, vans, buses, single axle tr, trencher
Medium Equipment Operator	Grader, scraper, dozer, trackhoe, backhoe, front end loader, tandem dump truck, yard dog/semi tractor trailer, tandem axle truck, boom truck, articulated dump truck, mixers, upender lift vehicle, fule truck, large forklift - rough terrain, cranes to 59 tons.
Welder - Single Process - Unlimited	One Process - GMAW, GTAW, FCAW, SMAW - Unlimited metal thickness.
Welder - Combination	Two or more processes - GMAW, GTAW, GMAWP, FCAW, SMAW
Welder - Combination + Stainless	Two or more processes - GMAW, GTAW, GMAWP, FCAW, SMAW plus GTAW-SS
Welder - Combination + Stainless + Machine	Must have AWS D1.1, SMAW GTAW, GMAW, FCAW, AWS D1.6 GTAW, GMAW, FCAW, ASME GTAW-Carbon, GTAW-SS, SMAW, FCAW+Orbital and robotic.

EXHIBIT #1

Client Name or Industry Type	Hrs	Peak	PD Amt	Civil Jry Min-Max	Mech Jry Min-Max	Welder Min-Max	Elect Min-Max	Hvy Equip Min-Max	Incentives
AMNS Calvert, AL	5x10s	10		25.00-25.00	25.00-25.00	26.00-27.00	25.00-25.00	25.00-25.00	
BP Wando, SC	5x10s	48	\$80		25.00-25.00	25.00-25.00	24.00-24.00		
Brunswick Freeman, VA		600	\$75	25.50-27.50	27.50-29.50	27.50-29.50	26.50-28.50	28.50-30.50	\$1.00 Night Shift
Catawba York, SC	4x10s		\$85	21.00-26.00	22.00-30.00	29.00-33.00	28.00-30.00	26.00-30.00	Mileage In/Out
Chemical McIntosh, AL	5x10s	60		18.00-18.00	22.50-22.50	24.00-26.00	22.50-22.50	22.50-22.50	
Client 2 Decatur, AL	6x10s	25			18.00-23.25	25.00-28.00			
Client 4 Decatur, AL	5x10s	36			24.00-25.00	25.00-26.00			
Colgate Greenwood, SC	5x10s	150	\$75	28.50-28.50	28.50-28.50	29.00-29.00	28.50-28.50	31.00-31.00	
Colgate Hodges, SC	5x10s	200	\$75		28.50-28.50	29.00-29.00		31.00-31.00	
Dominion Front Royal, VA	5x10s		\$65				28.00-28.00		
Duke Lee Belton, SC			\$65	24.00-25.00	24.00-25.00	25.00-28.00	24.00-25.00	24.00-25.00	
First Quality Anderson, SC				24.00-24.00	25.00-25.00	27.00-27.00	25.00-25.00	27.00-27.00	
FP&L Ft. Lauderdale, FL	5x10s	250	\$80	25.00-27.00	25.00-27.00	29.00-31.00	25.00-27.00	24.00-30.00	NCCER
FP&L Ft. Myers, FL	5x10s	150	\$80	25.00-27.00	25.00-27.00	29.00-31.00	25.00-27.00	24.00-30.00	NCCER
FP&L Ft. Lauderdale, FL	5x9s	600	\$65	26.00-29.00	26.00-29.00	30.00-34.00	26.00-29.00	34.00-35.00	
Georgia Pacific Big Island, VA	5x10s	130	\$70	26.00-27.00	26.00-27.00	27.00-28.00	26.00-27.00	27.00-29.00	
Hexcel Decatur, AL	4x10s	150	\$60	23.00-24.00	23.00-24.00	24.50-27.00	23.00-24.00	23.00-24.00	Spot Bonus - Up to \$2,000
Hines Energy Bartow, FL	4x10s +8	70	\$65	25.00-32.00	25.00-32.00	25.00-32.00	25.00-32.00	25.00-32.00	PD 7 days \$1.25 Service
KU/LGE Ghent, KY	5x10s	550	\$70	25.00-27.00	25.00-27.00	25.00-27.00	25.00-27.00	28.00-30.00	NCCER
KU/LGE Harrodsburg, KY	4x10s +8	194	\$65	24.00-32.00	24.00-32.00	24.00-32.00	24.00-32.00	24.00-32.00	PD 7 days \$1.25 Service
KU/LGE Louisville, KY	5x9s	800	\$65	25.00-25.00	27.00-27.00	28.00-28.00	27.00-27.00	28.00-30.00	
KU/LGE Bedford, KY	6x10s		\$100		27.00-29.00	29.00-30.00			PD 7 days \$1.25 Service
KU/LGE Bedford, KY	4x10s +8	255	\$65	24.00-32.00	24.00-32.00	24.00-32.00	24.00-32.00	24.00-32.00	PD 7 days \$1.25 Service
Manufacturing Charleston, TN	5x10s	1600	\$80	23.00-25.00	26.00-28.00	30.00-30.00	26.00-28.00	29.00-31.00	NCCER
Manufacturing Jackson, TN	5x10s	375	\$75	21.50-22.50	23.50-24.50	24.00-25.00	23.50-24.50		
Marathon Catlettsburg, KY	4x10s						24.00-29.00		
McGuire Huntersville, NC	4x10s		\$85	21.00-26.00	22.00-30.00	25.00-33.00	28.00-30.00	26.00-30.00	Mileage In/Out
Medimmune Frederick, MD	5x10s	40	\$80				26.00-29.00		
Mosaic Ft. Meade, FL	5x10s	30	\$75		27.00-27.00				Safety Incentive

Client Name or Industry Type	Hrs	Peak	PD Amt	Civil Jry Min-Max	Mech Jry Min-Max	Welder Min-Max	Elect Min-Max	Hvy Equip Min-Max	Incentives
Multiple Sites - FL			\$80		24.00-26.00	29.00-29.00		25.00-28.00	PD \$75 - \$85
Multiple Sites - FL	5x10s	48		20.00-20.50	23.00-26.00	25.00-25.00	25.00-25.00	25.00-30.00	
Multiple Sites - NC	5x10s	20			23.00-23.00		32.00-32.00	30.50-30.50	
Multiple Sites - TN	6x10s	130	\$70	28.00-28.00	26.00-30.00		32.00-35.00	28.00-28.00	
Multiple Sites - VA	5x10s	75	\$60	21.00-24.00			21.00-24.00	24.00-27.00	
New Wales Mulberry, FL	5x10s		\$45	21.00-21.00	24.00-24.00	25.00-25.00			
Oconee Seneca, SC	4x10s	160	\$85	24.00-28.00	24.00-27.00	30.00-30.00	24.00-28.00	27.00-27.00	NCCER
Oconee Seneca, SC	4x10s		\$85	21.00-26.00	22.00-30.00	29.00-33.00	28.00-30.00	26.00-30.00	Mileage In/Out
Power Rising Sun, MD	5x10s	600	\$70	28.00-29.00	28.00-29.00	32.00-32.00	28.00-29.00	29.00-31.00	NCCER
Pulp & Paper Escambia, AL	4x10s +8	650	\$60	25.00-32.00	25.00-32.00	25.00-32.00	25.00-32.00	25.00-32.00	PD 7 days \$1.25 Service
Quiver Bowling Green, KY		200	\$85	30.00-31.00	31.00-32.00	35.00-37.00	31.00-32.00	31.00-32.00	\$250 In/Out \$1.00 Shift Diff
Robinson Hartsville, SC	4x10s	300	\$85	21.00-26.00	22.00-30.00	29.00-33.00	28.00-30.00	26.00-30.00	Mileage In/Out
Santee Cooper Cross, SC	5x10s	6					25.00-27.00		
SCE&G Various SC	5x10s	125	\$85		26.00-27.00	32.00-35.00			NCCER \$250 In/Out
Shearon Harris New Hill, NC	4x10s	300	\$85	21.00-26.00	22.00-30.00	29.00-33.00	28.00-30.00	26.00-30.00	Mileage In/Out
Solar Ft. Mitchell, AL	4x10s +8	175	\$50	21.50-29.50	21.50-29.50	21.50-29.50	21.50-29.50	21.50-29.50	PD 7 days \$1.25 Service
Solar Kingsbay, GA	4x10s +8	175	\$50	21.50-29.50	21.50-29.50	21.50-29.50	21.50-29.50	21.50-29.50	PD 7 days \$1.25 Service
Stabilis/On Quest Miami, FL	5x10s	80	\$80	23.00-27.00	23.00-28.00	31.00-31.00		23.00-30.00	
Steel Mill Saraland, AL	5x10s	15		18.00-20.00	22.50-25.00	25.00-26.00	22.50-22.50	24.00-30.00	
Stonewall Leesburg, VA	4x10s +8	650	\$70	23.00-25.00	25.00-27.00	27.00-34.00	25.00-27.00	32.00-35.00	NCCER PD 7 days
TECO Mulberry, FL	5x10s	450	\$70	26.00-27.00	26.00-27.00	27.00-30.00	26.00-27.00	27.00-29.00	
US Nitrogen Greenville, TN	6x10s	250	\$100	28.00-30.00	30.00-32.00	33.00-35.00		30.00-32.00	
VA Hospital Charleston, SC	6x10s	6	\$80		25.00-26.00	25.00-26.00			
Valero Memphis, TN	5x10s	20	\$92		29.00-29.00	30.00-34.00		26.00-31.50	PD \$75 - \$110
Valero Memphis, TN	4x10s	25	\$60				23.00-28.00		NCCER
Valero Memphis, TN	5x10s	60	\$60				24.00-24.00		
VC Summer Jenkinsville, SC	5x10s	4050	\$70	28.50-29.50	28.50-29.50	30.00-35.00	28.50-29.50	31.30-34.30	NCCER Cert + PD 7 days
Wacker Charleston, TN	5x10s +8	120	\$70		26.00-27.00			18.00-30.00	
Wacker Charleston, TN	6x10s	170	\$100		25.00-25.00	25.00-35.00			
Wholesome Harleyville, SC	4x10s	5	\$80				25.00-27.00		
Range - Lowest Rate - Highest Rate				18.00-32.00	18.00-32.00	21.50-37.00	21.00-35.00	18.00-35.00	
Range - Avg Low Rate - Avg High Rate				23.82-26.63	24.87-27.65	27.26-30.14	25.62-27.98	26.38-29.84	
Avg Per Diem				\$74.03					

EXHIBIT #2

Incumbent Job Title	Fluor Job Title	Notes
Boilermaker	Boilermaker	
Carpenter	Carpenter	
Cement Finisher	Concrete Finisher	
Custodian	Utility Custodian	
Equipment Mechanic	Equipment Mechanic	
Equipment Mechanic - Oiler	See Note	Add New Title?
Facilities Worker	See Note	Need Job Description & Add New Title?
Field Assistant	See Note	Would this be Hourly Non-Manual Field Clerk?
Field Machinist	See Note	Add New Title?
General Supervisor	Sr. General Foreman	Need clarification on how 3 different rates are managed.
Heat Stress Technician	Post Weld Heat Treatment Tech	
Instrument Fitter	Instrument Fitter	
Instrument Tech	Instrument Technician	
Insulator	Insulator	
Ironworker	Ironworker Structural	
Laborer	Utility Worker	
Millwright	Millwright	
Operator Heavy - 80 to 299 Ton	See Note	Add New Title?
Operator Heavy - 300 to 399 Ton	See Note	Add New Title?
Operator Heavy - 400 to 599 Ton	See Note	Add New Title?
Operator Heavy - 600 Ton +	See Note	Add New Title?
Operator Heavy - Batch Plant (Goldhofer)	See Note	Add New Title?
Operator Heavy - (Concrete Pump Truck)	Truck Driver Concrete (See Note)	Is the pay range based on 51, 63, 70 meter qualifications.
Operator Heavy - (Hvy Lift Derrick)	See Note	Add New Title?
Operator Light - Truck Driver, Bus Driver	Truck Driver Light	Need clarification on equipment list - Single Axle TR?
Operator Medium	Equipment Operator Crane - Medium	
Painter	Painter	
Pipefitter	Pipefitter	
Rigger	Ironworker Rigger	
Rodbuster	Ironworker Reinforcing	
Runner	See Note	Hourly Non-Manual Town Runner? If not, Add New Title?
Scaffold Carpenter	Carpenter Scaffold	
Survey - Rod-Chain Person	Survey Crew	Need clarification on 3 Journeyman Pay Rates?
Surveyor - Instrument Person	Survey Crew-Instrument	
Surveyor - Party Chief	See Note	Add New Title? Need clarification on 3 Journeyman rates?
Warehouseman	Support - Warehouse Worker	
Welder - Combination Process	Welder - Combination	Clarify E-Helper 4 vs Journeyman on all welder titles?
Welder - Combo + Machine	See Note	Is this Orbital Machine or Flux Core? Add Title post feedback.
Welder - Combo + Stainless	See Note	Create New Title?
Welder - Single Process	Ironworker Welder (See Note)	Is this Structural Welder? Add Title based on feedback
Note 1: Need clarification on Time in Position from entry level to Journeyman. Fluor uses 42 months for Journeyman with 6 month intervals between helper levels.		
Note 2: Need complete Per Diem guideline details.		
Note 3: Do Foreman, General Foreman, and General Supervisor have pay incentives for NCCER certification?		



International Association of
**Heat & Frost Insulators
& Asbestos Workers Local 96**

VINCE P. DRESCHER, JR.
Business Manager

105 Sharon Court
Pooler, Georgia 31322
Office: (912)748-6282
Fax: (912)748-5408
Cell: (912)663-0749
Email:awl96@insulators.org

**Wage Rates
Effective 5 -16-16**

- ✓ Mechanic \$25.92 Per Hour
 - ✓ Health & Welfare \$5.55 Per Hour
 - ✓ Retire Health & welfare \$.35 Per Hour
 - ✓ Local 96 Pension \$6.30 Per Hour
 - ✓ Local 96 Apprenticeship (JATC) \$.25 Per Hour
 - ✓ Labor Management \$.05 per hour
 - ✓ Florence Bernard Scholarship and Disaster Relief \$.01 per hour
 - ✓ National Apprenticeship Training Fund \$.05 Per Hour
 - ✓ Employer shall apply 6.5% of gross per hour worked to the dues check off
 - ✓ Employer shall deduct \$.10 per hour to apply to the National organizing fund and \$.01 for per hour for National PAC
 - ✓ Employer shall Pay \$.04 per hour for Tissue Bank
 - NIA Travel pay 2.00 per hour for projects over 75 miles from union hall
 - NIA Night shift 15%
-
- ✓ Foremen \$2.00 Per Hour above base wage rates
 - ✓ General Foremen \$3.00 Per Hour above base wage rates

1st Year Apprentice 60% of Mechanic Rate no Health & Welfare Or Retiree Health & Welfare with other benefits as outlined.

2nd Year 70% of mechanic hourly wage rates with full benefits.

3rd Year 75 % of mechanic hourly wage rates with full benefits.

4th Year 85 % of mechanic hourly wage rates with full benefits.

**Pre Apprentice 10.00 per hour Local 96 Apprentice (JATC) \$.25,
National apprentice \$.05, 6.5% of gross per Dues check off**

* NOT COUNTING COVER SHEET. IF YOU DO NOT RECEIVE ALL PAGES, PLEASE TELEPHONE US IMMEDIATELY AT.

Article (A)

WAGE RATES AND FRINGE BENEFITS CONTRIBUTIONS:

Employees covered by this agreement shall be paid on hours worked, as indicated in Article A, and such wage rates and fringe benefits contributions shall become effective the first full payroll on or after the date shown.

Bricklayers, Pointer, Cleaners, Cement Masons, Plaster, Tile Setter, Caulkers and Welders

FRINGE BENEFITS EFFECTIVE: 5-1-2016 TO 4-30-2017

Journeyman Rates		Apprentice Base Wage Schedule	
Base Wage Rate:	\$25.81	1 st 6 Months 50%	\$12.91
IHF	\$ 6.00	2 nd 6 Months 55%	\$14.20
IPF/PPA	\$ 0.54	3 rd 6 Months 60%	\$15.49
IPF	\$ 1.50	4 th 6 Months 70%	\$18.07
Apprentice Training	\$ 0.20	5 th 6 Months 80%	\$20.65
TOTAL WAGE PACKAGE	\$34.05	6 th 6 Months 90%	\$23.23

Check-off Dues (4% of Total Wage Package)

IU Check-off Dues: \$0.34

Local Check-Off Dues: \$1.02

Foreman shall be paid Two dollars (\$2.00) per hour above the journeyman rate.

General Foreman shall be paid Three dollars (\$3.00) per hour above the journeyman rate.

*Refractory work pays an additional (\$2.00) per hour above the journeyman rate.

Shift work for all refractory will be the same as agreed to in the National Refractory Agreement. Per Diem or travel will be negotiated on a per job basis with special consideration given depending on jobsite locations.

Apprentice rates to be determined by the Joint Apprenticeship Committee. It is the responsibility of the Foreman to see the apprentice receive the proper training.

ARTICLE XVIII
PROJECT AGREEMENTS

Before any project agreement can be entered into between the Union and a non-signatory contractor, the union must first get approval from the brick contractor committee of two. This committee will be selected by the Brick contractors and the committee's only function is for this Article XVIII. Project agreements only in regards to this contract.

Local 8 Southeast Officer: _____

Contractor: _____

Date: _____

Article (A)

1. WAGE RATES AND FRINGE BENEFITS CONTRIBUTIONS:

Employees covered by this agreement shall be paid on hours worked, as indicated in Article A, and such wage rates and fringe benefits contributions shall become effective the first full payroll on or after the date shown.

Bricklayers, Pointer, Cleaners, Cement Masons, Plaster, Tile Setter, Caulkers and Welders

FRINGE BENEFITS EFFECTIVE: 5-1-2016 TO 4-30-2017

Journeyman Rates		Apprentice Base Wage Schedule	
Base Wage Rate:	\$25.81	1 st 6 Months 50%	\$12.91
HC	\$6.00	2 nd 6 Months 55%	\$14.20
IFF/PBA	\$0.54	3 rd 6 Months 60%	\$15.49
IBF	\$1.50	4 th 6 Months 70%	\$18.04 *
Apprentice Training	\$0.20	5 th 6 Months 80%	\$20.65
TOTAL WAGE PACKAGE	\$34.02	6 th 6 Months 90%	\$23.23

Check-off Dues (4% of Total Wage Package)

Local Check-off Dues: \$0.34

Local Check-Off Dues: \$1.02

Foreman shall be paid Two dollars (\$2.00) per hour above the journeyman rate.

General Foreman shall be paid Three dollars (\$3.00) per hour above the journeyman rate.

*Refractory work pays an additional (\$2.00) per hour above the journeyman rate.

Shift work for all refractory will be the same as agreed to in the National Refractory Agreement. Per Diem or travel will be negotiated on a per job basis with special consideration given depending on jobsite locations.

Apprentice rates to be determined by the Joint Apprenticeship Committee. It is the responsibility of the Foreman to see the apprentice receive the proper training.

ARTICLE XVIII
PROJECT AGREEMENTS

Before any project agreement can be entered into between the Union and a non-signatory contractor, the union must first get approval from the brick contractor committee of two. This committee will be selected by the Brick contractors and the committee's only function is for this Article XVIII. Project agreements only in regards to this contract.

Local 8 Southeast Officer: [Signature]

Contractor: Victoria Meyer for Liberty Integrated Solutions, LLC

Date: April 29, 2016

SOUTHEASTERN STATES ARTICLES OF AGREEMENT WAGE PACKAGE FOR BOILERMAKER
Lodges 26, 37, 69, 108, 110, 263, 433, 454, 455 and 456
EFFECTIVE THE FIRST FULL PAY PERIOD AFTER JANUARY 1, 2016 THROUGH December 31, 2016
THE FOLLOWING CLASSIFICATIONS HAVE BEEN AGREED TO BY THE PARTIES

<u>CLASSIFICATION</u>	<u>WAGE</u>	<u>PENSION</u>	<u>H&W</u>	<u>ANNUITY</u>	<u>APPR.</u>	<u>MOST</u>	<u>VAC</u>	<u>TOTAL</u>
General Foreman	\$35.27	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$56.49
Foreman	\$33.27	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$54.49
Assistant Foreman	\$32.02	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$53.24
Boilermaker CPW - TIG	\$31.27	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$52.49
Boilermaker CW - MIG	\$30.02	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$51.24
Boilermaker Mechanic	\$27.97	\$11.96	\$7.07	\$1.25	\$0.60	\$0.34	\$0.00	\$49.19

<u>APPRENTICE RATES</u>		<u>WAGE</u>	<u>PENSION</u>	<u>H&W</u>	<u>ANNUITY</u>	<u>APPR.</u>	<u>MOST</u>	<u>VAC</u>	<u>TOTAL</u>
Period 6	95%	\$26.57	\$11.36	\$7.07	\$1.19	\$0.60	\$0.34	\$0.00	\$47.13
Period 5	90%	\$25.17	\$10.77	\$7.07	\$1.13	\$0.60	\$0.34	\$0.00	\$45.08
Period 4	85%	\$23.77	\$10.16	\$7.07	\$1.06	\$0.60	\$0.34	\$0.00	\$43.00
Period 3	80%	\$22.38	\$9.57	\$7.07	\$1.00	\$0.60	\$0.34	\$0.00	\$40.96
Period 2	75%	\$20.98	\$8.97	\$7.07	\$0.94	\$0.60	\$0.34	\$0.00	\$38.90
Period 1	70%	\$19.58	\$8.37	\$7.07	\$0.88	\$0.60	\$0.34	\$0.00	\$36.84
Period Probation (0-2,000)	65%	\$18.18	\$0.60	\$7.07	\$0.81	\$0.60	\$0.34	\$0.00	\$27.60

<u>SUBJOURNEYMAN RATES</u>		<u>WAGE</u>	<u>PENSION</u>	<u>H&W</u>	<u>ANNUITY</u>	<u>APPR.</u>	<u>MOST</u>	<u>VAC</u>	<u>TOTAL</u>
Over 4,000	80%	\$22.38	\$0.60	\$6.72	\$0.10	\$0.60	\$0.34	\$0.00	\$30.74
1,000 - 2,000 Probationary	60%	\$16.78	\$0.60	\$6.72	\$0.10	\$0.60	\$0.34	\$0.00	\$25.14
0-1,000 Probationary	60%	\$16.78	\$0.60	\$0.00	\$0.10	\$0.60	\$0.34	\$0.00	\$18.42

Pension, Health & Welfare, and Annuity are paid on an "hours paid" basis

NOTE: Article 18.1.1(a) It is agreed that on all work erected in St. Lucie, Martin, Palm Beach, Broward, Dade, and Glade Counties (to and including Key West), Florida, and there only, all employees shall receive one dollar (\$1.00) per hour above the rates provided in Article 18.1(a).

TRAVEL: \$.32 per mile where a job is located outside the 40-mile zone from the City Hall in the city of the local union having jurisdiction, to and from the job at the beginning and conclusion of employment.

SUBSISTENCE: Over 60 miles - \$40.00 per day from the employee's primary residence to the jobsite.

OVERTIME: Weekdays and Saturdays - Time and One-half
Sundays and Holidays - Double Time

SHIFT WORK: 1st Shift - 8 hours worked for 8 hours paid
2nd Shift - 7 1/2 hours worked for 8 hours paid
3rd Shift - 7 hours worked for 8 hours paid

***** Must demonstrate at least 1000 hours as a Subjourneyman B to advance to a Subjourneyman A and receive the Health and Welfare Contributions *****

Effective 7/1/16



Operative Plasterers' & Cement Masons
Plant Vogtle
Southeast region
AFL/CIO



4100 Martin Luther King Jr. Drive, SW
Atlanta, Georgia 30336
Phone (404) 696-9500 Fax (404) 696-3388
opclocal148@bellsouth.net

Wages & Benefits Appropriations Effective 7/1/16

Journeyman: \$ 24.80 per/hr.

Foreman rate: \$ 2.00 above journeyman rate

Apprentice Rates and Percentages:

First 6 months	70%
Second 6 months	75%
Third 6 months	80%
Forth 6 months	85%
Fifth 6 months	90%
Sixth 6 months	95%
Upon Graduation	100% Journeyman Rate

Fringe Benefits

Health & Welfare	\$ 4.70) N/C
Pension	\$ 2.00	
Admin. Dues	\$ 1.67	

Fund Appropriations:

Apprentice Fund	\$ 0.50) N/C
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Journeyman Total Package: \$ 32.00

APPENDIX "A"

CLASSIFICATIONS AND RATES OF PAY

FOR CARPENTERS

PLANT VOGTLE, PLANT HATCH AND PLANT FARLEY

SEPTEMBER 1, 2015 THROUGH AUGUST 31, 2016

	Wage	Apprenticeship	Pension	H & W
Carpenters: Journeyman	\$26.20	\$.90	\$5.70	\$4.10

SEPTEMBER 1, 2016 THROUGH AUGUST 31, 2017

\$1.03 Increase to total package

SEPTEMBER 1, 2017 THROUGH AUGUST 31, 2018

\$1.06 Increase to total package

Foreman will receive 15% above the Journeyman rate.

General Foreman will receive 20% above the Journeyman rate.

THE FOLLOWING PERCENTAGES SHALL APPLY TO APPRENTICE
WAGE SCALE:

1 ST STEP	844 HRS.	60%
2 ND STEP	844 HRS.	65%
3 RD STEP	844 HRS.	70%
4 TH STEP	844 HRS.	75%
5 TH STEP	844 HRS.	80%
6 TH STEP	844 HRS.	85%
7 TH STEP	844 HRS.	90%
8 TH STEP	844 HRS.	95%

**IBEW LOCAL UNION 1579
WAGE SCHEDULE
PLANT VOGTLE
Units 3 & 4**

**MANUAL CRAFT WAGE
CLASSIFICATION - ELECTRICIANS**

JANUARY 1, 2016 – SEPTEMBER 30, 2016

<u>CLASSIFICATION</u>	<u>BASE WAGE RATE</u>
Journeyman	26.98
Foreman (15% above Journeyman)	31.03
General Foreman (20% above Journeyman)	32.38
Cable Splicer (\$.25 above Journeyman)	27.23
Foreman (15% above Journeyman/Cable Splicer)	31.31
General Foreman (20% above Journeyman/Cable Splicer)	32.68

APPRENTICES (DOL-BAT Registered and Certified)
Percent of Journeyman Base Rate

1 st 6 months	1 st Period	47% (No Local Pension)	12.68
2 nd 6 months	2 nd Period	50% (No Local Pension)	13.49
2 nd year	3 rd Period	55%	14.84
3 rd year	4 th Period	60%	16.19
4 th year	5 th Period	70%	18.89
5 th year	6 th Period	80%	21.58

FRINGES

Health & Welfare	\$5.91 per hour worked, contribution
Pension	\$4.34 per hour worked, contribution
Pension Deficit Reduction Assessment	\$1.13 per hour worked, contribution
NEBF	3% of gross monthly payroll contribution
Apprenticeship & Training	1.28% gross monthly payroll contribution
Dues	Deduction from pay (4% or 1%) with signed authorization
NECA – Augusta Chapter	1% of gross earnings (NECA members only) <i>N/A</i>

International Brotherhood of Electrical Workers

LOCAL UNION 1579

1250 REYNOLDS STREET

AUGUSTA, GEORGIA 30901

Phone: (706) 722-6357 • Fax: (706) 724-9792



October 30, 2015

To All IBEW 1579 Contractors-Plant Vogtle
Units 3 and 4

RE: Wage Reduction Explanation for January 1-September 30, 2016

This year, the Journeyman Wireman rate for Plant Vogtle Units 3 & 4 increased .80 cents and went into effect October 1, 2015.

Unfortunately, **effective January 1, 2016**, our health & welfare rates will increase .22 cents per hour and will have to be deducted from the \$27.20 hourly wage rate lowering the hourly rate to **\$26.98**. Please see attached (revised) wage schedule for Inside Working Agreement for January 1, 2016 thru September 30, 2016.

If you need any additional explanation, please do not hesitate to call.

Thanks,

George W. (Will) Salters
Business Manager & Financial Secretary

GWS/jbs

Effective 7/1/16

IRONWORKERS LOCAL UNION 709

Affiliated With AFL-CIO
131 Westside Blvd.
Pooler, Ga. 31322
Phone: 912-748-5118
Fax: 912-748-4367

WILLIAM H. MCMILLAN
BUSINESS REPRESENTATIVE

**Contracts five (5) million and above, and work at nuclear
facility will increase as follows:**

RATES EFFECTIVE 7/1/16 – 6/30/2017

JOURNEYMAN	\$27.09
FOREMAN 15%	\$31.16
GENERAL FOREMAN 20%	\$32.51
WELDERS	\$29.09
APPRENTICES	
1 ST YEAR-60%	\$16.26
2 ND YEAR-70%	\$18.97
1 ST & 2 ND YR – HEALTH & WELFARE ONLY	
3 RD YEAR-85%	\$23.03
4 TH YEAR-95%	\$25.74
3 RD & 4 TH YR – ALL BENEFITS	
BENEFITS	
HEALTH & WELFARE	\$5.00
PENSION	\$2.75
FUNDING SURCHARGE	\$2.25
APPRENTICE	.50
DISTRICT COUNCIL	.02
PAC	.04
IMPACT	.20
ANNUITY	\$1.00
CONTRACTORS ADMIN/TRAINING FUND	.03

WORKING ASSESSMENT

CONTRACTORS ARE TO DEDUCT 4% OF GROSS PAY WITH A 40 HOUR STRAIGHT TIME CAP
PER WEEK FOR EACH MAN AND TRANSMIT TO:

IRONWORKERS LOCAL UNION 709
131 WESTSIDE BLVD.
POOLER, GA 31322

Effective 7/1/16

IRONWORKERS LOCAL UNION 709

Affiliated With AFL-CIO
131 Westside Blvd.
Pooler, GA 31322
Phone: 912-748-5118
Fax: 912-748-4367

**WILLIAM H. MCMILLAN
BUSINESS REPRESENTATIVE**

June 15, 2016

RE: Rate Increase

Dear Contractor:


As of July 1, 2016, there will be a rate increase of \$1.20 per hour. We will be adding \$0.50 cents to the Pension Surcharge and \$0.70 cents to the wages.

JIW Wages - \$27.09 per hour
Pension Surcharge - \$2.25 per hour

Also, a Wage sheet is enclosed to further verify amounts.

Please see that these rates are implemented in a timely manner. Thank you for all your help with this change. I am

Respectfully,


William H. McMillan
FS-T-BM

WHM:cs

International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers



Reinforcing Ironworkers Local Union No. 846

6260 Woodside Executive Court • Aiken, South Carolina 29803
 Phone: (803) 644-2187 • Toll Free: (866) 336-9163 • Fax: (803) 644-2192
www.iw846.org • www.iwrddt.org • www.ironworkers.org



PLANT VOGTLE RATES

Rates Effective 9/1/2015 - 8/31/2016

JOURNEYMAN	\$33.69
FOREMAN (15%)	\$38.74
GENERAL FOREMAN (20%)	\$40.43

APPRENTICES

1st - 3rd Year

1 st six months - 625 hours	70 % of the Journeymen's rate	\$23.58
2 nd six months - 625 hours	75 % of the Journeymen's rate	\$25.27
3 rd six months - 625 hours	80 % of the Journeymen's rate	\$26.95
4 th six months - 625 hours	85 % of the Journeymen's rate	\$28.64
5 th six months - 625 hours	90 % of the Journeymen's rate	\$30.32
6 th six months - 625 hours	95 % of the Journeymen's rate	\$32.01

Fringes/Benefits (Journeyman & Apprentice)

Profit Sharing	\$0.50 [^]
Health and Welfare	\$0.85
Apprentice/Training	\$1.50
IMPACT	\$0.28
Bonus Fund*	\$0.80*
Total	\$3.93

****Bonus Fund - To Be Deducted Out Of Employees Check.***

TOTAL JOURNEYMAN PACKAGE \$37.62

[^] You may elect to defer additional amounts from your wages into the Profit Sharing Plan on a pre-tax basis. You may defer anywhere from \$0.50 to \$7.00 per hour, in increments of \$0.50. To defer your wages, you must complete a written authorization form.

Welding Rates and Fringes

Classification	Wage	Profit Sharing	H&W	Apprentice/Training	IMPACT	Bonus Fund*
Welder*	\$39.36	\$0.50 [^]	\$0.85	\$1.50	\$0.28	\$0.80*

**Rates will defer for Ironworkers Reinforcing CPW-TIG and CW-MIG which are listed out in the Side Letter of Welder Rates effective 9/1/2014 as per the RDC and 846/847 CBA. Bonus Fund - To Be Deducted Out Of Employees Check.*

TOTAL WELDER PACKAGE \$43.29

WORKING ASSESSMENTS

CONTRACTORS ARE TO DEDUCT 4.5% PER WEEK OF GROSS WAGES FOR EACH MAN AND TRANSMIT TO:
REGIONAL DISTRICT COUNCIL TRUST FUNDS
 P.O. BOX 4148; PORTLAND, OR 97208

**International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers
Reinforcing Ironworkers Local Union No. 846**



6260 Woodside Executive Court • Aiken, South Carolina 29803
Phone: (803) 644-2187 • Toll Free: (866) 336-9163 • Fax: (803) 644-2192
www.iw846.org • www.iwrddt.org • www.ironworkers.org



MEMORANDUM

August 28, 2015

RE: Wage Increase at Plant Vogtle

To whom it may concern:

Effective September 1, 2015, there will be a rate increase of sixty-five cents (\$0.65) to our wage package. The wage increase will be effective the first full pay period in September 2015 and should be applied as follows:

- \$0.65 added to the Wages

We have also changed our Annuity/Retirement contribution from \$6.47 to \$0.50. The balance of \$5.97 is now added to the Journeyman wage. The change in contribution rate is done in connection with the conversion of the Retirement Plan from a Money Purchase plan into a Profit Sharing plan. The new Profit Sharing plan allows for employees to defer their wages on a pretax basis as an employee contribution to their Retirement Plan. This means that the employees can have additional money deducted from their wage on their check and added to their Retirement Plan. To do this, employees will need to fill out and sign the Wage Deduction Form for Voluntary Contributions that is attached to this letter.

In summary, attached please find:

- Revised rate sheet for Plant Vogtle in effect from 9/1/2015 to 8/31/2016
- Wage Deduction Form for Voluntary Contributions

Should you have any questions please feel free to contact us.

Sincerely,

Jose J. Mendoza, FST/BM
Reinforcing Local Union 846

APPENDIX "A" WAGES

FOR THE HEAVY AND HIGHWAY CONSTRUCTION AGREEMENT FOR THE SOUTHEAST LABORERS' DISTRICT COUNCIL on behalf of Laborers' Local Union 515 of GEORGIA AND SOUTH CAROLINA

GEOGRAPHICAL

GEORGIA AND SOUTH CAROLINA

WAGE RATES

GROUP I	1-13-16	1-1-17	1-1-17
Zone 1	\$13.58	+\$0.45(to be allocated)	+\$0.45(to be allocated)

Flagman, (Traffic Control)
Traffic Control Maintenance, (To include but not limited to erection and maintenance of barricades, signs and relief of flag person)

	<i>JMA</i>		
GROUP II	1-13-16 <i>1/18/16</i>	1-1-17	1-1-18
Zone 1	\$13.58 <i>\$16.02</i>	+\$0.45(to be allocated)	+\$0.45(to be allocated)

General Construction Laborer

UPGRADE CLASSIFICATIONS

Laborers working in these classifications will receive a \$0.30 per hour upgrade *JMC 16.32*

- Air and Hydraulic Track Drill
- Asphalt Raker
- Asphalt Roller, walking
- Caisson Worker, free air
- Cement Finisher Tender
- Chain Saw Operator and Faller
- Concrete Saw, walking
- Concrete Crewman (To include stripping of forms, hand operating jacks on slip form construction, application of concrete curing compounds, pumpcrete machine, signaling, handling the nozzle of squeezecrete or similar machine, 6 inches and smaller)
- Concrete Stack (To include Laborers working on free standing concrete stacks for smoke or fume control above 40 feet high)
- Confined Space Attendant
- Concrete Signalman
- Crusher Feeder
- Demolition (To include clean-up, burning rubbish, loading, wrecking & salvage of all material)
- Demolition Torch
- Driller Helper (when required to move & position machine)
- Drills with dual Masts
- Dumpman

Fence Erector
Form Setter, paving
Grade Checker Using Level
Grout Machine Header Tender
Guard Rail (To include guard rails, guide and reference posts, sign posts, and right-of-way markers)
Gunitite (To include the operation of the machine or nozzle)
High Scaler
Jackhammer Operator
Laser Beam Operator (To include grade checkers and elevation control)
Miner, Class "A" (To include bull gang, Concrete Crewman, Dumpman and Pumpcrete Crewman, including distributing pipe, assembly & dismantle and nipper)
Miner, Class "B" (To include Brakeman, Finisher, Vibrator and Form Setter)
Miner, Class "C" (To include Miner, Nozzleman for concrete, Laser Beam Operator and Rigger)
Miner, Class "D" (To include Raise and Shaft Miner, Laser Beam Operator on raises and shafts)
Monitor Operator, air track or similar mounting
Mortar Mixer
Nipper
Nozzleman (To include squeeze and flo-crete nozzle)
Nozzleman, water, air or steam
Nozzleman (To include Jet Blasting Nozzleman, over 1200 lbs., jet blast machine power-propelled, sandblast nozzle)
Pavement Breaker, all
Plasma Arc/Demolition Torch
Pipelayer, corrugated metal culvert
Pipelayer, multi-plate
Pipeliner, (To include Working Topman, Caulker, Collarman, Jointer, Mortarman, Rigger, Jacker, Shorer, Valve or Meter Installer and Tamper)
Pipewrapper
Pot Tender
Powderman Helper
Power Buggy Operator
Power Tool Operator, gas, electric, pneumatic
Railroad Equipment, power driven, including dual mobile power spiker or puller
Remediation Worker (HazMat, Rad, Asbestos, Lead)
Rodder & Spreader
Riprap Man
Sandblast Tailhosman
Scaffold Erector, wood or steel
Stake Jumper
Tamper (To include the operation of Barco, Essex & similar tampers)
Tailhosman (water nozzle)
Track Laborer (RR)
Trencher
Truck Loader
Tugger Operator
Vibrators, all
Wagon Drills
Water Pipe Liner
Well-point Man
Wheelbarrow, power driver

GROUP III	<i>JMB</i> 1-13-16 1/18/16 \$17.37	1-1-17 +\$0.45(to be allocated)	1-1- 18 +\$0.45(to be allocated)
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Concrete Specialist

Construction Specialist (To include all work requiring special skills not addressed in the previously listed classifications and mutually agreed to between the Union and the Employer)

FOREMAN & TRAFFIC CONTROL SUPERVISOR: will receive \$1.00 per hour above the Laborers scale.

GENERAL FOREMAN AND CAISSON HOLE MAN: will receive \$1.50 per hour above the Laborers scale.

The Union shall have the right to adjust the total wage and fringe benefit package as conditions dictate but the total package shall not exceed the total wage and fringe benefit package as negotiated.

APPRENTICESHIP HOURS AND RATES

STEP/HOURS

I	0-1000	80% of journeyman rate and 100% of fringe package, excluding pension*
1	1001-2000	85% of journeyman rate and 100% of fringe package, excluding pension*
III	2001-3000	90% of journeyman rate and 100% of fringe package, excluding pension*
IV	3000-4000	95% of journeyman rate and 100% of fringe package, excluding pension*

The pension contribution for an apprentice will be \$0.20 per hour. When an apprentice reaches Journey Worker status, they will immediately receive the Journey Worker fringe package.

“NOTE” At no time will apprenticeship rates exceed journeyman rates for the same classification.

FRINGE BENEFIT CONTRIBUTIONS

	<u>1-13-16</u>	<u>1-1-17</u>	<u>1-1- 18</u>
Health & Welfare	\$3.50	\$ TBD	\$ TBD
Pension	\$1.60	\$ TBD	\$ TBD
Training	\$0.30	\$ TBD	\$ TBD
Regional LECET	\$0.10	\$ TBD	\$ TBD

TBD – To Be Determined

Rate increases shall become effective on the first full pay period of the month in which they become effective.

LABORERS' INTERNATIONAL UNION OF NORTH AMERICA
LOCAL UNION 515
GEORGIA and SOUTH CAROLINA



MEMORANDUM

To: All Local 515 Members
From: Pedro Franco, Business Manager
Date: November 2, 2015
Subject: Changes to the Dues Structure

On December 9, 2011, a "Dues Convention" was held to establish the dues structure for our District Council. The "Dues Convention" was held in accordance with Article VIII, Section 2, of the Uniform District Council Constitution. During this meeting, a motion was properly made, seconded, and carried to establish the following dues structures for Local 515.

Effective January 1, 2016 the dues will be as follows:

Dues will be \$35.00 per month and 4% working dues.

Retiree dues will be \$8.00 per month.

SSMRC MILLWRIGHT LOCAL UNION 1263 RATE SHEET (FOR 09 01 2015)
 COVERING GEORGIA, NORTH CAROLINA SOUTH CAROLINA
 PHONE: 770-795-1263 FAX: 770-795-0163

NEW RATES	
GA-NC-SC+Farley	
DESCRIPTION	NUCLEAR JOBS
EFFECTIVE DATE	09/01/15
MWJ WAGE RATE	\$28.50/HR
MWF WAGE RATE	JNYMN +15%
MWGF WAGE RATE	JNYMN +20%
NIGHT SHIFT PREMIUM	JNYMN+1.667%
APPRENTICE WAGE RATES	
PRE-APPR 90 % 1ST PD	NONE
1ST PD APPR (60 %)	\$17.10/HR
2ND PD APPR (65 %)	\$18.53/HR
3RD PD APPR (70 %)	\$19.95/HR
4TH PD APPR (75 %)	\$21.38/HR
5TH PD APPR (80 %)	\$22.80/HR
6TH PD APPR (85 %)	\$24.23/HR
7TH PD APPR (90 %)	\$25.65/HR
8TH PD APPR (95 %)	\$27.08/HR
BENEFITS	
HEALTH & WELFARE	\$4.10/HR
JNYMN PENSION	\$7.80/HR
1ST & 2ND YR APPR PENSION	\$7.80/HR
3RD & 4TH YR APPR PENSION	\$7.80/HR
APPR/TRAINING	\$.95/HR
UBC MW FUND	NONE
TOOLS/SAFETY	NONE
NEXT CONTRACT MODIFICATION	8/31/2016
CONTRACT FINAL (Y/N)	Y
WORKING ASSESSMENT	4%
CONTRACT EXPIRATION DATE	8/31/2018

09/01/2015 THROUGH 08/31/2016

Effective 7/1/16

INTERNATIONAL UNION OF OPERATING ENGINEERS

127 Westside Blvd.
Pooler, GA 31322



Office: 912-330-9928
Fax: 912-330-9963

LOCAL UNION NO. 474 AFFILIATED WITH AFL-CIO

MEMORANDUM OF AGREEMENT

THIS AGREEMENT IS DULY MADE AND ENTERED INTO THIS 1ST DAY OF JULY, 2015 BY AND BETWEEN THE INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 474 (HEREINAFTER THE "UNION") AND THE SOUTH GEORGIA MECHANICAL & ERECTORS ASSOCIATION, INC., FORMERLY KNOWN AS THE SAVANNAH AREA STEEL ERECTORS ASSOCIATION, (HEREINAFTER THE "ASSOCIATION" OR "EMPLOYER").

ALL OF THE TERMS AND CONDITIONS OF THE COLLECTIVE BARGAINING AGREEMENT BETWEEN THE "UNION" AND THE "ASSOCIATION" FOR THE PERIOD JULY 1, 2016 THROUGH JUNE 30, 2018 SHALL CONTINUE IN FULL FORCE AND EFFECT WITH THE FOLLOWING CHANGES:

1. ARTICLE 10--WAGES

On all jobs and work performed by Employers subject to this Agreement, the Employers agree to pay the following wage rates and fringe benefit contributions for all employees within the bargaining unit and within the groups stated hereunder and described in this Article.

WAGES--JOURNEYMEN

	<u>JULY 1, 2016</u> <u>TO</u> <u>JUNE 30, 2016</u>	<u>JULY 1, 2016</u> <u>TO</u> <u>JUNE 30, 2017</u>	<u>JULY 1, 2017</u> <u>TO</u> <u>JUNE 30, 2018</u>
GROUP 1	\$25.85	\$26.35	\$26.85
GROUP 1A	\$26.85	\$27.35	\$27.85
GROUP 1B	\$27.85	\$28.35	\$28.85
GROUP 1C	\$28.85	\$29.35	\$29.85
GROUP 1D	\$29.85	\$30.35	\$30.85
GROUP 2	\$24.02	\$24.52	\$25.02
GROUP 3	\$21.68	\$22.18	\$22.68
GROUP 4	\$19.51	\$20.01	\$20.51

FRINGE BENEFIT RATES

	<u>7-1-2015</u> <u>TO</u> <u>6-30-2016</u>	<u>7-1-2016</u> <u>TO</u> <u>6-30-2017</u>	<u>7-1-2017</u> <u>TO</u> <u>6-30-2018</u>
HEALTH & WELFARE	\$5.75	\$5.75	\$5.75
LOCAL 474 PENSION	\$2.50	\$3.00	\$3.50
CENTRAL PENSION	\$3.95	\$3.95	\$3.95
APPRENTICESHIP	\$.60	\$.60	\$.60
AAT	\$.03	\$.03	\$.03
TOTAL FRINGES	\$12.83	\$13.33	\$13.83

- Do not pay (see attached email)

Contractors shall have the right to call for employees with valid commercial driver's license (CDL) and current Certified Crane Operator (CCO) training.

GROUP 1A
ALL HYDRAULIC AND CONVENTIONAL CRANES RATED 120 TONS AND LARGER AND OPERATORS
WITH UNESCORTED ACCESS IN NUCLEAR POWER PLANTS WHERE NRC CLEARANCE IS REQUIRED

GROUP 1B
ALL HYDRAULIC AND CONVENTIONAL CRANES RATED 250 TONS AND LARGER

GROUP 1C
ALL HYDRAULIC AND CONVENTIONAL CRANES RATED 500 TONS AND LARGER

GROUP 1D
ALL HYDRAULIC AND CONVENTIONAL CRANES RATED 800 TONS AND LARGER

<u>APPRENTICE RATES</u>	<u>PAY RATE AND FRINGE BENEFIT CONTRIBUTIONS</u>		
FIRST YEAR	70% OF GROUP 1 RATE PLUS HEALTH & WELFARE		
SECOND YEAR	80% OF GROUP 1 RATE WITH FULL FRINGE BENEFITS		
THIRD YEAR	90% OF GROUP 1 RATE WITH FULL FRINGE BENEFITS		

	<u>(2015-2016)</u>	<u>(2016-2017)</u>	<u>(2017-2018)</u>
FIRST YEAR	\$18.10	\$18.46	\$18.80
SECOND YEAR	\$20.68	\$21.08	\$21.48
THIRD YEAR	\$23.27	\$23.72	\$24.17

DELETE PAC FUND FROM FRINGE BENEFIT PACKAGE. BOTH PARTIES AGREED TO ADD PAC FUND TO TOTAL NEGOTIATED WAGE WHICH IS REFLECTED IN THE FIRST YEAR OF THE WAGE RATES. BOTH PARTIES AGREED THAT THE UNION WILL SEND OUT CHECK OFF FORMS FOR THIS VOLUNTARY DEDUCTION TO BE TAKEN FROM MEMBERS WAGE.

ENGINEERS WHOSE "FULL TIME JOB" IS TO OPERATE A GREASE OR FUEL TRUCK SHALL RECEIVE \$1.00 ABOVE THE GROUP 1 RATE.

CERTIFIED MECHANICS PERFORMING ANNUAL CRANE INSPECTIONS SHALL DRAW THE SAME RATE AS THE CRANE OPERATOR IF THAT RATE IS HIGHER THAN HIS OR HER OWN.

ANY FORKLIFT OPERATED ON JOBSITES USING A HOOK ATTACHMENT SHALL DRAW GROUP 1 RATE.

MASTER MECHANIC/GENERAL FOREMAN SHALL RECEIVE \$3.50 PER HOUR ABOVE GROUP 1 AND A WORKING FOREMAN SHALL RECEIVE \$2.50 ABOVE GROUP 1 ALONG WITH CURRENT CBA LANGUAGE.

ARTICULATING (OFF ROAD) DUMP TRUCKS IS RECOGNIZED AS A GROUP 1 OPERATING ENGINEER DESIGNATION AS WELL AS ALL REMOTE CONTROL OPERATED EQUIPMENT.

2. ARTICLE 2-REPRESENTATION

KEEP THE CURRENT LANGUAGE. ADD THESE PARAGRAPHS:

IT IS MUTALLY AGREED AND UNDERSTOOD AND ACKNOWLEDGED THE SOUTH GEORGIA MECHANICAL AND ERECTORS ASSOCIATION HEREINAFTER REFERRED TO AS THE ASSOCIATION, IS THE DULY AUTHORIZED AND RECOGNIZED BARGAINING REPRESENTATIVE OF EMPLOYERS OF OPERATING ENGINEERS IN THE GEOGRAPHICAL AREA COVERED BY THIS AGREEMENT.

THIS AGREEMENT IS NEGOTIATED BY THE ASSOCIATION AS A NEGOTIATING AGENT ONLY. THE LIABILITY OF THE SOUTH GEORGIA MECHANICAL & ERECTORS ASSOCIATION SHALL BE AS A BARGAINING AGENT ONLY, ACTING WITHOUT LIABILITY FOR THE ACTS OF THEIR INDIVIDUAL MEMBERS OR OF OTHER PARTIES SIGNATORY TO THIS AGREEMENT.

CONTRACTOR FIRMS MAY BECOME PARTY TO THIS AGREEMENT BY DIRECT APPLICATION TO, AND APPROVAL BY, THE UNION. THE UNION SHALL NOTIFY THE ASSOCIATION AND THE BENEFITS ADMINISTRATOR OF THE NAMES OF CONTRACTOR FIRMS THAT BECOME PARTIES TO THIS AGREEMENT.

ANY CONTRACTOR SIGNATORY TO THIS AGREEMENT, OR OTHERWISE BOUND BY THIS AGREEMENT, ACKNOWLEDGES THAT IT MAY GIVE BOTH THE UNION AND THE ASSOCIATION WRITTEN NOTICE NOT LESS THAN 60 DAYS PRIOR TO THE TERMINATION DATE OF THE AGREEMENT, OR PRIOR TO THE TERMINATION OF SUBSEQUENT RENEWAL, MODIFICATION, OR EXTENSION HEREOF, OF SAID CONTRACTORS INTENTION TO NO LONGER BE BOUND BY THE ASSOCIATION AS ITS COLLECTIVE BARGAINING REPRESENTATIVE, AND FAILING TO GIVE SAID NOTICE, IT AGREES TO BE BOUND BY EACH SUBSEQUENT RENEWAL, MODIFICATION, OR EXTENSION OF THIS AGREEMENT. IF NO NOTICE IS GIVEN AS AFORESAID, ALL SUBSEQUENT AGREEMENTS NEGOTIATED BETWEEN THE ASSOCIATION AND THE UNION SHALL BE DEEMED TO HAVE BEEN NEGOTIATED ON BEHALF OF THE CONTRACTOR AND SHALL BE EXECUTED BY THE CONTRACTOR UPON REQUEST OF THE UNION. CHANGES TO THIS AGREEMENT MAY BE MADE AT ANY TIME BY MUTUAL CONSENT BETWEEN THE UNION AND ASSOCIATION.

THE SOUTH GEORGIA MECHANICAL & ERECTORS ASSOCIATION WILL APPOINT ALL MANAGEMENT TRUSTEES AND COMMITTEE MEMBERS REGARDING THIS AGREEMENT.

3. ARTICLE 11 HOURS OF WORK

THE THIRTY (30) MINUTE LUNCH PERIOD SHALL BE TAKEN BETWEEN 11:00 AND 2:00. IF WORK PROHIBITS LUNCH FROM BEING TAKEN DURING THIS INTERVAL, THE OPERATOR SHALL BE PAID THROUGH LUNCH. (WTL). THIS SHALL APPLY TO THE EIGHT (8) OR TEN (10) HOUR SCHEDULES.

4. ARTICLE 22 AGREEMENT ADMINISTRATION/TRAINING (AAT)

HEADING IN CBA IS REPLACED BY THIS HEADING. ARTICLE 22 HEADING WILL NO LONGER BE LOCAL 474 PAC FUND. ALL CURRENT LANGUAGE IS REPLACED BY THE FOLLOWING PARAGRAPHS:

THE AGREEMENT ADMINISTRATION/TRAINING (AAT) SHALL BE APPLIED TO MANAGEMENT'S COST OF LABOR RELATIONS, COLLECTIVE BARGAINING, INDUSTRY RELATIONS, PUBLIC RELATIONS, AND ALL MATTERS AND PROBLEMS INCIDENTAL THERETO, COST OF MAINTAINING FACILITES, APPOINTING OF TRUSTEES TO BENEFIT FUNDS, PROMOTION OF TRAINING AND SAFETY PROGRAMS, AND OTHER INDUSTRY COSTS.

SPECIFICALLY EXCLUDED FROM THE PURPOSE OF THE AGREEMENT ADMINISTRATION/TRAINING IS THE USE OF ANY OF THE FUND FOR LOBBYING IN SUPPORT OF ANTI-LABOR AND/OR SUBSIDIZE CONTRACTORS BY THE PAYMENT OF MONIES TO THEM FROM THE FUND IN CONNECTION WITH LEGAL, WORK STOPPAGES OR STRIKES AGAINST SUCH CONTRACTORS.

IT IS HEREBY MUTUALLY AGREED THAT THE SOUTH GEORGIA MECHANICAL & ERECTORS ASSOCIATION, INC. SHALL HAVE FULL CONTROL OF AND DISBURSE ALL MONIES OF THE AGREEMENT ADMINISTRATION/TRAINING.

IT IS ALSO HEREBY MUTUALLY AGREED UPON THAT THE ASSOCIATION WOULD HAVE THE SOLE RESPONSIBILITY FOR COLLECTION OF DELINQUENT FUNDS WHICH MAY ARISE UNDER THIS ARTICLE AND THAT NEITHER THE UNION OR THE FUND ADMINISTRATORS WOULD HAVE ANY RESPONSIBILITY. ARTICLE 22 IS NOT SUBJECT TO THE GRIEVANCE AND ARBITRATION PROVISIONS.

5. TERM OF AGREEMENT

JULY 1, 2015 TO JUNE 30, 2018 (THREE YEAR AGREEMENT). ALL NAMES AND DATES THROUGHOUT THE AGREEMENT HAVE BEEN CHANGED TO REFLECT THE NEW AGREEMENT.

THE EFFECTIVE DATE OF THE AGREEMENT SHALL BE JULY 1, 2015 AND THE AGREEMENT SHALL REMAIN IN FULL FORCE AND EFFECT UNTIL JUNE 30, 2018.

INTERNATIONAL UNION OF OPERATING ENGINEERS
LOCAL 474

BY:


ALLEN BRASWELL
BUSINESS MANAGER
CO-CHAIRMAN

SOUTH GEORGIA MECHANICAL &
ERECTORS ASSOCIATION, INC.

BY:


JAMES L. BOYKIN
ASSOCIATION PRESIDENT
CO-CHAIRMAN

WAGE RATES AND FRINGES EFFECTIVE 10-05-15

PLANT VOGTLE WAGE RATES
PIPEFITTERS LOCAL 150

	Effective date	Base Rate	H&W	Local Pen.	Nat. Pen.	Appr.	Int. Train.	Annuity	Total Fringe	TOTAL PACKAGE
Journeyman	10/05/15 to 9/30/16	\$ 28.97	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 43.08
Working Foreman	15%	\$ 33.32	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 47.43
Foreman	15%	\$ 33.32	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 47.43
General Foreman	20%	\$ 34.76	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 48.87
Superintendent	25%	\$ 36.21	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 50.32
Apprentice - YEAR 1	50%	\$ 14.49	\$ 5.55	\$ -	\$ -	\$ 0.60	\$ 0.10	\$ 0.75	\$ 7.00	\$ 21.49
Apprentice - YEAR 2	60%	\$ 17.38	\$ 5.55	\$ 3.44	\$ -	\$ 0.60	\$ 0.10	\$ 0.75	\$ 10.44	\$ 27.82
Apprentice - YEAR 3	65%	\$ 18.83	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 32.94
Apprentice - YEAR 4	70%	\$ 20.28	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 34.39
Apprentice - YEAR 5	80%	\$ 23.18	\$ 5.55	\$ 6.87	\$ 0.24	\$ 0.60	\$ 0.10	\$ 0.75	\$ 14.11	\$ 37.29

Lutz, Ronald

From: Diana Brazell <dj150@bellsouth.net>
Sent: Wednesday, October 07, 2015 9:10 AM
To: djoiner@wisgrp.com; Phyllis Epting; Lutz, Ronald; Lori Davis; Lori Davis; chloe.vernon@dayzim.com; j.turner@tritool.com; ncollins@camurren.com; becky.meehan@airco-inc.com; theresa.mazzarella@ge.com; lisa.hine@bhienergy.com; tosmith@southernco.com; Tammy Twiggs; John Huchko; mary.gabriel@airco-inc.com; Penny Lanham; Beverly Papalski; ESPEY Leslie; rlanaconstr@aol.com; lizmcshane@comcast.net; Metcalf, Keith Britton
Subject: New Plant Vogtle wage rates
Attachments: WAGE RATES PLANT VOGTLE eff 10-5-15.pdf

PLEASE FORWARD TO PAYROLL:

Please see attached the **NEW** Plant Vogtle wage rates effective 10/5/15 for Local Union 150. Please adjust the wages to reflect this change.

If I can be of further assistance please call (706) 724-8846.

Charles I. Hardigree

Business Manager

Financial Secretary/Treasurer

Local Union 150

(706) 724-8846

fax (706) 722-6302

**SOUTHERN NUCLEAR
WAGE AND FRINGE BENEFIT ADDENDUM
PLANT FARLEY, PLANT HATCH, PLANT VOGTLE
2015-2018**

	<u>8/1/2015</u>	<u>8/1/2016</u>	<u>8/1/2017</u>
Industrial-Journeyman	\$24.70	\$25.45	+\$1.00

Distribution of annual increases in wages and fringes will be determined by Union with notice to employer by July 1, annually.

E-Journeyperson Rate is based on 90% of Journeyperson Minimum Base Rate.

MASTER PAINTER TRAINING PROGRAM: Journeypersons, who successfully complete Module 1 through Module 3 of the Master Painter Training Program or SSPC CAS, will receive a \$1.00 per hour training incentive.

General Foreman shall be paid \$2.00 per hour above the base wage rate. **Foreman** shall be paid \$0.75 above the base wage rate up to five men and \$1.25 above the base wage rate for over five men.

Fringe Benefit Contributions

	<u>8/1/15</u>		<u>8/1/2016</u>		<u>8/1/2017</u>
Journeyman IUPAT Pension Fund *	\$4.10		\$4.30		TBD
Southern Painter's Welfare Fund	\$4.43		\$4.58		TBD
FTI of DC 77	\$0.70	\$0.75		\$0.75	
National FTI	\$0.10	\$0.10		\$0.10	
LMCI	\$0.10	\$0.10		\$0.10	
IUPAT Annuity	\$0.25	\$0.25		\$0.25	

Pension contribution rates for Apprentice's are as follows; other benefits are the same as above:

<u>Pension First Year Apprentice</u>	\$0.14
<u>Pension Second Year Apprentice</u>	\$0.21
<u>Pension Third Year Apprentice</u>	\$0.34

Apprentice Wage Rates

Apprentice rates are based on a percentage of Journeyperson Base Wage Rate.

<u>First Year</u>	<u>Second Year</u>	<u>Third Year</u>
1 st 6 Mos. 60%	3 rd 6 Mos. 70%	5 th 6 Mos. 80%
2 nd 6 Mos. 65%	4 th 6 Mos. 75%	6 th 6 Mos. 90%

EMPLOYEE DEDUCTIONS:

Employer shall withhold five percent (5%) of total gross wages in ADMINISTRATIVE DUES CHECK OFF and \$0.05 for each hour worked for POLITICAL ACTION TOGETHER on each employee with signed authorization.

The above Wage and Benefit package has been reviewed and approved and will be considered effective as of August 1, 2016.

POWERHOUSE

Effective 7/1/16

Schedule 3

Journeyman Wage Rate and Fringe Package for the Southeast (Savannah) and South Central (Augusta) Georgia - Areas
(see addendum 2A for counties that make up Southeast/South Central Georgia)

3. Journeyman Wage Schedule: Southeast/South Central Georgia - Savannah & Augusta

A. Building Trades (Industrial/Shop & Field)

Effective	8/1/2015	7/1/2016	7/1/2017	7/1/2018
Base Rate	29.75 *	30.11 *	30.46	31.22
Health & Welfare	5.55 *	5.55	5.55	5.55
National Pension	5.19 *	5.55	5.94	5.94
N.S.S.P. - 401 (k)	Voluntary ***	Voluntary ***	Voluntary ***	Voluntary ***
J.A.T.C.	0.65	0.65	0.65	0.65
I.T.L. & N.E.M.I.C.	0.15	0.15	0.15	0.15
Industry Fund	0.30	0.30	0.30	0.30
S.M.W.D.P.	0.0	0	0	0
Vacation Fund	0.50 **	0.50 **	0.50 **	0.50 **
Dues Check-Off	1.52 **	1.57 **	1.61 **	1.64 **
S.A.S.M.I.	1.21 *	1.24 *	1.26 *	1.28 *
S.M.O.H.I.	0.02	0.02	0.02	0.02
S.M.W.L.A.S.F.	0.01	0.01	0.01	0.01
Total Package	42.83	43.58	44.34	45.12

* S.A.S.M.I. = Total of Base Rate + Health & Welfare + Local Pension + National Pension x 3%

** Amounts included in Base Rate deducted after taxes.

*** Amount to be deducted from Base Rate before taxes per individual Employee's request

Mileage Current I.R.S. Rate per mile (See Article VII, Section 1a)

Parking \$10.50 (See Article VII, Section 2b)

Schedule 3 Apprentice Wage:

Effective	8/1/2015	7/1/2016	7/1/2017	7/1/2018
1st Year 45%	13.39	13.55	13.71	14.05
2nd Year 55%	16.36	16.56	16.75	17.17
3rd Year 65%	19.34	19.57	19.80	20.29
4th Year 75%	22.31	22.58	22.85	23.42
5th Year 85%	25.29	25.59	25.89	26.54

The fringe package for all of the above apprentice categories is identical to the Journeyman Fringe Package except for the following:
Dues Check-off will be based on the Dues Check-off Schedule in Schedule 4. Also, First and Second Year Apprentices will have Vacation deductions of \$0.25 cents per hour. Third, Fourth & Fifth Year Apprentices will have Vacation deductions of \$0.50 cents per hour.

National Pension contributions for apprentices will be paid on a graduated scale percentage equal to the apprentice pay period.

Schedule 3 Helper Wage:

Effective	8/1/2015	7/1/2016	7/1/2017	7/1/2018
40%	11.90	12.04	12.18	12.49

Starting Pay Effective 8/1/2015 - 40% of Building Trades Journeyman Wage. Dues Check-off will be based on the Dues Check-off Schedule Below. Employer shall pay the journeyman hourly rate of Health and Welfare. National Pension contributions shall be paid on a graduated scale percentage equal to the helper's wages. Accrued SMWDP will be paid per Article VI Section 2. No other fringes will be paid.

POWERHOUSE

Schedule 4

*Note: Assessment Check-off subject to change upon notice from Local Union.

Journeyman, Helper, & Apprentice Dues Check-off Schedule

Effective	<u>8/1/2015</u>	<u>7/1/2016</u>	<u>7/1/2017</u>	<u>7/1/2018</u>
Journeyman	1.52	1.57	1.61	1.64
1st Year	0.79	0.83	0.85	0.87
2nd Year	0.92	0.96	0.99	1.01
3rd Year	1.05	1.10	1.13	1.15
4th Year	1.19	1.23	1.27	1.29
5th Year	1.32	1.37	1.40	1.43
Helper	0.72	0.76	0.78	0.80

POWERHOUSE

In witness whereof, the parties hereto affix their signatures and seal this 9th day of October, 2015.

Georgia SMACNA Inc.
Contractor Name of Association

By: *Jimmi S. Baick*
Representative Signature

Sheet Metal Workers'
Local Union No. 85

By: *Ronald K. Kulp*
Representative Signature

SOUTHERN REGION AGREEMENT – WAGES

	<u>1/1/13</u>	<u>1/1/14</u>	<u>1/1/15</u>	<u>1/1/16</u>
Group I	\$27.09	\$27.63	\$28.48	\$29.20 JM
Group II	\$24.11	\$24.60	\$25.36	\$25.99 JmA
Group III	\$22.87	\$23.33	\$24.05	\$24.64 JmB
H&W	\$5.67	\$6.35	\$6.52	*\$6.85
Pension	\$3.30	\$3.40	\$3.50	\$3.60

When new equipment not covered by the above classifications is to be used for transportation of men and/or materials, a new classification and rate shall be negotiated between the parties hereto and put into effect before the equipment involved is put into service.

Steward(s) will receive **Group I** pay after written confirmation of appointment from the Local Union.

**The Health and Welfare rate is an estimate and may change but will not exceed \$8.40*

PLANT VOGTLE ONLY: A General Foreman will receive an additional \$3.00; a Foreman will receive an additional \$2.00.

Updated 1/6/16

APPENDIX A
Wage Rates and Classifications

The work coming under the jurisdiction of the Union and covered by the terms of this contract includes driving of all necessary equipment used for transportation of men, equipment and materials, as indicated in the following classifications:

<u>Group 1</u>	<u>Group 3</u>
Articulating End Dumps	All Terrain Vehicle (ATV)
Low Boy	Ambulance
Rollagon or Similar Type Equipment	Bus
Stringing Truck	Crew Cab
Truck Mechanic	Dump Truck (2 Axle)
	Dump Truck (3 Axle)
<u>Group 2</u>	Flat Bed Truck (2 Axle)
	Flat Bed Truck (3 Axle)
A-Frame	Gators
Boom Truck (Transport/Haul)	Grease Truck
Challenger (Transport/Haul)	Hot Pass Truck (3 Axle)
Fork Lift	Jeep
Fuel Truck	Pick-Up
Gin Pole	Single Axle Float (3 Axle)
Rubber-Tire Tractor	Skid Truck (2 Axle)
Tandem Float (4 & 5 Axle)	Skid Truck (3 Axle)
Track Truck/All-Track Dumper Equipment	Station Wagon
Vacuum Truck	Stringer Bead & Hot Pass (2 Axle)
Winch Truck	Suburban
	Swamp Buggy/Marsh Buggy, or Similar Type Equipment
	Team Driver
	Tool Clerk
	Warehouseman – Parts Chaser
	Water Truck (2 Axle)
	Water Truck (3 Axle)

Craft Per Diem Calculation

Description	Actual Average Rate (April thru August 2016)			Average Forecast Rate for ETC (April thru EOJ)		
	Base Rate		Notes	Base Rate		Notes
Top Helper (3D) & Above	\$ 70.00	per day	Standard PD rate	\$ 70.00	per day	Standard PD rate
Below Top Helper (2C and below)	\$ -	per day		\$ -	per day	
Top Helper & Above	\$ 350.00	per wk		\$ 350.00	per wk	
Incentive; +2 for 5 days worked	\$ 140.00	2 add'l dys	Incentive PD rate	\$ 140.00	2 add'l dys	Incentive PD rate
Top Helper & Above	\$ 490.00	per wk		\$ 490.00	per wk	
Total % Receiving Per Diem	69.6%		actual rate - April thru Aug 2016	76.8%		Forecast Rate
% Craft Receiving PD Incentive	100.0%	69.6%	receiving \$490/wk	100.0%	76.8%	receiving \$490/wk
% Craft Not Receiving PD Incentive	0.0%	0.0%	receiving \$280/wk or less	0.0%	0.0%	receiving \$280/wk or less
	100%	69.6%		100%	76.8%	
Craft Receiving Full Rate of PD	\$ 341.04		receiving maximum of \$490/wk	\$ 376.08		receiving maximum of \$490/wk
Craft Receiving Lower Rate of PD	\$ -		assume receiving \$280/wk	\$ -		assume receiving \$280/wk
Craft Receiving No Per Diem	\$ -			\$ -		
Average \$'s Received per week	\$ 341.04			\$ 376.08		
Rolling 3 week - work week	120	hrs	wk 1 & 2 - 5 x 12's	120	hrs	wk 1 & 2 - 5 x 12's
	50	hrs		50	hrs	
Less 8% for Absenteeism	-13.6	hrs	wk 3 - 5 x 10's	-13.6	hrs	wk 3 - 5 x 10's
Plan for 3 weeks	156.4	hrs		156.4	hrs	
Ave work week	52.1	hrs		52.1	hrs	
For 56.7 hrs/wk, ave. PD =	\$ 6.54		per hour	\$ 7.21		per hour
Actual Craft Per Diem Paid	\$ 16,473,239		April thru August 2016			
Total Actual Craft Hours Expended	2,517,577		April thru August 2016			
Average Per Diem Rate	\$ 6.54		per hr			

Overtime Premium Calculation				
Hrs:	Rolling 60 hr/wk (wk 1) + 60 hr/wk (wk 2) + 50 hr/wk (wk 3)		56.67 Avg/hrs/3 Week Period	
Assumption	6 x 10 (wk 1), 6 x10 (wk 2), 5 x 10 (wk 3)			
Assumption	1.5 after 40, No Double time			
	Available Hours per Year Per Worker	56.67Avg Hrs/Wk	x	52.Wks/Yr
	Discount for Absenteeism & Holidays		Assume	-10%
	Casual O.T. (Beyond the Avg. Standard Work Week)			6%
				<u>2,946.67</u>
	Assumed Yearly Hours Per Craft Worker			<u>2,828.80</u>
	Assumed Monthly Hours Per Craft Worker		/12=	235.73
			use==>	236 hrs/moon.
				54.4 hr/wk
		Avg. Hr Rate		Avg. Wkly Base Salary
	Base Week	40.0	\$26.83	\$1,073
	Overtime	14.4	\$40.24	\$580
	Total	<u>54.4</u>	<u>\$30.38</u>	<u>\$1,653</u>
		Avg. Hr Rate (All Hours)		
		54.4	\$26.83	\$1,460 Base Salary Included on Direct Line Items
			Net	\$193.18
			Premium==>	13.24% Percent to Add for O.T Premium
Second Shift Premium Calculation				
Hrs:	Average Weekly Paid Work Hours (From Above)		54.40 Avgas/hrs/3 Week Period	
Assumption	Percent of Work Assumed to Occur on Second Shift		40.0%	
Assumption	Casual Overtime		0.0% (Included with above 54.40 Carry down)	
	Total Second Shift Premium		40.0%	
	Average Hourly Rate from Above (Includes Overtime)		\$30.38	
	Premium for Second Shift (40 hrs x \$1.00 + 14.4 hrs x \$1.50)/54.4		<u>\$1.13</u>	
	Total Second Shift Hourly Rate		<u>\$31.51</u>	
			Net Premium==>	\$1.04
			Percent Premium==>	3.41%
			Percent Premium at Percent overtime==>	1.37%
	Total Percent Premium for overall Project		14.60% Percent to Add for 2nd Shift & O.T Premium	

Overtime Premium Calculation			
Hrs:	Rolling 60 hr/wk (wk 1) + 60 hr/wk (wk 2) + 60 hr/wk (wk 3) + 60 hr/wk (wk 4)		60.00 Avg/hrs/4 Week Period
Assumption	5 x 12 (wk 1), 5 x 12 (wk 2), 5 x 12 (wk 3), 5 x 12 (wk 4)		
Assumption	1.5 after 40, Double time on Sunday & Holidays (ASSUME NO SUNDAY OR HOLIDAY)		
Available Hours per Year Per Worker	60.Avg Hrs/Wk	x	52.Wks/Yr 3,120.00
Discount for Absenteeism & Holidays		Assume	-10% (312.00)
Casual O.T. (Beyond the Avg. Standard Work Week)			6% 187.20
Assumed Yearly Hours Per Craft Worker			<u>2,995.20</u>
Assumed Monthly Hours Per Craft Worker		/12=	249.60
		use==>	250 hrs/month. 57.6 hr/wk
Base Week	40.0	Avg. Hr Rate \$30.46	Avg. Wkly Base Salary \$1,219
Overtime	17.6	\$45.70	\$804
Total	57.6	\$35.12	<u>\$2,023</u>
	57.6	Avg. Hr Rate (All Hours) \$30.46	\$1,755 Base Salary Included on Direct Line Items
		Net Premium==>	\$268.09 15.28% Percent to Add for O.T Premium
Second Shift Premium Calculation			
Hrs:	Average Weekly Paid Work Hours (From Above)		57.60 Avgas/hrs/3 Week Period
Assumption	Percent of Work Assumed to Occur on Second Shift		40.0%
Assumption	Casual Overtime		0.0% (Included with above 54.40 Carry down)
	Total Second Shift Premium		40.0%
Average Hourly Rate from Above (Includes Overtime)			\$35.12
Premium for Second Shift (40 hrs x \$.25 + 14.7 hrs x \$.3750)/54.7			<u>\$0.28</u>
Total Second Shift Hourly Rate			\$35.40
		Net Premium==>	\$1.01
		Percent Premium==>	2.87%
		Percent Premium at Percent overtime==>	1.15%
		Total Percent Premium for overall Project	16.43% Percent to Add for 2nd Shift & O.T Premium

CREW MIX REPORT - VC SUMMER

CRAFT MIX REPORT - VC SUMMER

CREW MIX % MAKE UP	
PRIME 00 - CIVIL & SITE WORK	
BOILERMAKERS	0.00%
CARPENTERS	4.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	0.00%
LABORERS	69.00%
OE'S	22.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	5.00%
PRIME 00 TOTAL	100.00%

CREW MIX % MAKE UP	
PRIME 40 - OTHER EQUIPMENT (B O P)	
BOILERMAKERS	0.00%
CARPENTERS	1.00%
MASONS	0.00%
ELECTRICANS	2.00%
IRON WORKERS	35.00%
LABORERS	2.00%
MILLWRIGHTS	50.00%
OE'S	5.00%
PAINTERS	0.00%
PIPEFITTERS	5.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 40 TOTAL	100.00%

BOILERMAKER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	3.0
WELDER	4.0
HELPER	2.0
S/T	10.3
% OF TIME	
TOTAL	

MILLWRIGHT	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	5.0
HELPER	2.0
WELDER	1.0
S/T	9.3
% OF TIME	
TOTAL	

PRIME 10 - CONCRETE	
BOILERMAKERS	0.00%
CARPENTERS	50.00%
MASONS	17.00%
ELECTRICANS	0.00%
IRON WORKERS	25.00%
LABORERS	5.00%
MILLWRIGHTS	0.00%
OE'S	3.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 10 TOTAL	100.00%

PRIME 40 - SHEET METAL	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	2.00%
MILLWRIGHTS	0.00%
OE'S	7.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	3.00%
SHEETMETAL	80.00%
PRIME 40 TOTAL	100.00%

CARPENTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	2.0
WELDER	0.0
S/T	11.3
% OF TIME	
TOTAL	

OPERATOR	
	NO. REQD
MECHANIC	1.0
OPERATOR - HVY	5.0
OPERATOR - MED	4.0
OPERATOR - LGT	2.0
GEN. FOREMAN	0.0
S/T	12.0
% OF TIME	
TOTAL	

PRIME 20 - STRUCTURAL STEEL	
BOILERMAKERS	0.00%
CARPENTERS	1.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	90.00%
LABORERS	1.00%
MILLWRIGHTS	0.00%
OE'S	6.00%
PIPEFITTERS	2.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 20 TOTAL	100.00%

PRIME 50 - PIPING	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASON	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	1.00%
MILLWRIGHTS	1.00%
OE'S	5.00%
PIPEFITTERS	60.00%
PIPE WELDER	25.00%
TEAMSTER	0.00%
PRIME 50 TOTAL	100.00%

BRICKLAYER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

PAINTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	7.0
HELPER	2.0
S/T	10.3
% OF TIME	
TOTAL	

PRIME 30 - BUILDINGS	
BRICKLAYERS	0.00%
BOILERMAKERS	0.00%
CARPENTERS	27.00%
MASONS	13.00%
ELECTRICANS	0.00%
IRON WORKERS	26.00%
LABORERS	15.00%
OE'S	4.00%
PAINTERS	0.00%
PIPEFITTERS	6.00%
SHEETMETAL	8.00%
TEAMSTER	1.00%
PRIME 30 TOTAL	100.00%

PRIME 60 - ELECTRICAL	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	96.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 60 TOTAL	100.00%

CEMENT MASON	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	2.0
S/T	9.3
% OF TIME	
TOTAL	

PIPEFITTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	3.0
WELDER	4.0
HELPER	3.0
S/T	11.3
% OF TIME	
TOTAL	

PRIME 30.101 - HVAC	
BRICKLAYERS	0.00%
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	2.00%
OE'S	7.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
SHEETMETAL	80.00%
TEAMSTER	3.00%
PRIME 30 TOTAL	100.00%

PRIME 70 - INSTRUMENTS	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
ELECTRICANS	5.00%
IRON WORKERS	0.00%
LABORERS	2.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PIPEFITTERS	91.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 70 TOTAL	100.00%

ELECTRICAN	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	5.0
HELPER	2.0
WELDER	3.0
S/T	11.3
% OF TIME	
TOTAL	

TEAMSTER	
	NO. REQD
GEN. FOREMAN	0.0
TRUCK DRV - Heavy	6.0
TRUCK DRV - Light	3.0
WAREHOUSE FOREMAN	0.0
S/T	9.0
% OF TIME	
TOTAL	

CREW MIX REPORT - VC SUMMER

CRAFT MIX REPORT - VC SUMMER

CREW MIX % MAKE	
	UP
PRIME 40 - GAS TURBINE GENERATORS	
BOILERMAKERS	0.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	20.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	60.00%
OE'S	3.00%
PAINTERS	0.00%
PIPEFITTERS	12.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%
PRIME 40 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 80 - PAINTING	
BOILERMAKERS	0.00%
CARPENTERS	4.00%
INSULATORS	0.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	4.00%
MILLWRIGHTS	0.00%
OE'S	3.00%
PAINTERS	88.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	0.00%
TEAMSTER	1.00%
PRIME 80 TOTAL	100.00%

INSULATOR	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

SHEET METAL	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
WELDER	0.0
S/T	10.3
% OF TIME	
TOTAL	

PRIME 40 - STEAM TURBINE GENERATOR	
BOILERMAKERS	0.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	20.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	60.00%
OE'S	3.00%
PAINTERS	0.00%
PIPEFITTERS	12.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%
PRIME 40 TOTAL	100.00%

PRIME 80 - INSULATION	
BOILERMAKERS	0.00%
CARPENTERS	5.00%
INSULATORS	85.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	3.00%
MILLWRIGHTS	0.00%
OE'S	1.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	4.00%
TEAMSTER	2.00%
PRIME 80 TOTAL	100.00%

IRONWORKER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	3.0
HELPER	2.0
WELDER	4.0
S/T	10.3
% OF TIME	
TOTAL	

PRIME 40 - HRSG's	
BOILERMAKERS	70.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	1.00%
LABORERS	0.00%
MILLWRIGHTS	0.00%
OE'S	9.00%
PAINTERS	0.00%
PIPEFITTERS	17.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%
PRIME 40 TOTAL	100.00%

PRIME 80 - SCAFFOLDING	
BOILERMAKERS	0.00%
CARPENTERS	90.00%
INSULATORS	0.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	6.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	0.00%
TEAMSTER	2.00%
PRIME 80 TOTAL	100.00%

IRONWORKER - REBAR	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	2.0
WELDER	0.0
S/T	9.3
% OF TIME	
TOTAL	

PRIME 41 - MODULES	
BOILERMAKERS	70.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	1.00%
LABORERS	0.00%
MILLWRIGHTS	0.00%
OE'S	9.00%
PAINTERS	0.00%
PIPEFITTERS	17.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%
PRIME 40 TOTAL	100.00%

PRIME 90 - INDIRECTS	
BOILERMAKERS	0.00%
CARPENTERS	16.00%
MASONS	2.00%
ELECTRICANS	8.00%
IRON WORKERS	4.00%
LABORERS	25.00%
MILLWRIGHTS	5.00%
OE'S	10.00%
PAINTERS	10.00%
PIPEFITTERS	5.00%
PIPE WELDER	0.00%
TEAMSTER	15.00%
PRIME 90 TOTAL	100.00%

LABORER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	4.0
HELPER	4.0
S/T	9.3
% OF TIME	
TOTAL	

CREW MIX REPORT - VOGTLE

CRAFT MIX REPORT - VOGTLE

CREW MIX % MAKE	
	UP
PRIME 00 - CIVIL & SITE WORK	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	0.00%
LABORERS	70.00%
OE'S	25.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	5.00%
PRIME 00 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 10 - CONCRETE	
BOILERMAKERS	0.00%
CARPENTERS	45.00%
MASONS	17.00%
ELECTRICANS	0.00%
IRON WORKERS	25.00%
LABORERS	5.00%
MILLWRIGHTS	0.00%
OE'S	5.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	3.00%
PRIME 10 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 20 - STRUCTURAL STEEL	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	86.00%
LABORERS	1.00%
MILLWRIGHTS	0.00%
OE'S	10.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	3.00%
PRIME 20 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 30 - BUILDINGS	
BRICKLAYERS	0.00%
BOILERMAKERS	0.00%
CARPENTERS	22.00%
MASONS	10.00%
ELECTRICANS	10.00%
IRON WORKERS	20.00%
LABORERS	12.00%
OE'S	5.00%
PAINTERS	5.00%
PIPEFITTERS	5.00%
SHEETMETAL	8.00%
TEAMSTER	3.00%
PRIME 30 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 30.101 - HVAC	
BRICKLAYERS	0.00%
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	2.00%
OE'S	7.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
SHEETMETAL	80.00%
TEAMSTER	3.00%
PRIME 30 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 40 - OTHER EQUIPMENT (B O P)	
BOILERMAKERS	0.00%
CARPENTERS	1.00%
MASONS	0.00%
ELECTRICANS	2.00%
IRON WORKERS	35.00%
LABORERS	2.00%
MILLWRIGHTS	50.00%
OE'S	5.00%
PAINTERS	0.00%
PIPEFITTERS	5.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 40 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 40 - SHEET METAL	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	2.00%
MILLWRIGHTS	0.00%
OE'S	7.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	3.00%
SHEETMETAL	80.00%
PRIME 40 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 50 - PIPING	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASON	0.00%
ELECTRICANS	0.00%
IRON WORKERS	8.00%
LABORERS	1.00%
MILLWRIGHTS	1.00%
OE'S	5.00%
PIPEFITTERS	60.00%
PIPE WELDER	25.00%
TEAMSTER	0.00%
PRIME 50 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 60 - ELECTRICAL	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
MASONS	0.00%
ELECTRICANS	96.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 60 TOTAL	100.00%

CREW MIX % MAKE	
	UP
PRIME 70 - INSTRUMENTS	
BOILERMAKERS	0.00%
CARPENTERS	0.00%
ELECTRICANS	5.00%
IRON WORKERS	0.00%
LABORERS	2.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PIPEFITTERS	91.00%
PIPE WELDER	0.00%
TEAMSTER	0.00%
PRIME 70 TOTAL	100.00%

BOILERMAKER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	4.0
WELDER	4.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

CARPENTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	2.0
WELDER	1.0
S/T	10.3
% OF TIME	
TOTAL	

BRICKLAYER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

CEMENT MASON	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

ELECTRICAN	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	2.0
WELDER	1.0
S/T	10.3
% OF TIME	
TOTAL	

INSULATOR	
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MILLWRIGHT	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	2.0
WELDER	0.0
S/T	9.3
% OF TIME	
TOTAL	

OPERATOR	
	NO. REQD
MECHANIC	1.0
OPERATOR - HVY	5.0
OPERATOR - MED	4.0
OPERATOR - LGT	2.0
S/T	12.0
% OF TIME	
TOTAL	

PAINTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	7.0
HELPER	2.0
S/T	10.3
% OF TIME	
TOTAL	

PIPEFITTER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	3.0
WELDER	3.0
HELPER	2.0
S/T	9.3
% OF TIME	
TOTAL	

TEAMSTER	
	NO. REQD
GEN. FOREMAN	0.0
TRUCK DRV - Heavy	6.0
TRUCK DRV - Light	3.0
WAREHOUSE FOREMAN	0.0
S/T	9.0
% OF TIME	
TOTAL	

CREW MIX REPORT - VOGTLE

CRAFT MIX REPORT - VOGTLE

CREW MIX | % MAKE
| UP

PRIME 40 - GAS TURBINE GENERATORS

BOILERMAKERS	0.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	20.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	60.00%
OE'S	3.00%
PAINTERS	0.00%
PIPEFITTERS	12.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%

PRIME 40 TOTAL 100.00%

PRIME 40 - STEAM TURBINE GENERATOR

BOILERMAKERS	0.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	20.00%
IRON WORKERS	1.00%
LABORERS	1.00%
MILLWRIGHTS	60.00%
OE'S	3.00%
PAINTERS	0.00%
PIPEFITTERS	12.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%

PRIME 40 TOTAL 100.00%

CREW MIX | % MAKE
| UP

PRIME 40 - HRSG's

BOILERMAKERS	70.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	1.00%
LABORERS	0.00%
MILLWRIGHTS	0.00%
OE'S	9.00%
PAINTERS	0.00%
PIPEFITTERS	17.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%

PRIME 40 TOTAL 100.00%

PRIME 41 - MODULES

BOILERMAKERS	70.00%
CARPENTERS	2.00%
MASONS	0.00%
ELECTRICANS	0.00%
IRON WORKERS	1.00%
LABORERS	0.00%
MILLWRIGHTS	0.00%
OE'S	9.00%
PAINTERS	0.00%
PIPEFITTERS	17.00%
PIPE WELDER	0.00%
TEAMSTER	1.00%

PRIME 40 TOTAL 100.00%

CREW MIX | % MAKE
| UP

PRIME 80 - PAINTING

BOILERMAKERS	0.00%
CARPENTERS	4.00%
INSULATORS	0.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	4.00%
MILLWRIGHTS	0.00%
OE'S	3.00%
PAINTERS	88.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	0.00%
TEAMSTER	1.00%

PRIME 80 TOTAL 100.00%

PRIME 80 - INSULATION

BOILERMAKERS	0.00%
CARPENTERS	5.00%
INSULATORS	85.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	3.00%
MILLWRIGHTS	0.00%
OE'S	1.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	4.00%
TEAMSTER	2.00%

PRIME 80 TOTAL 100.00%

PRIME 80 - SCAFFOLDING

BOILERMAKERS	0.00%
CARPENTERS	90.00%
INSULATORS	0.00%
MASONS	0.00%
IRON WORKERS	0.00%
LABORERS	6.00%
MILLWRIGHTS	0.00%
OE'S	2.00%
PAINTERS	0.00%
PIPEFITTERS	0.00%
PIPE WELDER	0.00%
SHEETMETAL	0.00%
TEAMSTER	2.00%

PRIME 80 TOTAL 100.00%

PRIME 90 - INDIRECTS

BOILERMAKERS	0.00%
CARPENTERS	16.00%
MASONS	2.00%
ELECTRICANS	8.00%
IRON WORKERS	4.00%
LABORERS	25.00%
MILLWRIGHTS	5.00%
OE'S	10.00%
PAINTERS	10.00%
PIPEFITTERS	5.00%
PIPE WELDER	0.00%
TEAMSTER	15.00%

PRIME 90 TOTAL 100.00%

BOILERMAKER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
S/T	10.3
% OF TIME	
TOTAL	

IRONWORKER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	1.0
WELDER	2.0
S/T	10.3
% OF TIME	
TOTAL	

IRONWORKER - REBAR	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	6.0
HELPER	1.0
WELDER	2.0
S/T	10.3
% OF TIME	
TOTAL	

LABORER	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	4.0
HELPER	4.0
S/T	9.3
% OF TIME	
TOTAL	

MILLWRIGHT	
	NO. REQD
GEN. FOREMAN	0.3
FOREMAN	1.0

MILLWRIGHT	
	NO.
SHEET METAL	
GEN. FOREMAN	0.3
FOREMAN	1.0
JOURNEYMAN	8.0
HELPER	1.0
WELDER	0.0
S/T	10.3
% OF TIME	
TOTAL	

Indirect Cost Equipment Pricing Ground Rules

1. All equipment under 60 tons will be included in a \$7 per hour rate applied against craft man-hours.
2. Equipment is based on both direct and indirect calculated craft man-hours after productivity adjustments are made. For construction equipment, Fluor normally bases it on direct craft hours. Consequently their rate is probably high
3. Equipment rates do not include trailers, conex boxes, storage sheds, office/craft trailers, porta-johns, shops, shacks, tents, we included separate line items in the indirects for any future building rental cost. Porta-john are covered in our Distr. Cost 84131
4. Crane mats are not considered equipment. Crane mats are covered in our Dist cost 84132
5. Heating fuel to be calculated separately. Heating fuel is covered in our Distr. Cost 84134 Also, we have several line items the estimate covering heating fuel covering additional weather protection in the upcoming years.
6. Radios and project communications equipment to be priced separately. Communication radios, blackberries, cell phones are covered in the Distr. Cost 84122
7. Dumpsters are not in the equipment pricing. Dumpsters are covered under Subcontract 1620 (Waste Mngt) trash hauling/disposal
8. Small tools and consumables are not considered equipment. Small tools are covered under Subcontract 1637 (Ameco), Distr cost 84251 (small tools) & distr. Cost 84252 (Consumables)
9. Large equipment above 60 tons is calculated using the Project Execution Plan and schedule. This should include the rental rate, mobilization and demobilization dates, fuel, oil, grease and parts. We have developed a

crane plan and costed for cranes over 60 Tons, transporters (Subcontract 1808 (Mammoet) & pump trucks (Subcontract 1801-Action) & Subcontract 1802 – Ashmore). Also we have included Subcontracts 1631 (Augusta Ind), 1804 (Thompson) & 1805 (Envirovac)
10.9. Operators and oilers to be calculated separately. Operators are included under Indirect craft support for cost coded 84291

Under 60 Ton

Fluor to calculate the equipment cost and provide to WECTEC. The \$7.00 per hour shall be broken down to \$5 per hour (WECTEC) for rentals/ownership and \$2 per hour for Fluor cost.

Over 60 Ton

Fluor to calculate the equipment cost and provide to WECTEC. The rental/ownership rates shall be calculated on the equipment plan and in the WECTEC indirect estimate. Fuel, oil, grease and spare parts will be carried in the Fluor costs. All craft labor is in Fluor cost.

2016 ETC Estimate CUT & ADD Registrar

VC Summer and Vogtle Project

Revision 2 - received 2016-10-07

Item #	Project	MEL ID	Bulk Cost Code	Bulk WBS Code	TAG	Location	Commodity Code	Description	Reason for change	Current Quantity/S's	New Quantity/\$	Unit	Request Change By	Date	Rev	Updated/Included in Fluor's ETC Estimate
1	Vogtle		08520	AT01		Site Specific	AT01	Waterproofing-Membrane	per Joe Reese, email, there is no membrane in the STD plant: The waterproofing membrane is specific to the Auxiliary Bldg (both units of course). The reported quantity of approx. 130,000+SF would be accurate as a total for both units. There are NO other locations (TI or BOP) that are designed with waterproofing	133,670	-	SF	Joe Reese	9/15/2016		Yes
2	VCS		08520	AT01		Site Specific	AT01	Waterproofing-Membrane	plant: The waterproofing membrane is specific to the Auxiliary Bldg (both units of course). The reported quantity of approx. 130,000+SF would be accurate as a total for both units. There are NO other locations (TI or BOP) that are designed with waterproofing membrane as a requirement. The design specification is very clear about this. I can't tell you why it is	3,180	-	SF	Joe Reese	9/15/2016		Yes
3	Vogtle		23300			Site Specific		Gravel Surfacing	per Joe Reese email 9/16/16: Honestly, there is no telling how much more will be used in construction areas, could be another 100,000CY..... roughly 1,500 tons per acre at 8-inches deep per lift.	62,551	162,551	CY	Joe Reese	9/16/2016		Yes
4	VCS		02313	CC01		Site Specific	CC01	Flowfill w/ Formwork	no change	no change	no change					N/A
5	VCS		02312	CC01		Site Specific	CC01	Flowfill w/o Formwork	no change	no change	no change					N/A
6	VCS		02310	CC01		Site Specific	CC01	Mudmat w/o Formwork	Installed to Date qtys revised - per Frank McDougall/construction email	7,584	8,627	CY	McDougall	9/21/2016		Yes
7	VCS		02311	CC01		Site Specific	CC01	Mudmat w/ Formwork	Installed to Date qtys revised - per Frank McDougall/construction email	56,633	48,782	CY	McDougall	9/21/2016		Yes
8	VCS		08112	CC01		Site Specific	CC01	Concrete - Foundations	Installed to Date qtys revised - per Frank McDougall/construction email	40,527	63,156	CY	McDougall	9/21/2016		Yes
9	VCS		08113	CC01		Site Specific	CC01	Concrete - Slabs on Grade	Installed to Date qtys revised - per Frank McDougall/construction email	411	12,082	CY	McDougall	9/21/2016		Yes
10	VCS		08115	CC01		Site Specific	CC01	Concrete, Envelopes/Ductbank	Installed to Date qtys revised - per Frank McDougall/construction email	23,882	30,902	CY	McDougall	9/21/2016		Yes
11	VCS		08116	CC01		Site Specific	CC01	Concrete, Equip Foundations	Installed to Date qtys revised - per Frank McDougall/construction email	450	28,417	CY	McDougall	9/21/2016	1	Yes
12	VCS		08117	CC01		Site Specific	CC01	Concrete, Civil Struct CIP	Installed to Date qtys revised - per Frank McDougall/construction email	988	14,715	CY	McDougall	9/21/2016		Yes
12	VCS		8121	CC01		Site Specific	CC01	Concrete, Walls, Columns&Piers	Installed to Date qtys revised - per Frank McDougall/construction email	-	1,028	CY	McDougall	9/21/2016		Yes
13	Vogtle		02313	CC01		Site Specific	CC01	Flowfill w/ Formwork	N/A - no change	no change	no change					N/A
14	Vogtle		02312	CC01		Site Specific	CC01	Flowfill w/o Formwork	N/A - no change	no change	no change					N/A
15	Vogtle		02310	CC01		Site Specific	CC01	Mudmat w/o Formwork	Installed to Date qtys revised - per Enger	4,675.65	26,776.00	CY	Enger	9/21/2016		Yes
16	Vogtle		02311	CC01		Site Specific	CC01	Mudmat w/ Formwork	Installed to Date qtys revised - per Enger	8,093.58	7,482	CY	Enger	9/21/2016		Yes
17	Vogtle		08112	CC01		Site Specific	CC01	Concrete - Foundations	Installed to Date qtys revised - per Enger	7,689.00	69,441.00	CY	Enger	9/21/2016		Yes
18	Vogtle		08113	CC01		Site Specific	CC01	Concrete - Slabs on Grade	Installed to Date qtys revised - per Enger	2,197.00	18,899	CY	Enger	9/21/2016		Yes
19	Vogtle		8114	CC01		Site Specific	CC01	Concrete, Special Slabs on Grade	Installed to Date qtys revised - per Enger	-	900	CY	Enger	9/21/2016		Yes
20	Vogtle		08115	CC01		Site Specific	CC01	Concrete, Envelopes/Ductbank	Installed to Date qtys revised - per Enger	7,652.15	12,522	CY	Enger	9/21/2016		Yes
21	Vogtle		08116	CC01		Site Specific	CC01	Concrete, Equip Foundations	Installed to Date qtys revised - per Enger	4,045.00	9,298	CY	Enger	9/21/2016		Yes
22	Vogtle		08117	CC01		Site Specific	CC01	Concrete, Civil Struct CIP	Installed to Date qtys revised - per Enger	8,032.13	103,723	CY	Enger	9/21/2016		Yes
23	Vogtle		08121	CC01		Site Specific	CC01	Concrete, Walls, Columns&Piers	Installed to Date qtys revised - per Enger	107.10	236	CY	Enger	9/21/2016	2	Yes
24	Vogtle		8124	CC01		Site Specific	CC01	Concrete - Roof Decks	Installed to Date qtys revised - per Enger	-	1,058	CY	Enger	9/21/2016		Yes
25	Vogtle		02400	XR01		Site Specific		Railroads	To Be Installed: per meeting for review with estimating manager, these have all already been installed	26790 LF	-		Gainey	9/21/2016		Yes
26	Vogtle	1297	15100	_PreFabBuilding		Site Specific		Pre-Fabricated Buildings	wrong uom; was EA - change to SF	EA	SF		Gainey	9/21/2016		Yes
27	VCS	1427	07210	_Piles		Site Specific		Steel H & Pipe Pile	Installed Qty: per construction, installed already	-	1,114	CY	Gainey	9/21/2016		Yes
28	Vogtle	1241	07230	_Piles		Site Specific		Concrete Cast In Place Piles	Installed Qty: per construction, installed already	406.00	490,427		Gainey	9/21/2016		Yes
29	Vogtle	1242	07230	_Piles		Site Specific		Concrete Cast In Place Piles	Installed Qty: per construction, installed already	406.00	415		Gainey	9/21/2016		Yes
30	Vogtle	1239	07100	_Piles		Site Specific		Permanent Sheet Piling	Installed Qty: per construction, installed already	-	21,332		Gainey	9/21/2016		Yes
31	Vogtle	1240	07210	_Piles		Site Specific		Steel H & Pipe Piles	Installed Qty: per construction, installed already	-	2,571		Gainey	9/21/2016		Yes

2016 ETC Estimate CUT & ADD Registrar

VC Summer and Vogtle Project

Revision 2 - received 2016-10-07

Item #	Project	MEL ID	Bulk Cost Code	Bulk WBS Code	TAG	Location	Commodity Code	Description	Reason for change	Current Quantity/\$'s	New Quantity/\$	Unit	Request Change By	Date	Rev	Updated/Included in Fluor's ETC Estimate
32	Vogtle	1253	08135	CC01-Precast		Site Specific		MSE Wall - Precast	wrong uom; was EA - change to SF	EA	SF		Gainey	9/21/2016		Yes
33	VCS		22210	Liner Work		Standard Plant		Liner, SS 1/2" Plate - IRWST	Step 1 Reports show it as a WEC procurement. Also, in the Step 1 reports, the quantity was not identified. It was assumed that the liner was part of the CA Modules. It has come to light, that this is not the case and the liner will be field installed.	0	7838	SF	Gainey	9/23/2016		Yes
34	Vogtle		22210	Liner Work		Standard Plant		Liner, SS 1/2" Plate - IRWST	Step 1 Reports show it as a WEC procurement. Also, in the Step 1 reports, the quantity was not identified. It was assumed that the liner was part of the CA Modules. It has come to light, that this is not the case and the liner will be field installed.	0	7838	SF	Gainey	9/23/2016		Yes
35	VCS		01210	_Excavation		Site Specific		Excavation - Soil	Installed Qty: per construction, we have only 1,000,000 CY remaining	4,972,748	7,833,082	CY	Cazalet ok'd	10/7/2016	2	Yes



VC Summer & Vogtle

Performance Factor Evaluation for ETC – R8



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prior Project Director approval

BOE - Attachment 7



Tools & Process

The Performance Factor (PF) is a numerical ratio used to measure the actual performance of an individual or team while completing a task. There are various forms of PF associated with cost, schedule and quantities. The ratio is applied to Fluor's standard unit rates to calculate the final production unit rate of a commodity or piece of equipment.

The template utilized is the starting basis for site productivity but must be adjusted to arrive at the "Final" productivity once Project Scope of Work (SOW) , current Project Execution and location factors are incorporated. Any new additional impacts should be supported with calculations. To be used properly, this Productivity Matrix is initially completed early to assist with initial craft loading and indirect/staff estimate development. It is then updated once the final schedule and estimate details are completed to reflect any impacts that are created during estimate development.

The results from this exercise are not:

Directly related to current or past performance/production on VC Summer or Vogtle projects

Directly related to the ongoing projects estimate and/or base rates used to develop same.

In accordance to Practice 000.310.0011, The Construction group (with input from project management) is responsible for providing performance adjustments to the estimating department.



Clarifications and Exclusions

Exclusions:

1. The PF does not account for rework of any existing in place / installed work.
2. The PF does not account for future rework related to design and engineering changes.
3. The PF does not account for delays related to E&DCR
4. The PF does not account for delays related to DCAF (Design Change After Fabrication)
5. **The PF does not account for delays related to N&D, unless the N&D is related to construction workmanship**
6. The PF assumes reasonable craft availability to meet the ramp up to support the scheduled requirements.
7. The PF does not account for any offsite parking and/or bussing from same.
8. The PF does not account for extended time delays related to site security access.
9. The PF does not account for delays related to inspection/verification and qualification of current onsite stored materials and equipment.
10. The PF does not account for extended delays (Greater than average of 15 minutes)for QC/ANI inspection hold points.

Clarifications:

1. It is assumed initial Nuclear training and orientation will be included in the estimate as a Direct Distributable cost and therefore not included in the PF calculations.
2. It is assumed ongoing Nuclear training will be included in the estimate as a Direct Distributable cost and therefore not included in the PF calculation.
3. It is assumed Pre-Job Meeting are included in the Nuclear Standard Base rates and therefore not included in the PF calculations.



Craft Availability

Preset Ranges and Percentage

Unemployment

Demand

- Poor-<40%** – Unemployment rates at or below 2%
- Fair-<60%** – Unemployment rates 2.1% to 4.5%
- Average-<80%** – Unemployment rates 4.6% to 5.5%
- Above Average – 100%** – Unemployment rates 5.6% to 7%
- Ideal -<110%** – Unemployment rates 7.1% and above

- Poor-<40%** – High demand for craft due to other similar projects
- Fair-<60%** – Moderate demand for craft on other similar projects,
- Average-<80%** – Small demand for craft on similar projects
- Above Average – 100%** – Very limited demand for craft on similar projects
- Ideal -<110%** – No other similar projects in immediate area



Craft Availability

Supporting Data - Unemployment

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

VC Summer
Southeast Unemployment for March 2016 = 5.51%
South Carolina Unemployment for March 2016 = 5.70%
Columbia, SC Unemployment for March 2016 = 5.20%

Vogle
Southeast Unemployment for March 2016 = 5.51%
Georgia Unemployment for March 2016 = 5.50%
Savanna, GA Unemployment for March 2016 = 5.30%



Craft Availability

Supporting Data - Demand

Data Extracted from - VC Summer
Craft Compensation Review 05/04/2016

Project – Mid Atlantic	Location	Estimated Craft Peak	Mobilization	Completion
VC Summer	Jenkinsville, SC	5,000+		2019/2020
Vogle	Waynesboro, GA	5,000+		2019/2020
Mercedes Truck	Charleston, SC	1,000	2016	2019
Volvo	Charleston, SC	500	2016	2018
Southern LNG	Elba Island, GA	1,250	2015	2017
Dominion LNG	Lusby, MD	4,000	2014	2018
Dominion Power	Greensville, VA	1,000	2015	2017
Cypress Creek Power	Dendron, VA	1,200	2013	2018

Note: Additional projects will be identified during the Area Labor Market Analysis (ALMA) under development.



Craft Availability

Inserted Results

VC Summer and Vogtle

- Unemployment = 5.25% = Average = 80%.
- Demand = High = 40%

- **For this Pf exercise use Fair = 60%**



Craft Skill/Experience/Work Ethic

Inserted Results (Subtotal for this Category)

All Islands – VC Summer

Account	Demographics	Comp	%
Earth Work	Average	Fair	80%
Concrete	Average	Fair	80%
Steel/Buildings	Average	Fair	80%
NSSS/STG/CT	Poor	Fair	60%
Mechanical Equipment	Fair	Fair	70%
Pipe	Poor	Fair	60%
Electric	Fair	Fair	70%
Controls	Fair	Fair	70%
Insulation	Average	Fair	80%
Paint/Coatings	Average	Fair	80%

All Islands - Vogtle

Account	Demographics	Comp	%
Earth Work	Average	Average	90%
Concrete	Fair	Average	80%
Steel/Buildings	Fair	Average	80%
NSSS	Poor	Average	70%
Mechanical Equipment	Fair	Average	80%
Pipe	Poor	Average	70%
Electric	Fair	Average	80%
Controls	Fair	Average	80%
Insulation	Fair	Average	80%
Paint/Coatings	Fair	Average	80%

Compensation Basis - VC Summer

Based on Craft Compensation Study for VC Summer 05/04/2016	Mech/ Jrny	Welder
Current Avg. Base Rate	\$29.50	\$31.50
Avg. Rate within Mid Atlantic	\$26.00	\$27.10
Competitors (All Regions)	\$30.40	\$34.93
As Compared to Mid Atlantic Region	11.86%	13.97%
As Compared to Competitors	(2.96%)	(9.82%)

Compensation Basis - Vogtle

- Based on Union Labor Posture, Rates are set by the unions
- Per Construction, no adjustments are required for skill or additional Performance factor for union labor posture.



Craft Skill/Experience/Work Ethic Additional Influences

- **Nuclear New Build Craft Knowledge and Experience**
- **Learning Curve - Implementation of Nuclear Policies and Procedures**
- **Craft Turnover up to a Maximum of 10%**
(If greater than 10%, addressed at “Final Adjustments”)
- **Protective Clothing/Apparatus/Confined Space Requirements**
- **Foreign Material Exclusion From Plant Components and Systems**



Craft Skill/Experience/Work Ethic

Additional Influences

•Nuclear New Build Craft Knowledge and Experience

Account	Nuclear Island		Turbine Island		Balance of Plant	
	PF Loss	PF Mult	PF Loss	PF Mult	PF Loss	PF Mult
Earth Work	0.00%	1.00	0.00%	1.00	0.00%	1.00
Concrete	-0.68%	1.01	-0.50%	1.01	-0.13%	1.00
Steel/Buildings	-0.50%	1.01	-0.38%	1.00	0.00%	1.00
NSSS/STG/CT	-2.13%	1.02	-2.00%	1.02	-0.75%	1.01
Mechanical Equipment	-2.13%	1.02	-2.00%	1.02	-0.75%	1.01
Pipe	-1.50%	1.02	-1.38%	1.01	-0.75%	1.01
Electric	-1.38%	1.01	-1.25%	1.01	-0.40%	1.00
Controls	-1.13%	1.01	-1.00%	1.01	-0.38%	1.00
Insulation	-0.88%	1.01	-0.75%	1.01	-0.25%	1.00
Paint/Coatings	-0.65%	1.01	-0.50%	1.01	-0.05%	1.00



Craft Skill/Experience/Work Ethic Additional Influences

Learning Curve - Implementation of Nuclear Policies and Procedures*

Account	Nuclear Island		Turbine Island		Balance of Plant	
	PF Loss	PF Mult	PF Loss	PF Mult	PF Loss	PF Mult
Earth Work	-0.13%	1.00	-0.13%	1.00	0.00%	1.00
Concrete	-0.60%	1.01	-0.60%	1.01	0.00%	1.00
Steel/Buildings	-0.50%	1.01	-0.50%	1.01	-0.10%	1.00
NSSS/STG/CT	-0.85%	1.01	-0.50%	1.01	-0.20%	1.00
Mechanical Equipment	-0.45%	1.00	-0.40%	1.00	-0.20%	1.00
Pipe	-0.75%	1.01	-0.65%	1.01	-0.40%	1.00
Electric	-0.73%	1.01	-0.73%	1.01	-0.30%	1.00
Controls	-0.63%	1.01	-0.40%	1.00	-0.30%	1.00
Insulation	-0.48%	1.00	-0.40%	1.00	-0.10%	1.00
Paint/Coatings	-0.25%	1.00	-0.20%	1.00	-0.05%	1.00

•For Learning Curve Portion of Craft Hours, the above have been included with a 2x multiplier.



Craft Skill/Experience/Work Ethic Additional Influences

Craft Turnover

(Above 10% will be included with "Final Adjustments" if Required)

Account	All Islands - VCS		All Islands - Vogtle	
	PF Loss	PF Mult	PF Loss	PF Mult
Earth Work	-2.90%	1.03	-8.31%	1.09
Concrete	-2.90%	1.03	-8.31%	1.09
Steel/Buildings	-2.90%	1.03	-8.31%	1.09
NSSS/STG/CT	-2.90%	1.03	-8.31%	1.09
Mechanical Equipment	-2.90%	1.03	-8.31%	1.09
Pipe	-2.90%	1.03	-8.31%	1.09
Electric	-2.90%	1.03	-8.31%	1.09
Controls	-2.90%	1.03	-8.31%	1.09
Insulation	-2.90%	1.03	-8.31%	1.09
Paint/Coatings	-2.90%	1.03	-8.31%	1.09

Per Fluor HR:
VC Summer:
Average 3.05%

Vogtle:
Average 7.5%



Craft Skill/Experience/Work Ethic Additional Influences

Special Protective Clothing / Apparatus / Confined Space –

SS & Chrome Pipe Welding Requirements, all others excluded based on MC prior to testing and commissioning

Account	Nuclear Island		Turbine Island		Balance of Plant	
	PF Loss	PF Mult	PF Loss	PF Mult	PF Loss	PF Mult
Earth Work	0.00%	1.00	0.00%	1.00	0.00%	1.00
Concrete	0.00%	1.00	0.00%	1.00	0.00%	1.00
Steel/Buildings	0.00%	1.00	0.00%	1.00	0.00%	1.00
NSSS/STG/CT	0.00%	1.00	0.00%	1.00	0.00%	1.00
Mechanical Equipment	0.00%	1.00	0.00%	1.00	0.00%	1.00
Pipe	0.00%	1.00	0.00%	1.00	0.00%	1.00
Electric	0.00%	1.00	0.00%	1.00	0.00%	1.00
Controls	0.00%	1.00	0.00%	1.00	0.00%	1.00
Insulation	0.00%	1.00	0.00%	1.00	0.00%	1.00
Paint/Coatings	0.00%	1.00	0.00%	1.00	0.00%	1.00

No additional impacts beyond what is included in Fluor's Standard Nuclear Unit Rates

Primarily SS & Chrome Pipe Welding Requirements, all others excluded based on MC prior to testing and commissioning



Craft Skill/Experience/Work Ethic Additional Influences

Foreign Material Exclusion (FME) From Plant Components and Systems

Account	Nuclear Island		Turbine Island		Balance of Plant	
	PF Loss	PF Mult	PF Loss	PF Mult	PF Loss	PF Mult
Earth Work	0.00%	1.00	0.00%	1.00	0.00%	1.00
Concrete	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Steel/Buildings	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
NSSS/STG/CT	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Mechanical Equipment	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Pipe	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Electric	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Controls	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Insulation	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00
Paint/Coatings	-0.00%	1.00	-0.00%	1.00	-0.00%	1.00

No additional impacts beyond what is included in Fluor's Standard Nuclear Unit Rates



Work Space per Head / Congestion

Preset Ranges and Percentages

Workspace/Head

Congestion

The **Work Space** which will be the prevalent conditions of the craft to their job influences how productive they will be. The smaller the work area, the less space for tools, materials, layout, etc. with the mixing of disciplines in a given area further impacting the productivity as each discipline will bring different tools and materials into their work zone. In calculating the work space, the surface area at ground level and the areas on platforms derive the total space with the anticipated head count divided into that number for space per man.

Established Ranges

- Poor** -<60% – Area < 200 Sf/Man
- Fair**-<75% - Area > 200 Sf/Man to <250 Sf/Man
- Average**-<90% – Area > 250 Sf/Man to <300 Sf/Man
- Above Average** – **100%** – Area > 300 Sf/Man to <350 Sf/Man
- Ideal** -<110% – Area > 350 Sf/Man

Complexity and Congestion of the unit would force larger number of craftsman into a given area.

Construction has provided recommended Pf adjustments for complexity and congestion, their input was based on installing a “AP1000” into an “AP600” design and footprint.



Work Space per Head / Congestion

Work Space per Head

Nuclear Island						Turbine Island					
Bldg	SF	P-Hds	80%	Sf/Hd	Ttl Hrs	Bldg	SF	P-Hds	80%	Sf/Hd	Ttl Hrs
Containment	43,272	323	258	167	1,597,145	Annex	61,624	302	242	255	1,227,193
Auxiliary	73,585	722	578	127	944,227	DG	4,489	86	69	65	167,092
Shield	8,214	108	86	95	436,483	RW	12,075	52	42	290	130,856
						TB	113,568	630	504	225	2,466,725
	-----				-----		-----				-----
	125,071				2,977,855		191,756				3,991,866
		Weighted Average		144.15			Weighted Average		229.90		
SF/Head	200Sf/Hd	250Sf/Hd	300Sf/Hd	350Sf/Hd	400Sf/Hd	SF/Head	200Sf/Hd	250Sf/Hd	300Sf/Hd	350Sf/Hd	400Sf/Hd
Percent	60%	75%	90%	100%	110%	Percent	60%	75%	90%	100%	110%
			Use>>>>		48%				Use>>>>		69%

Basis & Assumptions:

1. Square Footage of Buildings was based on preliminary SF Calculations from engineering.
2. It has been assumed 80% of the peak heads would be working within the building areas, the remaining are assumed to be in assembly yards or other.
3. Due to lack of information, and based on previous estimates, the BOP has been included at 90% which provides for 250 sf to 300 sf per head.



Work Space per Head / Congestion Congestion / Complexity

Account	Nuclear Island			Turbine Island			
	Cont	Aux	Shield	Annex	DG	RW	TB
Concrete	10.0%	10.0%	10.0%	5.0%	0.0%	2.0%	5.0%
Steel / Buildings	10.0%	0.0%	4.0%	0.0%	0.0%	0.0%	8.0%
STG/CT/NSSS	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	5.0%
Mech	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%
Piping	10.0%	10.0%	10.0%	5.0%	5.0%	5.0%	7.5%
Electrical	5.0%	5.0%	5.0%	3.0%	0.0%	0.0%	3.0%
Controls	5.0%	5.0%	5.0%	3.0%	0.0%	0.0%	3.0%
Paint	2.5%	2.5%	2.5%	0.0%	0.0%	0.0%	2.0%
Insulation	10.0%	10.0%	10.0%	5.0%	5.0%	5.0%	7.5%

The Above percentages represent additional Performance impacts to the Sf/Head show on the previous slide.

Basis & Assumptions:

1. Construction has provided recommended Pf adjustments for complexity and congestion, their input was based on installing a "AP1000" into an "AP600" design and footprint.
2. No adjustment for BOP congestion/complexity has been included.

FLUOR[®] Work Week Hours / Days

Work Week Hours

Another influence to the productivity is the **Work Week** which indicates the impact of worker production for extended hours for extended time. Forty hours per week is the base case and all historical data indicates that this is the optimum production rate. The longer the work week and the more weeks involved the more impact to the workers effort and production. The longer the work week, absenteeism starts to increase as the workers must take time off for personal business or other outside issues. If crews are not complete (i.e. welders or fitters, etc.), it begins to impact the rest of the crews production.

Work Week Days

Compressed Work Week Days is another influence to productivity, working beyond the base case of eight hours per day has similar effects to extended work week hours. Fatigue and Sleep Deprivation has serious detrimental effects on cognitive and motor capabilities, this generates mistakes, oversights, difficult problem solving, and safety concerns.

Project Schedules Included in this PF Evaluation

Site	Days/Week	Hours / Day	Total Wk Hours
VC Summer	6/6/5 Days	10 Hours	60/60/50 Hr/Week
Vogle	5/5/5/4 Days	12 Hours	60/60/60/48 hr/Week

FLUOR[®] work Week Hours / Days Cycle

Project Cycles Included in this PF Evaluation

3 Week Cycle	Week	Days/Week	Hours / Day	Total Wk Hours
VC Summer	A	6 Days	10 Hours	60 Hr/Week
VC Summer	B	6 Days	10 Hours	60 Hr/Week
VC Summer	C	5 Days	10 Hours	50 Hr/Week

4 Week Cycle	Week	Days/Week	Hours / Day	Total Wk Hours
Vogtle	A	5 Days	12 Hours	60 Hr/Week
Vogtle	B	5 Days	12 Hours	60 Hr/Week
Vogtle	C	5 Days	12 Hours	60 Hr/Week
Vogtle	D	4 Days	12 Hours	48 Hr/Week



Work Week Hours Supporting Data

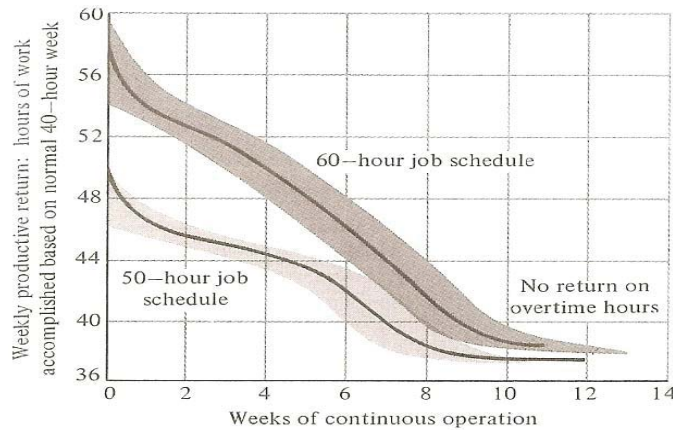


FIGURE 9-8
Effective return from working 50 or 60 hours a week for various numbers of weeks. (Source: Business Roundtable Cost Effectiveness Study Report C-3, November 1980.)

Preset Ranges for Hours/Week					
WORK WEEK	> 10 Wks	8 to 10 Wks	6 to 8 Wks	3 to 6 Wks	< 3 Wks
40 Hours	100%	100%	100%	100%	100%
50 Hours	70-75%	75-80%	80-85%	85-90%	90-95%
60 Hours	60-65%	65-70%	70-75%	80-85%	85-90%
70 Hours	50-55%	55-60%	60-65%	70-75%	80-85%
72 Hours	45-50%	55-60%	60-65%	70-75%	80-85%
84 Hours	35-40%	45-50%	45-50%	60-65%	75-80%

Results Based on Standard Total Work Week Hours

Site	Unit	Week Cycle	Duration	Grade %	Performance*
VC Summer	A	60/60/50	31.4 Mos	68.1%	85.9%
VC Summer	B	60/60/50	41.5 Mos	67.8%	85.8%
Vogle	A	60/60/60/48	27.1 Mos	68.0%	85.9%
Vogle	B	60/60/60/48	45.0 Mos	67.5%	85.5%

*Performance value is based on the preset 30% weight for this category



Work Hours/Days

Supporting Data

TABLE 9-2
THE INFLUENCE OF OVERTIME ON EFFICIENCY IN CONSTRUCTION CREWS

Days	Hours	Weekly hours	Percent inefficiency			
			7 days	14 days	21 days	28 days
6	9	54	4-6	6-9	8-12	10-15
6	10	60	7-9	11-14	14-18	18-23
6	12	72	12-14	18-21	24-28	30-35
7	8	56	9-11	14-16	18-22	23-27
7	9	63	11-13	17-20	22-26	28-33
7	10	70	14-16	21-24	28-32	35-40
7	12	84	20-22	30-33	40-44	50-55

Source: Qualified contractor, March 1969

Results Based on Standard Daily Work Hours

Site	Work Days	Standard Work Week Daily Hours	Performance (60 Hr Wk)	Daily Avg. Lost time due to 10/12 Hr Day	Performance Impact Based on Work Week Project Cycle
VC Summer	6/6/5	10	97.3%	.27 Hr / 16 Min	97.3%
Vogle	5/5/5/4	12	94.5%	.66 Hr / 40 Min	94.5%

*For this PF Adjustment, 8 hour work day has been assumed to be the normal work hours per day.



Work Week / Days Inserted Results

Vogtle	Work Week Performance	Impact for Daily Hours >8**	Final Impact Related to Work Week and Hours / Day***
VC Summer – 60/60/50			
Unit A (31.4 Mos*)	85.9%	97.3%	84.1%
Unit B (41.5 Mos*)	85.8%	97.3%	83.9%
Vogtle 60/60/60/48			
Unit A (27.1 Mos*)	85.9%	94.5%	80.4%
Unit B (45.0 Mos*)	85.5%	94.5%	80.0%

*Scheduled months to completion have been provided by Project Controls as of the first week of May.

**Impact for 12 & 10 hour days vs 8 hour days includes work week cycle.

***Includes 30% Weight for this “Work Week / Day” Category.



Shift Work

Description

Established Ranges

Shift work impacts production based on Sleeping shortages, difficulties adjusting to “body rhythm” time for overlap, coordination between shifts, and impacts related to poor lighting. Additional impacts maybe applied for lost time due to Paid Lunch, Hours worked on shift, etc

Established Ranges:

Poor – 70.0% - Triple Shift – 50% of the work

Fair – 82.6% - Double Shift – 50% of the work

Average – 100% - Single Shift

Inserted Results

Project: VC Summer

Shift – Double

Percent of work on Second Shift – 40%

Subtotal Result – 84.3%

Additional PF Impact –

Paid Lunch – Not Applicable

Subtotal -0.00%

Final Input - 84.3%

Project: Vogtle

Shift – Double

Percent of work on Second Shift – 40%

Subtotal Result – 84.3%

Additional PF Impact –

Paid Lunch – 1/2 hour

Subtotal -4.167%

Final Input - 80.1%



Plant Type (Site Interferences)

Preset Ranges & Percentages

- Poor-<40%** – Poor – Revamp only where the scope of work is modification of existing equipment, piping, and electrical/instrumentation.
- Fair-<60%** - Revamp/new scope of work where portions of unit are modified and portions of a unit have new installations of equipment, piping, and electrical/instrumentation .
- Average-<80%** – New in existing plant or “brown field” where a site is within an operating plant is the site of work. Can range from installing a unit in area of a removed unit or in area surrounded by existing plant.
- Above Average – 100%** – Grass roots or “green field” where a site is in a total new area unobstructed by existing plant operations or total new installation.

Inserted Results

Site/Area	% Included up to 12 mos Prior to Comp.*	Final 12 Mos of Construction**	Composite Utilized in PF Calculation*
VC Summer Unit A & BOP	90%	60%	67%
VC Summer Unit B	90%	60%	73%
Vogle Unit A & BOP	90%	60%	63%
Vogle Unit B	90%	60%	74%

*- Based on the scheduled dates provided by Project Controls as of first week in May ,2016)

** - Final 12 months is expected to be impacted by Fuel on site, NOTE: It have been indicated by CM that 12 mos is best case time frame – experience has shown 15 months is more typical.



Work Heights

Preset Ranges & Percentages

- **Poor**-<70% – Poor – Vertical Units.
- **Fair**-<80% - 50% of work above 30 feet.
- **Average**-<100% – Horizontal Units
- **Above Average** – 110% – All work in pipe rack and/or Outside Building limits (OSBL)
- **Ideal** – 115% - All work at grade

Inserted Results

For this PF evaluation, Fair (80%) has been included.



Site Conditions

Description

Shift conditions consists of several different categories, each category is independently evaluated for performance impacts

Site Conditions Categories

- Temporary Facilities
- Site Conditions
- Construction Equipment
- Laydown Yards
- Parking Facilities and Bussing
- Site Access and Egress
- Materials receipt / commodities
- Large Equipment Deliveries
- Community Size and Commuting Time
- Project QA/QC Requirements
- Design Support
- Schedule Conditions
- Firewatch
- Drills and Evacuations
- Management Staff Experience



Site Conditions

Temporary Facilities

Site Conditions

The locations of **Temporary Facilities** will affect the productivity of the craftsmen. Will number and quantity of tool rooms be positioned to minimize time from the worksite? The location of clock alleys, office trailers, parking areas, laydown areas, warehouse area, lunch room (change house as appropriate), and general foreman trailers will have a negative influence on productivity.

Established Ranges

- Poor** -<60% – Remote from work site area
- Fair**-<70% - In the vicinity
- Average**-<80% – Some portions of the facilities are adjacent to the work area
- Above Average** – 90% – All within short walking distance
- Ideal** -<100% – Adjacent to work site

Inserted Results

	Unit A/BOP	Unit B
VC Summer	60%	60%
Vogle	60%	60%

The **Site Conditions** on a project can influence performance. If workers are having to perform their work under conditions such as mud or swamp or rough terrain or in situations where the result of weather or location or facilities design will have craftsmen working in conditions that distracts from their work execution.

Established Ranges

- Poor** -<60% – All work performed on disturbed soil or in muddy or poor footing situations
- Fair**-<70% - Most of the work performed on disturbed soil with poor footing situations.
- Average**-<80% – There is a mix of work with equal portions on paved surface area and balance of the work on disturbed soil.
- Ideal** -<100% – All work performed on paved surfaces

Inserted Results

	Unit A/BOP	Unit B
VC Summer	70%	70%
Vogle	70%	70%



Site Conditions

Construction Equipment

The amount of and quality of **Construction Equipment** can have an influence to craftsmen work execution. There are also projects where a 3rd party will furnish and manage equipment on the site which when not properly planned will impact productivity.

Established Ranges

- Poor** -<60% – 3rd party supplied with very little influence as to timing and disposition of equipment scheduling. Equipment is old and of poor maintenance.
- Fair**-<70% - There is some influence on scheduling of equipment types and sizes and equipment is of moderate age and maintenance.
- Average**-<80% – Equipment sizes and schedules are influenced by the field forces with the equipment either new or well maintained.
- Above Average** < 90% – Specific equipment needs are met and the equipment is new and well maintained with latest technology included in equipment (i.e. load weights, etc.)

Inserted Results

	Unit A/BOP	Unit B
VC Summer	70% 80%	70% 80%
Vogtle	70% 80%	70% 80%

Laydown Yard/Mat'l Logistics

The Material Logistics/warehousing/laydown yard location can influence the productivity rates if conditions are such that the efficiencies of the work force are limited by the access to the materials in a timely manner or transporting of materials to the work face are not well planned or restricted by site conditions.

Established Ranges

- Poor** -<60% – Remote and outside the plant requiring excessive travel time and limited access.
- Fair**-<70% - Inside the plant perimeter but excessive travel time required and minimal access.
- Average**-<80% – Inside the plant perimeter with minimal travel time required and relative easy access.
- Above Average** <90% – Near the work site and easy access.
- Ideal** -100% – Adjacent to work site and easy access.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	60% 70%	60% 70%
Vogtle	60% 70%	60% 70%



Site Conditions

Site Access and Egress

The ability to perform the work can be limited by the Site access and egress for both the workers and equipment. The potential access and egress can be as extreme as all faces available to single point of access.

Established Ranges

- Poor** -<60% – Work area limited to one point of access and egress to the work area..
- Fair**-<70% - Work area is limited to two points of access and egress to the work area or one side of the unit is accessible for craft and equipment to the work area.
- Average**-<80% – Two sides of the unit are accessible for craft and equipment to the work area.
- Above Average** < 90% – Three sides of the unit are accessible for craft and equipment to the work area.
- Ideal** < 100% – All sides of the unit are accessible for craft and equipment to the work area..

Inserted Results

	Unit A/BOP	Unit B
VC Summer	65%	65%
Vogle	65%	50%*

Parking Facilities & Bussing

Over crowded and distance to worksite are a couple of things which Parking Facilities and Bussing can have a negative impact to productivity. If craftsman are required to scramble for parking places and than be bussed to their work area, attitude and moral will impact the production of the craftsman.

Established Ranges

- Poor** -<60% – Remote and outside the plant requiring excessive travel time and limited access.
- Fair**-<70% - Inside the plant perimeter but excessive travel time required and minimal access.
- Average**-<80% – Inside the plant perimeter with minimal travel time required and relative easy access.
- Above Average** <90% – Near the work site and easy access.
- Ideal** -100% – Adjacent to work site and easy access.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	65%	65%
Vogle	65%	65%

*Vogle - Unit B is based on Single in/out access road



Site Conditions

Mat'l Receipt/Commodities

The timely **Material receipt/commodities and large equipment** deliveries can have a drastic impact to productivity. Slippage in delivery dates or inadequate deliveries of commodities can drive either inefficient use of existing personnel or the added cost and lost production by mobilization and demobilization and remobilization of personnel. This can be a very detrimental influence over the life of a project.

Established Ranges

- Poor** <60% – Material promise dates are being missed by 4 or more weeks..
- Fair**<70% - Material promise dates are being missed by 2 to 4 weeks.
- Average**<80% – Material promise dates are being missed by 0 to 2 weeks.
- Above Average** < 90% – Material promise dates are being met.
- Ideal** < 100% – Materials are onsite or delivered on-demand...

Inserted Results

	Unit A/BOP	Unit B
VC Summer	65%	65%
Vogle	65%	65%

Drills and Evacuations

Loss related to **drills and evacuations**, even if scheduled, impact performance.

Established Ranges

- Poor** <60% – Occurrences are totally random and exceed 6 incidents per year.
- Fair**<70% - Occurrences are planned and random and occur quarterly.
- Average**<80% – No opportunities for random and planned are quarterly.
- Above Average** < 100% – No need for planned evacuations.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	80%	70%
Vogle	80%	70%



Site Conditions

QA/QC Requirements

There is a situation where **QA/QC requirements** on a given project can be an impact to the productivity. Built into the estimating format is an allowance for the level of quality requirements that are standard to a project. There are circumstances where the type of project will require extensive quality monitoring and a larger number of “hold points” which often can disrupt the ebb and flow of the work execution.

Established Ranges

- Poor** -<60% – Nuclear type facilities or clean room environment where multiple “hold points” are identified with limited 3rd party inspector coverage.
- Fair**-<70% - Nuclear type facility or unique robust QA/QC requirements with a large number of “hold points” with sufficient 3rd party inspector coverage.
- Average**-<80% – Normal refinery or chemical plant complex QA/QC requirements with sufficient 3rd party inspector coverage.
- Above Average** < 100% – Normal refinery or chemical plant complex QA/QC requirements with proactive inspection and inspection of “hold points” by qualified and unlimited resources for inspection.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	60%	60%
Vogtle	60%	60%

Design Completion and Support

The status of **Base Design Completion and Constructability Reviews** will have an impact on productivity especially if the requirements of the project are such that construction start and the progress of design overlap. Support of drawings and materials for the field execution can become critical and responding start and stop of the field effort is diminished. **NOTE: THIS COVERS LOSS OF PF FOR “WORK AROUNDS” / RESCHEDULING FOR INCOMPLETE DESIGN DOCS, IT DOES NOT INCLUDE E&DCR IMPACTS.**

Established Ranges

- Poor** -<60% – Drawing promise dates are being missed by 4 or more weeks.
- Fair**-<70% - Drawing promise dates are being missed by 2 to 4 weeks.
- Average**-<80% – Drawing promise dates are being missed by 0 to 2 weeks.
- Above Average** <90% – Drawing promise dates are being met.
- Ideal** -100% – Drawings are onsite or delivered on-demand.

Impacts for Design have been excluded from Fluor’s estimate

Inserted Results

	Unit A/BOP	Unit B
VC Summer	60% 100%	60% 100%
Vogtle	60% 100%	60% 100%



Site Conditions

Schedule

The potential impact of the **Schedule** duration can play a part in impacting productivity. Granted the initial schedule at time of estimate has considered the impacts be it multiple shifts or work hours, but the aggressiveness of a schedule may not be totally considered in the impact of the work execution.

Established Ranges

- Poor** -<60% – A very aggressive schedule where flexibility in execution of the work is limited and requires large amounts of “spot overtime”. The “float” for material deliveries, drawing deliveries, etc. immediately impacts the work execution..
- Fair**-<70% - An aggressive schedule that allows some flexibility but is greatly impacted by material and drawing deliveries..
- Average**-<80% – An aggressive schedule but with some float for deliveries and work forces to be able to work on multiple fronts.
- Above Average** < 100% – A schedule with timely receipt of materials and drawings and the craftsman and equipment to work multiple fronts in the execution of the work.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	60%	60%
Vogtle	60%	60%

Firewatch

The estimate will generally include an allowance for **Firewatch** in the early considerations. By and large this should not be considered, but is an area where plant types or scope of work may dictate some adjustment in productivity.

Established Ranges

- Poor** -<60% – Every work activity requires a firewatch.
- Average**-<80% – Only work activities with spark or flame potential **require a firewatch**.
- Above Average** <100% – Work location does not require a firewatch.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	70%	70%
Vogtle	70%	70%



Site Conditions

Management Staff

There is a potential impact that is derived from the **Management staff** experience and Project Type experience. These experience factors can be further defined as the impacts which can on a global picture affect craftsman productivity. If staff and craft experience that have been presented to execute the work is a first time experience, there is the likely potential that a well plotted course of execution may have to be modified a number of times during execution which has a negative impact to the direction of the work execution. Another impact to the experience factors as noted above is the inexperience of the supervision or type of work which may not have sufficient supervision of the craft in the field. An important aspect of this influence is the staff experience working in a location that is new, or the method of execution is a first time experience.

Established Ranges

- Poor <60%** – Assembled staff has no experience in the project type, nor have any of the staff worked together either because all new employees or short term with the company. There is no experience working at the location of the job. There is inadequate staffing numbers to fully support the execution of the work.
- Fair<70%** - Assembled staff has very limited experience in the project type and some members of the staff have worked together and are 5 year employees of the company. There is minimal experience working at the location of the job. There is sufficient staff to fully support the execution of the work.
- Average<80%** – Members of the assembled staff have experience in the project type and members of the staff are 10 year employees of the company. There is some experience working at the location of the job. Field staff is of sufficient numbers to fully support all field activities.
- Above Average <100%** – The majority of the assembled staff has experience in the project type and location of the job and is 15 year plus employees of the company. The field staff has all aspects covered with support for the field activities.

Inserted Results

	Unit A/BOP	Unit B
VC Summer	70%	80%
Vogle	70%	80%



Climate/Temperature / Precipitation

Working **Climate** at the site will have an impact on productivity. The location of the project can be affected by Climate/Weather/precipitation. The specific items which affect the productivity are temperature, ice/snow, and rain.

VC SUMMER				VOGTLE			
Area Information	Max	Avg	Min	Area Information	Max	Avg	Min
Max Temp Range	102	78	40	Max Temp Range	98	76	33
Min Temp Range	78	57	22	Min Temp Range	80	58	21
Average Days above 95		72		Average Days above 95		76	
Average Days below 40		55		Average Days below 40		55	
Ttl Temp Related Days		127		Ttl Temp Related Days		131	
Precipitation	44.29 Inches			Precipitation	43.58 Inches		

Established Ranges

- Poor** -<50% – Major duration of the project will experience extended periods of cold below 40 degrees F, or in excess of 95 degrees F, or have ice and snow over 6 months at a time, or has rainfall in excess of 200 inches per year.
- Fair**-<65% - A moderate portion of the project will experience extended periods of cold below 60 degrees F, or in excess above 75 degrees F, or have ice and snow three to six months at a time, or experiences rainfall in the amounts of 100 to 200 inches per year..
- Average**-<80% – The weather is mild year round with 1 to 2 months of ice and snow and rainfall in the range of 50 to 100 inches per year.
- Above Average** < 100% – The weather is mild year round with minimal ice and snow and rainfall up to 50 inches per year..
- Ideal** – 110% - The majority of the work is performed within a sheltered area or inside with weather having no impact on work forces.

Inserted Results

VC Summer	83%
Vogtle	83%



Other Site Specific Performance Items

	VC Summer			Vogtle		
	Unit A	BOP	Unit B	Unit A	BOP	Unit B
1. Work package Rewrite/Rework Delays & Craft Training	3.78% 0.00%	3.60% 0.00%	0.00%	3.78% 0.00%	3.60% 0.00%	0.00%
2. Constructability (Module Quality Controls) Design and Inspection Requirements	1.10%	1.00%	0.50%	1.10%	1.00%	0.50%
3. Design and Engineering (First of kind) Base documents include many E&DCR and Change information	4.00%	0.50%	1.00%	4.00%	0.50%	1.00%
4. Means/Methods/Process Improvements	1.00%	0.87%	0.00%	1.00%	0.87%	0.00%
5. Absenteeism (VC Summer 10%/Vogtle 15% Avg.)	2.53%	2.50%	2.53%	3.44%	3.44%	1.72%
6. SCWE & ECP Impacts	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
7. Add'l Regulatory/Owner Oversight and Wectec Process Requirements	2.00%	2.00%	1.00%	2.00%	2.00%	1.00%
8. Engineering and Design Delays	Excluded from PF, To be addressed via Change order if Req'd					
9. Nuclear Fuel on Site (9 mo prior to completion with security requirements implemented 3 mos prior for a total of 12 Mos of Impact).*	0.17%	0.17%	0.13%	0.20%	0.20%	0.12%
All values represent performance loss						
<p>* This is in addition for Plant Type (Slide 25) and Site Conditions (Slides 27-34), Includes items such as Security Checks, NRC Scrutiny, Crane placements, Travel Restrictions, etc.</p>						



Performance Results (Nuclear Island)

	VC Summer				Vogle			
	Unit A		Unit B		Unit A		Unit B	
Account	PF	PF Mult	PF	PF Mult	PF	PF Mult	PF	PF Mult
Earthwork	w/BOP	0.00	w/BOP	0.00	w/BOP	0.00	w/BOP	0.00
Concrete	53.1%	1.88	60.9%	1.64	51.5%	1.94	59.2%	1.69
Structural Steel	55.8%	1.79	64.0%	1.56	54.1%	1.85	62.2%	1.61
Arch/Buildings	55.7%	1.79	64.0%	1.56	54.0%	1.85	62.2%	1.61
NSSS/STG/CT	51.9%	1.93	60.2%	1.66	50.4%	1.99	58.6%	1.71
Mechanical Equip	53.6%	1.87	61.5%	1.63	52.0%	1.92	59.8%	1.67
Piping	50.1%	2.00	57.3%	1.74	48.6%	2.06	55.8%	1.79
Electrical	54.6%	1.83	62.6%	1.60	53.0%	1.89	60.9%	1.64
Instruments	55.0%	1.82	63.1%	1.58	53.3%	1.88	61.4%	1.63
Paint/Coatings	55.8%	1.79	64.1%	1.56	54.2%	1.85	62.3%	1.60
Insulation	55.3%	1.81	63.5%	1.58	53.7%	1.86	61.7%	1.62
Area Composite*	52.75% / 1.90		60.42% / 1.65		51.17% / 1.95		58.98% / 1.70	

*Composite Based on Bluefin (April 2016) Hours per account

**Account PF is based on Fluor's standard weights for each performance item.



Performance Results (Turbine Island)

	VC Summer				Vogle			
	Unit A		Unit B		Unit A		Unit B	
Account	PF	PF Mult	PF	PF Mult	PF	PF Mult	PF	PF Mult
Earthwork	w/BOP	0.00	w/BOP	0.00	w/BOP	0.00	w/BOP	0.00
Concrete	56.5%	1.77	64.8%	1.54	54.7%	1.83	63.0%	1.59
Structural Steel	56.4%	1.77	64.7%	1.55	54.7%	1.83	62.9%	1.59
Arch/Buildings	56.4%	1.77	64.7%	1.55	54.7%	1.83	62.9%	1.59
NSSS/STG/CT	53.8%	1.86	61.7%	1.62	52.2%	1.92	60.0%	1.67
Mechanical Equip	56.6%	1.77	64.9%	1.54	54.8%	1.82	63.1%	1.58
Piping	52.1%	1.92	59.7%	1.68	50.5%	1.98	58.0%	1.72
Electrical	55.8%	1.79	64.0%	1.56	54.0%	1.85	62.2%	1.61
Instruments	56.7%	1.76	65.0%	1.54	54.9%	1.82	63.3%	1.58
Paint/Coatings	57.4%	1.74	65.9%	1.52	55.7%	1.80	64.1%	1.56
Insulation	56.6%	1.77	64.9%	1.54	54.9%	1.82	63.2%	1.58
Area Composite*	54.66% / 1.83		62.85% / 1.59		52.97% / 1.89		61.12% / 1.64	

*Composite Based on Bluefin (April 2016) Hours per account

**Account PF is based on Fluor's standard weights for each performance item.



Performance Results (BOP)

	VC Summer		Vogle	
	BOP		BOP	
Account	PF	PF Mult	PF	PF Mult
Earthwork	73.1%	1.37	73.1%	1.37
Concrete	69.3%	1.44	69.3%	1.44
Structural Steel	69.9%	1.43	69.9%	1.43
Arch/Buildings	69.9%	1.43	69.9%	1.43
NSSS/STG/CT	67.5%	1.48	67.5%	1.48
Mechanical Equip	69.7%	1.44	69.7%	1.44
Piping	67.8%	1.47	67.8%	1.47
Electrical	69.7%	1.43	69.7%	1.43
Instruments	70.0%	1.43	70.0%	1.43
Paint/Coatings	70.6%	1.42	70.6%	1.42
Insulation	81.5%	1.23	81.5%	1.23
Area Composite*	69.08% / 1.45		69.08% / 1.45	

*Composite Based on Bluefin (April 2016) Hours per account

**Account PF is based on Fluor's standard weights for each performance item.



Comparison to Bluefin (April 2016) (All Island)

	VC Summer			Vogle		
	Unit A	Unit B	BOP	Unit A	Unit B	BOP
Exercise	PF Mult	PF Mult	PF Mult	PF Mult	PF Mult	PF Mult
Nuclear Island						
Current Exercise	1.96 1.90	1.67 1.65		2.02 1.95	1.72 1.70	
Bluefin 04/2016	2.08	1.68		2.08	1.68	
Turbine Island						
Current Exercise	1.89 1.83	1.61 1.59		1.95 1.89	1.66 1.64	
Bluefin 04/2016	1.89	1.52		1.89	1.52	
Balance of Plant						
Current Exercise			1.50 1.45			1.50 1.45
Bluefin 04/2016			1.25			1.25
Differences in Current Plan vs Blufin						
See Next Slide						



Comparison to Bluefin to Current Exercise

Differences in Current Plan vs Blufin

1. Bluefin Assumed work packages would be re-written and implemented for use on Unit A, B and BOP, Current exercise has the revised work packages available for Unit B only
(Slide 36)
2. Bluefin Assumed 30% of the Auxiliary and Containment Building work would be performed on second shift, Current exercise has assumed 40% of all the work on second shift
(Slide 24)
3. Bluefin Assumed a standard 50 hour work week and cycle, Current exercise has assumed and included
 - VC Summer - 60 hr / 60 hr / 50 hr work week cycle
 - Vogtle – 60 hr / 60 hr / 60 hr / 48 hr work week cycle
(Slide 21-23)
4. Bluefin Assumed a standard 50 hour work would be accomplished over 5 days of 10 hour shifts, Current exercise includes:
 - VC Summer 6 days of 10 hour shifts (For 60 hr weeks), 5 Days of 10 hrs shifts (for 50 hr week),
 - Vogtle 5 days of 12 hours shifts (for 60 hr weeks), 4 days of 12 hr shifts (for 48 hr week)
(Slide 21-23)

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	616	1100-CA-01	CA	CA01	CA01	MEL	Steam Generator Compartments and Refueling Canal		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1		1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	617	1102-CA-02	CA	CA02	CA02	MEL	Pressurizer Compartment and IRWST North East Wall		1	Assembly per evaluated actuals hours. Install Est # 16-093-01		Installed 8/15/2016	From IRWST wall estimate	1 - Present difference is that VCS is further along in installation than Vgtl 2 - Asselmbly hours reduced , incorrect module assumption taken, corrected by 15,000hrs
Standard Plant	618	1100-CA-03	CA	CA03	CA03	MEL	IRWST Southwest Steel Wall Module		1	Install Est # 16-081-01		Installed 7/20/2016	From IRWST wall estimate +roof	1 - Installation hours will go up due to hole drilling and geometry of the plates (semi-circular shapes) 2 - Duplex welding hohurs require additional mhrs
Standard Plant	619	1100-CA-04	CA	CA04	CA04	MEL	Reactor Vessel Cavity / RCDT		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	Installed before April 2016	1 - Incorrect entry, MODULES WERE INSTALLED IN BOTH PROJECTS
Standard Plant	620	1122-CA-05	CA	CA05	CA05	MEL	CVS / Access Tunnel / PXS-B Walls		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	Installed before April 2016	NO COMMENT NECESSARY
Standard Plant	621	1206-CA-20	CA	CA20	CA20	MEL	Aux Bldg Area 5 and 6 M20 Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	floor modules & leak chase floor + Wall straighting >100	1 - Vgtl omitted the floor(s) installation, thus the increase in Fitup hours
Standard Plant	622	1224-CA-22	CA	CA22	CA22	MEL	Floor Module El 82'-6" Col lines 4 - 5 (12151 Ceiling)		1	Used CA22 drawings for welded connections		Installed Prior to April 1		1 - VCS MODULE IS ALREADY INSTALLED
Standard Plant	623	1130-CA-31	CA	CA31	CA31	MEL	Steel Floor El 107'-2" Reactor Vessel Cavity (11105 Ceiling)	See Greenberry File	1	Used V. C. Summer Qty. / Hour Data.			IN CONTAINMENT arround Reactor. This module cannot be preassembled as a complete module. It must be assembled in place	1 - consensus reached between teams many closely fitted piece parts in close quarters
Standard Plant	624	1132-CA-32	CA	CA32	CA32	MEL	Steel Floor El 107'-2" CVS Room Pipe Tunnel (11209 Ceiling)	See Greenberry File	1	Used CA32 drawings for welded connections				1 - EXPECT CHANGES OF 479 MHR DUE TO MULTIPLE E&DCR, HOURS MOVED FROM ASSEMBLY TO FITUP 2 - Vgtk setting hrs reduced due to better details on installation.
Standard Plant	625	1133-CA-33	CA	CA33	CA33	MEL	Steel Floor El 107'-2" CVS Room (11209 Ceiling)	See Greenberry File	1	Used CA33 drawings for welded connections				1 - Team used Vgtl fit up due to „more detailed ESTIMATE, Vgtl used VCS assemluy as VCS detail was more rigorous]
Standard Plant	626	1133-CA-34	CA	CA34	CA34	MEL	Steel Floor El 107'-2" PXS B Valve Room (11207 Ceiling)	See Greenberry File	1	Used CA34 drawings for welded connections				1 - vcs welding hours, are overstated, reduced by 1,500mhr 2 - VCS augmented Fitup to VGTL as a detailed estimate was performed
Standard Plant	627	1133-CA-35	CA	CA35	CA35	MEL	Steel Floor El 107'-2" PXS B Accum Room (11207 Ceiling)	See Greenberry File	1	Used CA35 drawings for welded connections				1 - Vgtl omitted beam fabrication, so hours had to go up 2 - VCS overestimated welding hours, reduced accordingly 3 - VCS reduced hours for fit up to Vgtl they performed detailed estimate
Standard Plant	628	1134-CA-36	CA	CA36	CA36	MEL	Steel Floor El 107'-2" NRHR Room (11208 Ceiling)	See Greenberry File	1	Used CA36 drawings for welded connections				1 - VCS used VGT detailed estimate values for Fitup 2 - VGT reduced setting hours dur to math error 3 - overall hours are more for VCS as we are getting no preassembled pieces
Standard Plant	629	1132-CA-33	CA	CA37	CA37	MEL	Steel Floor El 107'-2" CVS Room Pipe Tunnel (11209 Ceiling)	See Greenberry File	1	Used CA37 drawings for welded connections				2 - EXPECT CHANGES OF 479 MHR DUE TO MULTIPLE E&DCR, HOURS MOVED FROM ASSEMBLY TO FITUP 2 - Vgtk setting hrs reduced due to better details on installation.
Standard Plant	630	1242-CA-41	CA	CA41	CA41	MEL	Finned Floor El. 117'-6" I-J (12301 Ceiling, 12401 Floor)	See Greenberry File	1	Used CA41 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	631	1242-CA-42	CA	CA42	CA42	MEL	Finned Floor El. 117'-6" J-K (12302 Ceiling, 12401 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	632	1241-CA-44	CA	CA44	CA44	MEL	Finned Floor El. 117'-6" L-M (12304 Ceiling, 12404 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	633	1241-CA-45	CA	CA45	CA45	MEL	Finned Floor El. 117'-6" M-P (12305 Ceiling, 12405 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	634	1252-CA-51	CA	CA51	CA51	MEL	Finned Floor El. 135'-6" I-K (12401 Ceiling, 12501 Floor)	See Greenberry File	1	Used CA51 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	635	1252-CA-52	CA	CA52	CA52	MEL	Finned Floor El. 135'-6" K-L (12401 Ceiling, 12501 Floor)	See Greenberry File	1	Used CA52 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	636	1151-CA-55	CA	CA55	CA55	MEL	Steel Floor El 135'-3" IRWST South / IHP Storage Stand	See Greenberry File	1	Used CA55 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED. 4 - 2000 hours welding difference between VCS and VGTL are due to work already done by VGTL which has not been completed by VCS

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	637	1152-CA-56	CA	CA56	CA56	MEL	Steel Floor EI 135'-3" IRWST West	See Greenberry File	1	Used CA56 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2- VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	638	1152-CA-57	CA	CA57	CA57	MEL	Steel Floor EI 135'-3" IRWST North	See Greenberry File	1	Used CA57 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2- VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	639	1154-CA-58	CA	CA58	CA58	MEL	Steel Floor EI 135'-3" Southeast Quadrant	See Greenberry File	1	Used CA58 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	640	2050-CA-81	CA	CA81	CA81	MEL	Conc. Filled Form Module TG Deck EI. 150'-161' Col 13.1-18			Used dwgs. To get weights and hours per ton at 50 hr/ton.	Drawing looks like it is embedment plates & structural steel.	Installed	Per the DOR CA81 was expanded to CA81A thru CA81E	VCS is further along than Vgtl - number increase reflects complexity not realized before .
Standard Plant	641	1123-CB-11	CB	CB11	CB11	MEL	Northeast Accumulator Pit Lower L Module		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	642	1123-CB-12	CB	CB12	CB12	MEL	Southeast Accumulator Pit Lower L Module		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	643	1287-CB-20	CB	CB20	CB20	MEL	Passive Cont Cooling Water Tank L Module		1	Estimate generated on 8/24/16	For tank work only no coatings or concrete work included.		Based on previous estimate	VCS has Estimated module fabricating from scratch inclding ALL CUTTING AND WELDING IN THE FIELD 112 SUBMODULES which is not the case in the Vogtle estimate (x4.5 difference) which assemmed submodules were fabricated by others in a Fab Yard NOTE: Team has recalculated the lineal feet of welding for all leak chases, nearly another 70,000mhr for welding
Standard Plant	644	1122-CB-21	CB	CB21	CB21	MEL	Vertical Access Wall Panel - West EI 83' - 107' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	645	1122-CB-22	CB	CB22	CB22	MEL	CVS Room Wall Panel - West EI 80' 6" - 87' 6"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	646	1122-CB-23	CB	CB23	CB23	MEL	CVS Room Wall Panel - North EI 80' 6" - 87' 6"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates, weld on studs, Plug Weld & Drill Holes for OLP	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	647	1122-CB-24	CB	CB24	CB24	MEL	CVS Room Wall Panel - West EI 87' 6" - 96'		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	648	1122-CB-25	CB	CB25	CB25	MEL	CVS Room Wall Panel - North EI 87' 6" - 96'		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	649	1122-CB-26	CB	CB26	CB26	MEL	CVS Room Wall Panel - West EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	650	1122-CB-27	CB	CB27	CB27	MEL	CVS Room Wall Panel - North EI 96' - 105' 2" (West Side)		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	651	1123-CB-28	CB	CB28	CB28	MEL	CVS Room Wall Panel - North EI 96' - 105' 2" (East Side)		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	652	1123-CB-31	CB	CB31	CB31	MEL	PXS B Valve Room Wall Panel - North EI 87' 6" - 96'		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	653	1123-CB-32	CB	CB32	CB32	MEL	PXS B Valve Room Wall Panel - East EI 87' 6" - 96'		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	654	1123-CB-33	CB	CB33	CB33	MEL	PXS B Accum Room Wall Panel - NE EI 87' 6" - 96'		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS UNIT 2 INSTALLED
Standard Plant	655	1123-CB-34	CB	CB34	CB34	MEL	PXS B Valve Room Wall Panel - North EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 6/25/2016		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	656	1123-CB-35	CB	CB35	CB35	MEL	PXS B Valve Room Wall Panel - East EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 5/20/2016		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	657	1123-CB-36	CB	CB36	CB36	MEL	PXS B Accum Room Wall Panel - NE EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 4/30/2016		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	658	1123-CB-37	CB	CB37	CB37	MEL	RNS Valve Room Wall Panel - North EI 94' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates, weld on studs and stiffener plates	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	659	1123-CB-38	CB	CB38	CB38	MEL	RNS Valve Room Wall Panel - East EI 94' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 6/14/2016		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	660	1124-CB-39	CB	CB39	CB39	MEL	RNS Valve Room Wall Panel - South EI 94' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 6/14/2016		VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	661	1124-CB-41	CB	CB41	CB41	MEL	PXS A Accum Room Wall Panel - East EI 87' 6" - 105' 2"		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	662	1124-CB-42	CB	CB42	CB42	MEL	PXS A Accum Room Wall Panel - SE EI 87' 6" - 96'		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed Prior to April 1		VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	663	1124-CB-43	CB	CB43	CB43	MEL	PXS A Accum Room Wall Panel - South EI 87' 6" - 96'		1	Already install in unit prior to ETC cutoff date 4/16	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	Vogtle Installed
Standard Plant	664	1124-CB-44	CB	CB44	CB44	MEL	PXS A Accum Room Wall Panel - SE EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 4/30/2016		VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	665	1124-CB-45	CB	CB45	CB45	MEL	PXS A Accum Room Wall Panel - South EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.	Installed 4/30/2016		VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	666	1124-CB-46	CB	CB46	CB46	MEL	PXS A Valve Room Wall Panel - East EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	667	1124-CB-47	CB	CB47	CB47	MEL	PXS A Valve Room Wall Panel - South EI 96' - 105' 2"		1		Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	668	1121-CB-51	CB	CB51	CB51	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (A)		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	CB51 thru CB54 are welded together to form one unit	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	669	1121-CB-52	CB	CB52	CB52	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (B)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	670	1121-CB-53	CB	CB53	CB53	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (C)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	671	1121-CB-54	CB	CB54	CB54	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (D)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	672	1124-CB-61	CB	CB61	CB61	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (A)		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	CB61 thru CB64 are welded together to form one unit	1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	673	1124-CB-62	CB	CB62	CB62	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (B)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	674	1124-CB-63	CB	CB63	CB63	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (C)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	675	1124-CB-64	CB	CB64	CB64	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (D)		1	Already install in unit prior to ETC cutoff date 4/16	Included in above hours	Installed Prior to April 1		1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	676	1110-CB-65	CB	CB65	CB65	MEL	Reactor Coolant Drain Tank Room - Door		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1		1 - MODULE ALREADY INSTALLED IN BOTH PROJECTS
Standard Plant	678	1113-CB-66	CB	CB66	CB66	MEL	RCDDT / Reactor Compartment Passageway		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1		1 - MODULE ALREADY INSTALLED AT BOTH PROJECTS
Standard Plant	679	2041-CG-82	CG	CG82	CG82	MEL	Water Box Access Removable Platform EI 120' Col 14-15			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCS uses VGTL labored estimate as basis
Standard Plant	680	2042-CG-83	CG	CG83	CG83	MEL	Water Box Access Removable Platform EI 120' Col 15-16			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCS uses VGTL labored estimate as basis
Standard Plant	681	2047-CG-84	CG	CG84	CG84	MEL	Removable Platform Equipment Access Area 7 EI 120'			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCS uses VGTL labored estimate as basis
Standard Plant	682	2057-CG-85	CG	CG85	CG85	MEL	Removable Platform Equipment Access Area 7 EI 141'			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCS uses VGTL labored estimate as basis
Standard Plant	683	2031-CG-87	CG	CG87	CG87	MEL	Removable Platform Equipment Access EI 100' Col R-P.14 to 15			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	684	2031-CG-88	CG	CG88	CG88	MEL	Removable Platform Equipment Access EI 100' Col R-P.15 to 16			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	685	2032-CG-89	CG	CG89	CG89	MEL	Removable Platform Equipment Access EI 100' Col R-P.16 to 17			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	686	2035-CG-91	CG	CG91	CG91	MEL	Removable Platform Equipment Access EI 100' Col J15-L.2.14 to 15			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	687	2035-CG-92	CG	CG92	CG92	MEL	Removable Platform Equipment Access EI 100' Col J15-L.2.15 to 16			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	688	2036-CG-93	CG	CG93	CG93	MEL	Removable Platform Equipment Access EI 100' Col J15-L.2.16 to 17			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	689	1222-CH-21	CH	CH21	CH21	MEL	EI 82'-6" I-J Outfitted FI (12101 Ceiling, 12201 FI)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED
Standard Plant	690	1222-CH-22	CH	CH22	CH22	MEL	EI 82'-6" J-K Outfitted FI (12102 Ceiling, 12202 FI)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED
Standard Plant	691	1222-CH-23	CH	CH23	CH23	MEL	EI 82'-6" K-L Outfitted FI (12103 east Ceiling, 12203 & 12207 Floors)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED
Standard Plant	692	1221-CH-24	CH	CH24	CH24	MEL	EI 82'-6" L-M Outfitted FI (12104 Ceiling, 12204 FI)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED
Standard Plant	693	1221-CH-25	CH	CH25	CH25	MEL	EI 82'-6" M-P Outfitted FI (12105 Ceiling, 12205 FI)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	694	1221-CH-26	CH	CH26	CH26	MEL	EI 82'-6" P-Q Outfitted FI (12111 Ceiling, 12211 FI)			Already install in unit prior to ETC cutoff date 4/16	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTL UNITS ARE INSTALLED, FRED EVANS OF VGTL CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS 2 - VGTL UNIT IS INSTALLED
Standard Plant	695	1232-CH-31	CH	CH31	CH31	MEL	EI 100'-0" I-J Outfitted FI (12201 Ceiling, 12301 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for Vglt as bulk items, VCS copies Vglt labored hours
Standard Plant	696	1232-CH-32	CH	CH32	CH32	MEL	EI 100'-0" J-K Outfitted FI (12202 Ceiling, 12302 & 12 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVglt as bulk items, VCS copies Vglt labored hours
Standard Plant	697	1232-CH-33	CH	CH33	CH33	MEL	EI 100'-0" K-L Outfitted (12203 & 7 Ceiling, 12303 & 13 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVglt as bulk items, VCS copies Vglt labored hours
Standard Plant	698	1231-CH-34	CH	CH34	CH34	MEL	EI 100'-0" L-M Outfitted FI (12204 Ceiling, 12304 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVglt as bulk items, VCS copies Vglt labored hours
Standard Plant	699	1231-CH-35	CH	CH35	CH35	MEL	EI 100'-0" M-P Outfitted FI (12205 Ceiling, 12305 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVglt as bulk items, VCS copies Vglt labored hours
Standard Plant	700	1164-CH-50	CH	CH50	CH50	MEL	Structure SG Compartment East EI.166'-3 1/4"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI		VCS could not locate as modules, Westinghouse located them for VVglt as bulk items, VCS copies Vglt labored hours
Standard Plant	701	1153-CH-51	CH	CH51	CH51	MEL	EI. 135'-3" Operating Floor Outfitted Module			Assumed same as CH50 since no tonnage or drawing available	Allowance		Does not exist in Documentum (Duplicared CA51)	VGTL performed detailed estimate VCS will use their labored values
Standard Plant	702	1151-CH-52	CH	CH52	CH52	MEL	FW Nozzle / Upper Manway Platforms (West SG)	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI	Correct tonnage from 22.3 to 3.54	VGTL performed detailed estimate VCS will use their labored values
Standard Plant	703	1151-CH-53	CH	CH53	CH53	MEL	Containment Recirc. Platform West EI 149'-7"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI	Revised tonnage to latest BOM	VGTL performed detailed estimate VCS will use their labored values
Standard Plant	704	1152-CH-54	CH	CH54	CH54	MEL	ADS Platform Module	Straight to NI	1	Model generated from CH54 Platform Module to calculate Tonnage on rest of modules.		Straight to NI		VGTL performed detailed estimate VCS will use their labored values
Standard Plant	705	1152-CH-55	CH	CH55	CH55	MEL	West SG Stairs / Structure / ADS Platform	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI		VGTL performed detailed estimate VCS will use their labored values
Standard Plant	706	1154-CH-56	CH	CH56	CH56	MEL	FW Nozzle / Upper Manway Platforms (East SG)	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI		1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTL IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	707	1154-CH-57	CH	CH57	CH57	MEL	Containment Recirc. Platform East EI 149'-7"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI		1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTL IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	708	1153-CH-58	CH	CH58	CH58	MEL	East SG Stairs / Structure (West SG)	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI		1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTL IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	709	1102-CH-59	CH	CH59	CH59	MEL	Containment Elevator EI 107'-2" to 185'-6" Structural Module	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI		1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	710	1254-CH-61	CH	CH61	CH61	MEL	Stair / Elevator EI 135'-3" to 145'-9" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	711	1254-CH-62	CH	CH62	CH62	MEL	Stair / Elevator / Plant Vent EI 145'-9" to 162'-6" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	712	1268-CH-63	CH	CH63	CH63	MEL	Stair / Elevator / Plant Vent EI 162'-6" to 185'-0" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	713	1268-CH-64	CH	CH64	CH64	MEL	Stair / Elevator / Plant Vent EI 185'-0" to 213' Module			Model generated from CH64 Stair Module to calculate Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	714	1268-CH-65	CH	CH65	CH65	MEL	Stair / Elevator / Plant Vent EI 213' to 239' Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	715	1278-CH-66	CH	CH66	CH66	MEL	Stair / Elevator / Plant Vent EI 239' to 256' Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	716	1277-CH-67	CH	CH67	CH67	MEL	Upper Annulus Stair / Lift Platform EI 243' to 261' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	717	1277-CH-71	CH	CH71	CH71	MEL	Circular Platform / Upper Air Baffle EI 239' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	VCS performed detailed estimate based on field inputs, VGTL uses VCS labor hours
Standard Plant	718	1277-CH-72	CH	CH72	CH72	MEL	PCCS Valve Room (12701) Structure	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	VGTL performed detailed estimate VCS will use their labored values
Standard Plant	719	1277-CH-73	CH	CH73	CH73	MEL	Shield Plate / Wire Mesh / Diffuser Inlet EI 266' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS ADDITIONAL FIELD WORK YET TO BE PERFORMED
Standard Plant	720	1130-CH-77	CH	CH77	CH77	MEL	Steel Plate and Ladder EI. 95'-6" SG Compartment East	On Liscensing Hold	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI. LAR 81 Hold	dissimilar material welding - SS duplex	1 - VCS HAS ADDITIONAL FIELD WORK YET TO BE PERFORMED
Standard Plant	721	2031-CH-80	CH	CH80	CH80	MEL	Struc Module - South TG Support EI. 100' - 148' Col 13.1-14			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed 6/01/2016		1 - VGTL HAS ALREADY INSTALLED MODULE
Standard Plant	723	2031-CH-81B	CH	CH81-A	CH81	MEL	Struc Module - Center TG Support EI. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	724	2031-CH-81C	CH	CH81-B	CH81	MEL	Struc Module - Center TG Support EI. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	725	2071-CH-89	CH	CH81-C	CH81	MEL	Struc Module - Center TG Support EI. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	726	2032-CH-82	CH	CH82	CH82	MEL	Struc Module - North TG Support EI. 100' - 148' Col 16-18			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed 6/01/2016	Added 135.65 Tons of connecting beams not associated with a specific module	1 - VGTL HAS ALREADY INSTALLED MODULE
Standard Plant	727	2070-CH-85	CH	CH85	CH85	MEL	Struc Module - South Roof Col 13.1-16			Part Of Structural Steel (Bulks) assumed in this Attach				VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	728	2072-CH-86	CH	CH86	CH86	MEL	Struc Module - North Roof Col 17-19			Part Of Structural Steel (Bulks) assumed hours in this section				VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
Standard Plant	729	2078-CH-87	CH	CH87	CH87	MEL	Struc Module - South Htr Bay Roof El. 193'-6" Col 13.1-15			Part Of Structural Steel (Bulks) assumed hours in this section			DOES NOT EXISTS, Replaced by CH85A & B and CH86A & B	1 - PER DOR, MODULE NO LONGER EXISTS
Standard Plant	730	2079-CH-88	CH	CH88	CH88	MEL	Struc Module - Htr Bay Col 13.1-15			Part Of Structural Steel (Bulks) assumed hours in this section			DOES NOT EXISTS, Replaced by CH85A & B and CH86A & B	1 - PER DOR, MODULE NO LONGER EXISTS
				CH89	CH89	MEL	Struc Module - Center Roof Col 16-17			Part Of Structural Steel (Bulks) assumed hours in this section				1 - PER DOR, MODULE NO LONGER EXISTS
Standard Plant	731	2034-CH-91	CH	CH91	CH91	MEL	Turbine Bldg Security Structure Level 3			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
Standard Plant	732	2044-CH-92	CH	CH92	CH92	MEL	Turbine Bldg Security Structure Level 4			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
Standard Plant	733	2054-CH-93	CH	CH93	CH93	MEL	Turbine Bldg Security Structure Level 5			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
			CR	CR10	CR10	MEL & Non-MEL	CR10-Ctmt Vessel Bottom Head Concrete Reinforcing Module			Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	Under CVLH curently buried in Concrete	1 - INSTALLED ON BOTH PROJECTS
Standard Plant	735	1133-CS-11	CS	CS11	CS11	MEL	Containment North Stairs El 107'-2" to 118'-6"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI	No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	736	1143-CS-12	CS	CS12	CS12	MEL	Containment North Stairs El 118'-6" to 135'-3"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI	No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	737	1100-CS-15	CS	CS15	CS15	MEL	Containment Vertical Access Tunnel Stairs El 83' to 107'-2"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.		Straight to NI	No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	738	1120-CS-17	CS	CS17	CS17	MEL	CVS Room (11209) Stairs and Platform	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.		Straight to NI	No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	739	1201-CS-22	CS	CS21	CS21	MEL	Aux Bldg Area 1 Level 1 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	740	1202-CS-21	CS	CS22	CS22	MEL	Aux Bldg Area 1 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	741	1205-CS-24	CS	CS24	CS24	MEL	Aux Bldg Area 2 Level 1 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	742	1202-CS-25	CS	CS25	CS25	MEL	Aux Bldg Area 2 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS27	CS27	MEL & Non-MEL	CS27-Aux Bldg Stair S05 (Area 2)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS3	CS3	MEL & Non-MEL	CS3 - Aux Bldg, Roof Platform Stairs (Area 1)			Allowance based on average tonnage of other stairs.				1 - PER DOR THIS MODULE NO LONGER EXISTS
			CS	CS31	CS31	MEL & Non-MEL	CS31 - Aux Bldg, (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS32	CS32	MEL & Non-MEL	CS32 - Aux Bldg, (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS33	CS33	MEL & Non-MEL	CS33 - Aux Bldg, (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS34	CS34	MEL & Non-MEL	CS34 - Aux Bldg, (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	743	1262-CS-36	CS	CS36	CS36	MEL	Aux Bldg Area 1 Roof Platform / Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	744	12268-CS-37	CS	CS37	CS37	MEL	WLS Pump Room Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	745	12265-CS-38	CS	CS38	CS38	MEL	Waste Monitor Tank Room C Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	746	2030-CS-41	CS	CS41	CS41	MEL	Turbine Bldg Area 1 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	747	2040-CS-42	CS	CS42	CS42	MEL	Turbine Bldg Area 2 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	748	2031-CS-43	CS	CS43	CS43	MEL	Turbine Bldg Area 1 Level 3 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	749	2041-CS-44	CS	CS44	CS44	MEL	Turbine Bldg Area 1 Level 4 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	750	2051-CS-45	CS	CS45	CS45	MEL	Turbine Bldg Area 1 Level 5 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	751	2061-CS-46	CS	CS46	CS46	MEL	Turbine Bldg Area 1 Level 6 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	752	2071-CS-47	CS	CS47	CS47	MEL	Turbine Bldg Area 1 Level 7 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS48	CS48	MEL & Non-MEL	CS48 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS49	CS49	MEL & Non-MEL	CS49 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS50	CS50	MEL & Non-MEL	CS50 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	753	2039-CS-51	CS	CS51	CS51	MEL	Turbine Bldg Area 9 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	754	2049-CS-52	CS	CS52	CS52	MEL	Turbine Bldg Area 9 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	755	2059-CS-53	CS	CS53	CS53	MEL	Turbine Bldg Area 9 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS54	CS54	MEL	Turbine Bldg Area 9 Level 6 Stairs			Allowance based on average stairs tonnage due to lack of scope.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	756	2053-CS-55	CS	CS55	CS55	MEL	Turbine Bldg Area 3 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	757	2063-CS-56	CS	CS56	CS56	MEL	Turbine Bldg Area 3 Level 6 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS57	CS57	MEL	Turbine Bldg Area 2 Level 5 Stairs			Allowance based on average stairs tonnage due to lack of scope.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS59	CS59	MEL	Turbine Bldg Area 9 Level 7 Stairs			Allowance based on average stairs tonnage due to lack of scope.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	758	4031-CS-61	CS	CS61	CS61	MEL	Annex Bldg Area 1 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	759	4031-CS-62	CS	CS62	CS62	MEL	Annex Bldg Area 1 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	760	4032-CS-63	CS	CS63	CS63	MEL	Annex Bldg Area 2 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	761	4042-CS-64	CS	CS64	CS64	MEL	Annex Bldg Area 2 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	762	4033-CS-66	CS	CS66	CS66	MEL	Annex Bldg Area 3 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	763	4043-CS-67	CS	CS67	CS67	MEL	Annex Bldg Area 3 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	764	4053-CS-68	CS	CS68	CS68	MEL	Annex Bldg Area 3 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	765	4033-CS-69	CS	CS69	CS69	MEL	Annex Bldg Area 3 100' to 107'-2" Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	766	4034-CS-71	CS	CS71	CS71	MEL	Annex Bldg Area 4/2 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse

BOE - Attachment 8

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	767	4044-CS-72	CS	CS72	CS72	MEL	Annex Bldg Area 4/2 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS86	CS86	Non-MEL	Turbine Bldg Area 8 Level 6 Stairs			Allowance based on average tonnage of other stairs.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS87	CS87	Non-MEL	Turbine Bldg Area 8 Level 7 Stairs			Allowance based on average tonnage of other stairs.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS91	CS91	Non-MEL	Bldg Area 21 Level 3 Stairs			Allowance based on average tonnage of other stairs.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS92	CS92	Non-MEL	Bldg Area 21 Level 4 Stairs			Allowance based on average tonnage of other stairs.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
				CS93	CS93	Non-MEL	Bldg Area 21 Level 5 Stairs			Allowance based on average tonnage of other stairs.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	6006	1213-KB-04	KB	KB04	KB04	MEL	WGS Guard Bed and Delay Beds		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 11/10/15	1 - NO COMMENT NECESSARY
Standard Plant	6007	1212-KB-10	KB	KB10	KB10	MEL	WWS Sump Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed After April 1	installed 4/22/16	1 - NO COMMENT NECESSARY
Standard Plant	6008	1214-KB-11	KB	KB11	KB11	MEL	WLS Charcoal Filter / Ion Exchanger Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 5/29/15	1 - NO COMMENT NECESSARY
Standard Plant	6009	1214-KB-12	KB	KB12	KB12	MEL	Spent Fuel Demineralizer Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 5/28/15	1 - NO COMMENT NECESSARY
Standard Plant	6010	1214-KB-13	KB	KB13	KB13	MEL	WRS Sump Pump Module		1	Used KB13 Dwgs. for installation hours.		Installed After April 1		1 - NO COMMENT NECESSARY
Standard Plant	6011	1213-KB-14	KB	KB14	KB14	MEL	WGS Equipment/Valve Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 11/12/15	1 - NO COMMENT NECESSARY
Standard Plant	6012	1213-KB-15	KB	KB15	KB15	MEL	Degasifier Discharge Pump Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 11/13/15	1 - NO COMMENT NECESSARY
Standard Plant	6013	1213-KB-16	KB	KB16	KB16	MEL	WLS Degasifier Associated Equipment Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 1/1/16	1 - NO COMMENT NECESSARY
Standard Plant	6014	1226-KB-20	KB	KB20	KB20	MEL	WLS Chemical Waste Pump Module		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1	installed 8/21/15	1 - NO COMMENT NECESSARY
Standard Plant	6015	1225-KB-21	KB	KB21	KB21	MEL	WLS Effl Holdup Pump A Module	One of the site rebuilds	1	Install estimate # 16-69-01				NO COMMENT NECESSARY
Standard Plant	6016	1226-KB-22	KB	KB22	KB22	MEL	WLS Effl Holdup Pump B Module		1	Used KB22 Dwgs. for installation hours.			installed 8/2/16	NO COMMENT NECESSARY
Standard Plant	6017	1226-KB-23	KB	KB23	KB23	MEL	WLS Monitor Pump C Module		1	Already install in unit prior to ETC cutoff date 4/16				NO COMMENT NECESSARY
Standard Plant	6018	1226-KB-25	KB	KB25	KB25	MEL	SFS Pump A, Piping, and Valves Module	One of the site rebuilds	1	Module to be sent to site approx. 60% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB25 Dwgs. for installation hours.				1 - VGTL had to assemble 40% of the module, VCS had to assemble 25% 2 - Bolt count corrected, brought down to 4 from 32
Standard Plant	6019	1226-KB-26	KB	KB26	KB26	MEL	SFS Pump B, Piping, and Valves Module	One of the site rebuilds	1	Module to be sent to site approx. 60% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB26 Dwgs. for installation hours.			installed 5/3/16	NO COMMENT NECESSARY
Standard Plant	6020	1226-KB-27	KB	KB27	KB27	MEL	Waste Holdup Pump A Module		1	Used KB27 Dwgs. for installation hours.			installed 8/2/16	NO COMMENT NECESSARY
Standard Plant	6021	1226-KB-28	KB	KB28	KB28	MEL	Waste Holdup Pump B Module		1	Used KB28 Dwgs. for installation hours.			installed 8/2/16	1 - VCS'S MODULE IS ALREADY INSTALLED
Standard Plant	6022	1223-KB-33	KB	KB33	KB33	MEL	CVS Makeup Pump Room Platform Module	One of the site rebuilds	1	Used KB33 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6023	1231-KB-36	KB	KB36	KB36	MEL	PCS Pump/Valve Module		1	Used KB36 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6024	1235-KB-37	KB	KB37	KB37	MEL	WLS Monitor Pump A Module		1	Used KB37 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6025	1236-KB-38	KB	KB38	KB38	MEL	WLS Monitor Pump B Module		1	Used KB38 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant				KB47	KB47	Non-MEL	WWS Resin Transfer Influent Valve Module - 12372			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
				KB50	KB50	Non-MEL	Air Cooled Chiller Pumps Module			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
Standard Plant				KB55	KB55	Non-MEL	PCS Distribution Supply Valve Module - Room 12701			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
				KB56	KB56	Non-MEL	VXS Air Handling Unit Equipment - Valves			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
Standard Plant	6026	1112-KQ-10	KQ	KQ10	KQ10	MEL	Reactor Coolant Drain Tanks & Piping & Pumps Module		1	Used KQ10 Dwgs. for installation hours.				
Standard Plant	6027	1112-KQ-11	KQ	KQ11	KQ11	MEL	Containment Sump Pumps & Piping Module		1	Used KQ11 Dwgs. for installation hours.				
Standard Plant	6028	1120-KQ-22	KQ	KQ22	KQ22	MEL	Lower CVCS Module		1	Complete assembly required. Includes coating hours. Ass'y Est #16-86-01. Used KQ22 Dwgs. for installation hours.			module 22 & 23 were previously welded together as a unit for VCS2 - no Assembly hours necessary	1 - VGTL HAS MUCH RE-WORK TO BE DONE 2 - VCS MODULE ASSEMBLED AND STACKED

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	6029	1120-KQ-23	KQ	KQ23	KQ23	MEL	Upper CVCS Module		1	Complete assembly required. Includes coating hours. Ass'y Est #16-87-01. Used KQ22 Dwgs. for installation hours.			module 22 & 23 were previously welded together as a unit for VCS2 - no Assembly hours necessary	1 - VGTL HAS MUCH RE-WORK TO BE DONE 2 - VCS MODULE ASSEMBLED AND STACKED
Standard Plant	6030	1122-KU-20CVA	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6031	1122-KU-20CVB	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6032	1213-KU-20CV4	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6033	1214-KU-21SFA	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6034	1214-KU-21SFB	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6035	1214-KU-21WL6	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6036	1214-KU-21WL7	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6037	1246-KU-21WS3	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
			MZ	MZ07	MZ07	MEL & Non-MEL	MZ07-Auxiliary Bldg Inspection Platform			Allowance based on average tonnage of other platforms.				New Fuel Vault Inspection Platform - vcs USING vgtl VALUES AS THEY PERFORMED ESTIMATE
Standard Plant	19783	1123-Q2-23	Q2	Q223	Q223	MEL	DVI B Valve Module		1	Used Q223 Dwgs. for installation hours.				1 - overlooked ledger welding added to VCS 2 - no field fab, 100 hrs deleted
Standard Plant	19784	1124-Q2-33	Q2	Q233	Q233	MEL	DVI A Valve Module		1	Used Q233 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19785	1120-Q2-40	Q2	Q240	Q240	MEL	Normal RHR Piping		1	Install Est. #16-170-01				2 - no field fab, 100 hrs deleted
Standard Plant	19786	1132-Q3-05	Q3	Q305	Q305	MEL	CVS/PXS/WLS Containment Isolation Valve Module		1	Used Q305 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19787	1140-Q4-02	Q4	Q402	Q402	MEL	CCS Distribution Piping Module		1	Used Q402 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
			Q4	Q405	Q405	Non-MEL	Feedwater Piping Module (West)			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
			Q5	Q509	Q509	Non-MEL	Passive RHR Supply Piping			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
Standard Plant	19788	1162-Q6-01	Q6	Q601	Q601	MEL	PSADS Piping		1	Used Q601 Dwgs. for installation hours.			(ASSY Hrs) installation of 305SQFT of two (2) grating levels	2 - no field fab, 100 hrs deleted
Standard Plant	19789	1216-R1-04	R1	R104	R104	MEL	EI. 74'-10" Commodity Module Room 12172 East-West		1	Install Est # 16-028-01				NO COMMENT NECESSARY
Standard Plant	19790	1215-R1-06	R1	R106	R106	MEL	Room 12171 Commodity Module		1	Already install in unit prior to ETC cutoff date 4/16				NO COMMENT NECESSARY
Standard Plant	19791	1214-R1-51	R1	R151	R151	MEL	EI. 74'-10" Commodity Module Room 12151 North-South		1	Already install in unit prior to ETC cutoff date 4/16			installed 3/10/15	
Standard Plant	19792	1213-R1-55	R1	R155	R155	MEL	EI. 74'-10" Commodity Module Room 12155 North-South		1	Already install in unit prior to ETC cutoff date 4/16			installed 4/6/16	
Standard Plant	19793	1215-R1-61	R1	R161	R161	MEL	EI. 74'-10" Commodity Module Room 12161 North-South		1	Install Est # 16-029-01				NO COMMENT NECESSARY
Standard Plant	19794	1225-R2-16	R2	R216	R216	MEL	WLS Valve Module South Wall		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
			R2	R218	R218	Non-MEL	Clean Pipe, Raceway & Duct Above Pumps Ceiling			No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
Standard Plant	19795	1226-R2-19	R2	R219	R219	MEL	Pipe, Raceway, Duct East-West Module	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
			R2	R230	R230	Non-MEL	RNS Pump Isolation Valve Module			No scope provided unable to develop a cost estimate				1 - PIPING ASSEMBLY NOT A MODULE PER DOR
			R2	R231	R231	Non-MEL	RNS HX Downstream Pipin/Valve Module			No scope provided unable to develop a cost estimate				1 - PIPING ASSEMBLY NOT A MODULE PER DOR
Standard Plant	19796	1224-R2-51	R2	R251	R251	MEL	EI. 91' Commodity Module Room 12251	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19797	1225-R2-61	R2	R261	R261	MEL	EI. 91' Commodity Module Room 12261	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19798	1236-R3-65	R3	R365	R365	MEL	Cask Loading, Fuel Xfer Canal, & Spent Fuel Pool Xfer/Drain		1	Used drawings for all installation connections and removal or component installations.			includes all piping connection between modules 18ea	NO COMMENT NECESSARY
Standard Plant	19799	1245-R4-51	R4	R451	R451	MEL	Corridor 12461 Piping Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19800	1245-R4-74	R4	R474	R474	MEL	Train Bay EI 125' Commodity Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19801	1255-R5-01	R5	R501	R501	MEL	CCS Return Piping		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19802	1255-R5-03	R5	R503	R503	MEL	Corridor 12561 Piping/Tray/Duct Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
			SB	SB	SB MS-FW	MEL & Non-MEL	SB MS-FW Penetration - Delivery VS2-1278-SC-MS-01		1	No scope provided unable to develop a cost estimate				
			SP	SP05	SP05	MEL & Non-MEL	SP05-Platform and Ladder - RCDT Rm 82'-10.5"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP06	SP06	MEL & Non-MEL	SP06-Stairway - SG 1 Compt 80' - 83'			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP07	SP07	MEL & Non-MEL	SP07-Stairway - SG 2 Compt 80' - 83'			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP09	SP09	MEL & Non-MEL	SP09-Platform - Accum Rm A Center 98' - 3"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP10	SP10	MEL & Non-MEL	SP10-Platform - Accum Rm B Center 98' - 3"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
			SP	SP11	SP11	MEL & Non-MEL	SP11-Platform and Ladder - SG 1 Compt 104'-7"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP12	SP12	MEL & Non-MEL	SP12-Platform and Ladder - SG 2 Compt 104'-7"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP13	SP13	MEL & Non-MEL	SP13-Platform and Stairs - Vertical Access East 107'-2"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP14	SP14	MEL & Non-MEL	SP14-Platform and Stairs - Vertical Access West 107'-2"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP15	SP15	MEL & Non-MEL	SP15-Platform and Ladder - SG 2 Compt 116'-4.5"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP16	SP16	MEL & Non-MEL	SP16-Platform and Ladder - SG 1 Compt 116'-4.5"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP17	SP17	MEL & Non-MEL	SP17-Grating Maintenance Floor / Mezzanine 118'-6"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP20	SP20	MEL & Non-MEL	SP20-Platform - IRWST Overlook 138'-11.75"			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP21	SP21	MEL & Non-MEL	SP21-IRWST South Platform and Ladders			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SP	SP21	SP21	MEL & Non-MEL	SP21-IRWST North Platform and Ladders			Allowance based on average tonnage of other platforms.				VGTL did more rigorous estimate VCS will use their numbers
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB Area 7 Stairs 82'-9" to 100'-0"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB Area 2 Stairs 141'-3" to 158'-7"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB 1st Bay Stairs 100'-0" to 117'-6"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB 1st Bay Stairs 117'-6" to 148'-10"			Allowance based on average tonnage of other stairs.				
Standard Plant			xA	xAI Panels		MEL & Non-MEL	Air Inlet Panels - Shield Building	CBIS to install not part of Fluor scope	43	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xS	xSB MSFW		MEL	Main Steam Feed Water Panels - Shield Building		1	Used 1208 Series Dwgs. for installation hours.				0
Standard Plant			xS	xSB Panels		MEL & Non-MEL	Lower Panels - Shield Building		167		This is a subcontract with CBI Services and doesn't need to be estimated.			0
Standard Plant			xS	xSB Roof Steel		MEL	Roof Steel - Shield Building		1	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xT	xTR Panels		MEL & Non-MEL	Tension Ring Panels - Shield Building		11	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xx	xxRing Girder		MEL	Pressurizer Ring Girder - RG01		1	Used PH01 Series Dwgs. for fabrication / installation hours.				0
Standard Plant	616	1100-CA-01	CA	CA01	CA01	MEL	Steam Generator Compartments and Refueling Canal		1	Ass'y Est # 16-000-01, Used CA01 drawings for welded connectons.				1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	617	1102-CA-02	CA	CA02	CA02	MEL	Pressurizer Compartment and IRWST North East Wall		1	Assembly per evaluated actuals hours. Install Est # 16-093-01		From IRWST wall estimate		1 - Present difference is that VCS is further along in installation than Vgtl 2 - Asselmbly hours reduced , incorrect module assumption taken, corrected by 15,000hrs
Standard Plant	618	1100-CA-03	CA	CA03	CA03	MEL	IRWST Southwest Steel Wall Module		1	Assembly Est #16-123-01.		From IRWST wall estimate +roof		1 - Installation hours will go up due to hole drilling and geometry of the plates (semi-circular shapes) 2 - Duplex welding hohurs require additional mhrs
Standard Plant	619	1100-CA-04	CA	CA04	CA04	MEL	Reactor Vessel Cavity / RCDT		1	Already install in unit prior to ETC cutoff date 4/16		Installed Prior to April 1		1 - Incorrect entry, MODULES WERE INSTALLED IN BOTH PROJECTS
Standard Plant	620	1122-CA-05	CA	CA05	CA05	MEL	CVS / Access Tunnel / PXS-B Walls		1	Install Est # 16-158-01. Used CA05 drawings for welded connections				1 - Vgtl hours are up after completion of detailed estimate 2 - VCS ommited overlay plate and B plate welding
Standard Plant	621	1206-CA-20	CA	CA20	CA20	MEL	Aux Bldg Area 5 and 6 M20 Module		1	Current Budget - going in the hole incomplete on 19AUG16	Allow 100k hours for scope transferred to hole		Wall seams, ledger angles floor modules & leak chase floor	1 - Vgtl math error of 100,000, deleted from formula 2 - VCS does not have assembly hours as it has been placed already 3 - Fid fitup needs to go up by 15,000 or so due to previouslu omitted overlay plates and miscellaneous bulk steel. 4 - 16,800=14wks x 20 craft x 10hrs/day x 6 days /week (reversed engineered number of actual hoursat VCS
Standard Plant	622	1224-CA-22	CA	CA22	CA22	MEL	Floor Module El 82'-6" Col lines 4 - 5 (12151 Ceiling)		1	Used CA22 drawings for welded connections				1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGLT IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	623	1130-CA-31	CA	CA31	CA31	MEL	Steel Floor El 107'-2" Reactor Vessel Cavity (11105 Ceiling)	See Greenberry File	1	Used V. C. Summer Qty. / Hour Data.		IN CONTAINMENT around Reactor. This module cannot be preassembled as a complete module. It must be assembled in place		1 - consensus reached between teams many closely fitted piece parts in close quarters
Standard Plant	624	1132-CA-32	CA	CA32	CA32	MEL	Steel Floor El 107'-2" CVS Room Pipe Tunnel (11209 Ceiling)	See Greenberry File	1	Used CA32 drawings for welded connections				1 - EXPECT CHANGES OF 479 MHR DUE TO MULTIPLE E&DCR, HOURS MOVED FROM ASSEMBLY TO FITUP 2 - Vgtk setting hrs reduced due to better details on installation.
Standard Plant	625	1133-CA-33	CA	CA33	CA33	MEL	Steel Floor El 107'-2" CVS Room (11209 Ceiling)	See Greenberry File	1	Used CA33 drawings for welded connections				1 - Team used Vgtl fit up due to ,more detailLED ESTIMATE, Vgtl used VCS assembly as VCS detail was more rigorous]
Standard Plant	626	1133-CA-34	CA	CA34	CA34	MEL	Steel Floor El 107'-2" PXS B Valve Room (11207 Ceiling)	See Greenberry File	1	Used CA34 drawings for welded connections				1 - vcs welding hours, are overstated, reduced by 1,500mhr 2 - VCS augmented Fitup to VGTL as a detailed estimate was performed
Standard Plant	627	1133-CA-35	CA	CA35	CA35	MEL	Steel Floor El 107'-2" PXS B Accum Room (11207 Ceiling)	See Greenberry File	1	Used CA35 drawings for welded connections				1 - Vgtl omitted beam fabrication, so hours had to go up 2 - VCS overestimated welding hours, reduced accordingly 3 - VCS reduced hours for fit up to Vgtl they performed detailed estimate
Standard Plant	628	1134-CA-36	CA	CA36	CA36	MEL	Steel Floor El 107'-2" NRHR Room (11208 Ceiling)	See Greenberry File	1	Used CA36 drawings for welded connections				1 - VCS used VGT detailed estimate values for Fitup 2 - VGT reduced setting hours dur to math error 3 - overall hours are more for VCS as we are getting no preassembled pieces
Standard Plant	629	1134-CA-37	CA	CA37	CA37	MEL	Steel Floor El 107'-2" PXS A Room (11206 Ceiling)	See Greenberry File	1	Used CA37 drawings for welded connections				1 - VCS is rqrd to assemble all piece parts where Vgtl parts come pre-assembled
Standard Plant	630	1242-CA-41	CA	CA41	CA41	MEL	Finned Floor El. 117'-6" I-J (12301 Ceiling, 12401 Floor)	See Greenberry File	1	Used CA41 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	631	1242-CA-42	CA	CA42	CA42	MEL	Finned Floor El. 117'-6" J-K (12302 Ceiling, 12401 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	632	1241-CA-44	CA	CA44	CA44	MEL	Finned Floor El. 117'-6" L-M (12304 Ceiling, 12404 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	633	1241-CA-45	CA	CA45	CA45	MEL	Finned Floor El. 117'-6" M-P (12305 Ceiling, 12405 Floor)	See Greenberry File	1	Similar to CA41 used same figures.				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	634	1252-CA-51	CA	CA51	CA51	MEL	Finned Floor El. 135'-6" I-K (12401 Ceiling, 12501 Floor)	See Greenberry File	1	Used CA51 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	635	1252-CA-52	CA	CA52	CA52	MEL	Finned Floor El. 135'-6" K-L (12401 Ceiling, 12501 Floor)	See Greenberry File	1	Used CA52 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	636	1151-CA-55	CA	CA55	CA55	MEL	Steel Floor El 135'-3" IRWST South / IHP Storage Stand	See Greenberry File	1	Used CA55 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED. 4 - 2000 hours welding difference between VCS and VGTL are due to work already done by VGTL which has not been completed by VCS
Standard Plant	637	1152-CA-56	CA	CA56	CA56	MEL	Steel Floor El 135'-3" IRWST West	See Greenberry File	1	Used CA56 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	638	1152-CA-57	CA	CA57	CA57	MEL	Steel Floor El 135'-3" IRWST North	See Greenberry File	1	Used CA57 drawings for welded connections			The roof of IRWST Tank	1 - VCS IS FARTHER ALONG INP PROGRESS THEREFORE THE DIFFERENCE STANDS IN THE ASSEMBLY HOURS 2 - VCS DID NOT ADD THE WELDING TO EMBED PLATES AND THE B PLATES, VCS HOURS ARE GOING UP BY 14758 3 - VGTL ADDED HOURS FOR B PLATE WELDING AND REFUELING FLOOR PREV. OMITTED.
Standard Plant	639	1154-CA-58	CA	CA58	CA58	MEL	Steel Floor El 135'-3" Southeast Quadrant	See Greenberry File	1	Used CA58 drawings for welded connections				1 - VCS overstated welding rates, reduced 2 - Fit up hrs used are VGTL with a detailed estimate
Standard Plant	640	2050-CA-81	CA	CA81	CA81	MEL	Conc. Filled Form Module TG Deck El. 150'-161' Col 13.1-18			Used dwgs. To get weights and hours per ton at 50 hr/ton.	Drawing looks like it is embedment plates & structural steel.		Per the DOR CA81 was expanded to CA81A thru CA81E	VCS is further along than Vgtl - number increase reflects complexity not realized before .
Standard Plant	641	1123-CB-11	CB	CB11	CB11	MEL	Northeast Accumulator Pit Lower L Module		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 0	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	642	1123-CB-12	CB	CB12	CB12	MEL	Southeast Accumulator Pit Lower L Module		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 0	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	643	1287-CB-20	CB	CB20	CB20	MEL	Passive Cont Cooling Water Tank L Module		1	Used estimate generated on 8/24/16.	For tank work only no coatings or concrete work included.		Based on previous estimate	VCS has Estimated module fabricating from scratch inclding ALL CUTTING AND WELDING IN THE FIELD 112 SUBMODULES which is not the case in the Vogtle estimate (x4.5 difference) which assemmed submodules were fabricated by others in a Fab Yard NOTE: Team has recalculated the lineal feet of welding for all leak chases, nearly another 70,000mhr for welding
Standard Plant	644	1122-CB-21	CB	CB21	CB21	MEL	Vertical Access Wall Panel - West El 83' - 107' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 0	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	645	1122-CB-22	CB	CB22	CB22	MEL	CVS Room Wall Panel - West El 80' 6" - 87' 6"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 1	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	646	1122-CB-23	CB	CB23	CB23	MEL	CVS Room Wall Panel - North El 80' 6" - 87' 6"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 2	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates, weld on studs, Plug Weld & Drill Holes for OLP	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	647	1122-CB-24	CB	CB24	CB24	MEL	CVS Room Wall Panel - West El 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 3	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	648	1122-CB-25	CB	CB25	CB25	MEL	CVS Room Wall Panel - North El 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 4	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates, weld on studs, Plug Weld & Drill Holes for OLP	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	649	1122-CB-26	CB	CB26	CB26	MEL	CVS Room Wall Panel - West El 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 5	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	650	1122-CB-27	CB	CB27	CB27	MEL	CVS Room Wall Panel - North El 96' - 105' 2" (West Side)		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 6	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	651	1123-CB-28	CB	CB28	CB28	MEL	CVS Room Wall Panel - North El 96' - 105' 2" (East Side)		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 7	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	652	1123-CB-31	CB	CB31	CB31	MEL	PXS B Valve Room Wall Panel - North El 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 8	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	653	1123-CB-32	CB	CB32	CB32	MEL	PXS B Valve Room Wall Panel - East El 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 9	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	654	1123-CB-33	CB	CB33	CB33	MEL	PXS B Accum Room Wall Panel - NE El 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	655	1123-CB-34	CB	CB34	CB34	MEL	PXS B Valve Room Wall Panel - North El 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 9	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	656	1123-CB-35	CB	CB35	CB35	MEL	PXS B Valve Room Wall Panel - East El 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 9	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules
Standard Plant	657	1123-CB-36	CB	CB36	CB36	MEL	PXS B Accum Room Wall Panel - NE El 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detaled estimates on CB modules

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTL E Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	658	1123-CB-37	CB	CB37	CB37	MEL	RNS Valve Room Wall Panel - North EI 94' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 9	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates, weld on studs and stiffener plates	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	659	1123-CB-38	CB	CB38	CB38	MEL	RNS Valve Room Wall Panel - East EI 94' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	660	1124-CB-39	CB	CB39	CB39	MEL	RNS Valve Room Wall Panel - South EI 94' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 9	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	661	1124-CB-41	CB	CB41	CB41	MEL	PXS A Accum Room Wall Panel - East EI 87' 6" - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	662	1124-CB-42	CB	CB42	CB42	MEL	PXS A Accum Room Wall Panel - SE EI 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 11	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	663	1124-CB-43	CB	CB43	CB43	MEL	PXS A Accum Room Wall Panel - South EI 87' 6" - 96'		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	664	1124-CB-44	CB	CB44	CB44	MEL	PXS A Accum Room Wall Panel - SE EI 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 11	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	665	1124-CB-45	CB	CB45	CB45	MEL	PXS A Accum Room Wall Panel - South EI 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 10	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	666	1124-CB-46	CB	CB46	CB46	MEL	PXS A Valve Room Wall Panel - East EI 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 11	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	667	1124-CB-47	CB	CB47	CB47	MEL	PXS A Valve Room Wall Panel - South EI 96' - 105' 2"		1	Included Nelson Studs On E&DCR No. APP-CB00-GEF-014, Rev. 12	Similar Installation as CB51 thru 54 Modules used same template with qty changes.		Attach Overlay Plates & weld on studs	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	668	1121-CB-51	CB	CB51	CB51	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (A)		1	CB51 thru 54 are welded together as a module. Install Est #16-146-01			CB51 thru CB54 are welded together to form one unit. Attach Overlay Plates, weld on studs, Plug Weld & Drill Holes for OLP	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	669	1121-CB-52	CB	CB52	CB52	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (B)		1		Included in above hours			1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	670	1121-CB-53	CB	CB53	CB53	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (C)		1		Included in above hours			1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	671	1121-CB-54	CB	CB54	CB54	MEL	SG 1 Room Wall Panel - EI 80'-0" - 83'-0" (D)		1		Included in above hours			1 - CB51-52-53 AND 54 ARE INSTALLED AS SINGLE UNIT UNDER CB51
Standard Plant	672	1124-CB-61	CB	CB61	CB61	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (A)		1	CB61 thru 64 are welded together as a module. Install Est # 16-147-01			CB61 thru CB64 are welded together to form one unit. Attach Overlay Plates, weld on studs, Plug Weld & Drill Holes for OLP	VCS is copying all labored hours from VGTL as they performed more detailed estimates on CB modules
Standard Plant	673	1124-CB-62	CB	CB62	CB62	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (B)		1		Included in above hours			1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	674	1124-CB-63	CB	CB63	CB63	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (C)		1		Included in above hours			1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	675	1124-CB-64	CB	CB64	CB64	MEL	SG 2 Room Wall Panel - EI 80'-0" - 83'-0" (D)		1		Included in above hours			1 - CB61-62-63 AND 64 ARE INSTALLED AS A SINGLE UNIT UNDER CB61
Standard Plant	676	1110-CB-65	CB	CB65	CB65	MEL	Reactor Coolant Drain Tank Room		1	Already install in unit prior to ETC cutoff date 4/16			Attach Overlay Plates, weld on couplers, Plug Weld & Drill Holes for OLP	1 - VCS HAS YET TO Attach Overlay Plates, weld on couplers, Plug Weld & Drill Holes for OLP 2 - VGTL HAS ASSUMED THEIR MODULE WILL COME IN 100% FABRICATED
Standard Plant	678	1113-CB-66	CB	CB66	CB66	MEL	RCDT / Reactor Compartment Passageway		1	Already install in unit prior to ETC cutoff date 4/16				1 - VCS HAS YET TO Attach Overlay Plates, weld on couplers, Plug Weld & Drill Holes for OLP 2 - VGTL HAS ASSUMED THEIR MODULE WILL COME IN 100% FABRICATED
Standard Plant	679	2041-CG-82	CG	CG82	CG82	MEL	Water Box Access Removable Platform EI 120' Col 14-15			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCVS uses VGTL labored estimate as basis
Standard Plant	680	2042-CG-83	CG	CG83	CG83	MEL	Water Box Access Removable Platform EI 120' Col 15-16			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCVS uses VGTL labored estimate as basis
Standard Plant	681	2047-CG-84	CG	CG84	CG84	MEL	Removable Platform Equipment Access Area 7 EI 120'			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCVS uses VGTL labored estimate as basis
Standard Plant	682	2057-CG-85	CG	CG85	CG85	MEL	Removable Platform Equipment Access Area 7 EI 141'			Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCVS uses VGTL labored estimate as basis
Standard Plant	683	2031-CG-87	CG	CG87	CG87	MEL	Removable Platform Equipment Access EI 100' Col R-P.14 to 15			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	684	2031-CG-88	CG	CG88	CG88	MEL	Removable Platform Equipment Access EI 100' Col R-P.15 to 16			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	685	2032-CG-89	CG	CG89	CG89	MEL	Removable Platform Equipment Access EI 100' Col R-P.16 to 17			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	686	2035-CG-91	CG	CG91	CG91	MEL	Removable Platform Equipment Access EI 100' Col J15-1.2.14 to 15			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	687	2035-CG-92	CG	CG92	CG92	MEL	Removable Platform Equipment Access EI 100' Col J15-1.2.15 to 16			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS
Standard Plant	688	2036-CG-93	CG	CG93	CG93	MEL	Removable Platform Equipment Access EI 100' Col J15-1.2.16 to 17			Part Of Structural Steel (Bulks) assumed hours in this section				VCS is deleting all these labored values. Westinghouse DID NOT offer up tonnage for any of these, these will become part of DEVIATIONS

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	689	1222-CH-21	CH	CH21	CH21	MEL	EI 82'-6" I-J Outfitted FI (12101 Ceiling, 12201 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	690	1222-CH-22	CH	CH22	CH22	MEL	EI 82'-6" J-K Outfitted FI (12102 Ceiling, 12202 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	691	1222-CH-23	CH	CH23	CH23	MEL	EI 82'-6" K-L Outfitted FI (12103 east Ceiling, 12203 & 12207 Floors)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	692	1221-CH-24	CH	CH24	CH24	MEL	EI 82'-6" L-M Outfitted FI (12104 Ceiling, 12204 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	693	1221-CH-25	CH	CH25	CH25	MEL	EI 82'-6" M-P Outfitted FI (12105 Ceiling, 12205 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	694	1221-CH-26	CH	CH26	CH26	MEL	EI 82'-6" P-Q Outfitted FI (12111 Ceiling, 12211 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	1 - VGTLE UNITS ARE INSTALLED, FRED EVANS OF VGTLE CONSULTED WITH WEC ENGINEER TO IDENTIFY SO CALLED MODULE WICH VCS HAS IDENTIFIED AS BULK STEEL PIECE PARTS
Standard Plant	695	1232-CH-31	CH	CH31	CH31	MEL	EI 100'-0" I-J Outfitted FI (12201 Ceiling, 12301 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	696	1232-CH-32	CH	CH32	CH32	MEL	EI 100'-0" J-K Outfitted FI (12202 Ceiling, 12302 & 12 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	697	1232-CH-33	CH	CH33	CH33	MEL	EI 100'-0" K-L Outfitted (12203 & 7 Ceiling, 12303 & 13 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	698	1231-CH-34	CH	CH34	CH34	MEL	EI 100'-0" L-M Outfitted FI (12204 Ceiling, 12304 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	699	1231-CH-35	CH	CH35	CH35	MEL	EI 100'-0" M-P Outfitted FI (12205 Ceiling, 12305 FI)			Used an evaluated unit rate from supplemental steel installation actuals.	Supplemental Steel		DOES NOT EXIST IN DOCUMENTUM OR DOR	VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	700	1164-CH-50	CH	CH50	CH50	MEL	Structure SG Compartment East EI.166'-3 1/4"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				VCS could not locate as modules, Westinghouse located them for VVgtl as bulk items, VCS copies Vgtl labored hours
Standard Plant	701	1153-CH-51	CH	CH51	CH51	MEL	EI. 135'-3" Operating Floor Outfitted Module			Assumed same as CH50 since no tonnage or drawing available	Allowance		Does not exist in Documentum (Duplicated CA51)	VGTLE performed detailed estimate VCS will use their labored values
Standard Plant	702	1151-CH-52	CH	CH52	CH52	MEL	FW Nozzle / Upper Manway Platforms (West SG)	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			Correct tonnage from 22.3 to 3.54	VGTLE performed detailed estimate VCS will use their labored values
Standard Plant	703	1151-CH-53	CH	CH53	CH53	MEL	Containment Recirc. Platform West EI 149'-7"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			Revised tonnage to latest BOM	VGTLE performed detailed estimate VCS will use their labored values
Standard Plant	704	1152-CH-54	CH	CH54	CH54	MEL	ADS Platform Module	Straight to NI	1	Model generated from CH54 Platform Module to calculate Tonnage on rest of modules.				VGTLE performed detailed estimate VCS will use their labored values
Standard Plant	705	1152-CH-55	CH	CH55	CH55	MEL	West SG Stairs / Structure / ADS Platform	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				VGTLE performed detailed estimate VCS will use their labored values
Standard Plant	706	1154-CH-56	CH	CH56	CH56	MEL	FW Nozzle / Upper Manway Platforms (East SG)	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTLE IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	707	1154-CH-57	CH	CH57	CH57	MEL	Containment Recirc. Platform East EI 149'-7"	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.				1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTLE IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	708	1153-CH-58	CH	CH58	CH58	MEL	East SG Stairs / Structure (West SG)	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - DIFFERENTIAL HOURS ARE DUE TO WELD CALCULATION DIFFERENCES, VGTLE IS BY LINEAL FEET , VCS USES A MORE RIGOROUS APPROACH OF WELDING POSITION, AND WELD DEPOSITION RATES.
Standard Plant	709	1102-CH-59	CH	CH59	CH59	MEL	Containment Elevator EI 107'-2" to 185'-6" Structural Module	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	710	1254-CH-61	CH	CH61	CH61	MEL	Stair / Elevator EI 135'-3" to 145'-9" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	711	1254-CH-62	CH	CH62	CH62	MEL	Stair / Elevator / Plant Vent EI 145'-9" to 162'-6" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	712	1268-CH-63	CH	CH63	CH63	MEL	Stair / Elevator / Plant Vent EI 162'-6" to 185'-0" Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.				1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	713	1268-CH-64	CH	CH64	CH64	MEL	Stair / Elevator / Plant Vent EI 185'-0" to 213' Module			Model generated from CH64 Stair Module to calculate Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	714	1268-CH-65	CH	CH65	CH65	MEL	Stair / Elevator / Plant Vent EI 213' to 239' Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	715	1278-CH-66	CH	CH66	CH66	MEL	Stair / Elevator / Plant Vent EI 239' to 256' Module			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	716	1277-CH-67	CH	CH67	CH67	MEL	Upper Annulus Stair / Lift Platform EI 243' to 261' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS MORE FIELD WORK TO BE DONE AS MODULES ARE ASSEMBLED TO A LESSER DEGREE
Standard Plant	717	1277-CH-71	CH	CH71	CH71	MEL	Circular Platform / Upper Air Baffle EI 239' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	VCS performed detailed estimate based on field inputs, VGTLE uses VCS labor hours
Standard Plant	718	1277-CH-72	CH	CH72	CH72	MEL	PCCS Valve Room (12701) Structure	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	VGTLE performed detailed estimate VCS will use their labored values

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	719	1277-CH-73	CH	CH73	CH73	MEL	Shield Plate / Wire Mesh / Diffuser Inlet El. 266' Module	Pre-Installation Scope	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	1 - VCS HAS ADDITIONAL FIELD WORK YET TO BE PERFORMED
Standard Plant	720	1130-CH-77	CH	CH77	CH77	MEL	Steel Plate and Ladder El. 95'-6" SG Compartment East	Straight to NI. LAR 81 Hold	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			dissimilar material butt welding - SS duplex	1 - VCS HAS ADDITIONAL FIELD WORK YET TO BE PERFORMED
Standard Plant	721	2031-CH-80	CH	CH80	CH80	MEL	Struc Module - South TG Support El. 100' - 148' Col 13.1-14			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed			1 - VGTL HAS ALREADY INSTALLED MODULE
Standard Plant	723	2031-CH-81B	CH	CH81-A	CH81	MEL	Struc Module - Center TG Support El. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed AFTER April cutoff		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	724	2031-CH-81C	CH	CH81-B	CH81	MEL	Struc Module - Center TG Support El. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed AFTER April cutoff		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	725	2071-CH-89	CH	CH81-C	CH81	MEL	Struc Module - Center TG Support El. 100' - 148' Col 15			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed	Installed AFTER April cutoff		1 - VGTL HAS ALREADY INSTALLED MODULE 2 - VCS YET TO INSTALL MODULE(S)
Standard Plant	726	2032-CH-82	CH	CH82	CH82	MEL	Struc Module - North TG Support El. 100' - 148' Col 16-18			Already install in unit prior to ETC cutoff date 4/16	Per J. Rees Already Installed			1 - VGTL HAS ALREADY INSTALLED MODULE
Standard Plant	727	2070-CH-85	CH	CH85	CH85	MEL	Struc Module - South Roof Col 13.1-16			Part Of Structural Steel (Bulks) assumed hours in this section				VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
Standard Plant	728	2072-CH-86	CH	CH86	CH86	MEL	Struc Module - North Roof Col 17-19			Part Of Structural Steel (Bulks) assumed hours in this section				VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
Standard Plant	729	2078-CH-87	CH	CH87	CH87	MEL	Struc Module - South Htr Bay Roof El. 193'-6" Col 13.1-15			Part Of Structural Steel (Bulks) assumed hours in this section				1 - PER DOR, MODULE NO LONGER EXISTS
Standard Plant	730	2079-CH-88	CH	CH88	CH88	MEL	Struc Module - Htr Bay Col 13.1-15			Part Of Structural Steel (Bulks) assumed hours in this section				1 - PER DOR, MODULE NO LONGER EXISTS
				CH89	CH89	MEL	Struc Module - Center Roof Col 16-17			Part Of Structural Steel (Bulks) assumed hours in this section				1 - PER DOR, MODULE NO LONGER EXISTS
Standard Plant	731	2034-CH-91	CH	CH91	CH91	MEL	Turbine Bldg Security Structure Level 3			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
Standard Plant	732	2044-CH-92	CH	CH92	CH92	MEL	Turbine Bldg Security Structure Level 4			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
Standard Plant	733	2054-CH-93	CH	CH93	CH93	MEL	Turbine Bldg Security Structure Level 5			Ballistic Resistant Enclosure BRE) Supplied By S/C. Install only.			DOES NOT EXIST IN DOCUMENTUM	1 - VCS USED VGTL ESTIMATE BASED LABORED HOURS
			CR	CR10	CR10	MEL & Non-MEL	CR10-Ctrmt Vessel Bottom Head Concrete Reinforcing Module			Already install in unit prior to ETC cutoff date 4/16			Under CVLH curently buried in Concrete	1 - INSTALLED ON BOTH PROJECTS
Standard Plant	735	1133-CS-11	CS	CS11	CS11	MEL	Containment North Stairs El 107'-2" to 118'-6"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	736	1143-CS-12	CS	CS12	CS12	MEL	Containment North Stairs El 118'-6" to 135'-3"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	737	1100-CS-15	CS	CS15	CS15	MEL	Containment Vertical Access Tunnel Stairs El 83' to 107'-2"	Straight to NI	1	Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	738	1120-CS-17	CS	CS17	CS17	MEL	CVS Room (11209) Stairs and Platform	Straight to NI	1	Based on model generated from CH54 Platform Module to Tonnage on rest of modules.			No Longer a Module, To be erected in the field	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	739	1201-CS-22	CS	CS21	CS21	MEL	Aux Bldg Area 1 Level 1 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	740	1202-CS-21	CS	CS22	CS22	MEL	Aux Bldg Area 1 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	741	1205-CS-24	CS	CS24	CS24	MEL	Aux Bldg Area 2 Level 1 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	742	1202-CS-25	CS	CS25	CS25	MEL	Aux Bldg Area 2 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS27	CS27	MEL & Non-MEL	CS27-Aux Bldg Stair S05 (Area 2)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS3	CS3	MEL & Non-MEL	CS3 - Aux Bldg. Roof Platform Stairs (Area 1)			Allowance based on average tonnage of other stairs.				1 - PER DOR THIS MODULE NO LONGER EXISTS
			CS	CS31	CS31	MEL & Non-MEL	CS31 - Aux Bldg. (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS32	CS32	MEL & Non-MEL	CS32 - Aux Bldg. (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS33	CS33	MEL & Non-MEL	CS33 - Aux Bldg. (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
			CS	CS34	CS34	MEL & Non-MEL	CS34 - Aux Bldg. (Area 5) Level 1, 2, 3, 4)			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.	Added to list was in drawing package given so assumed required.			No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	743	1262-CS-36	CS	CS36	CS36	MEL	Aux Bldg Area 1 Roof Platform / Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS36	CS36	MEL & Non-MEL	CS36-Aux Bldg Area 2 Roof TB Roof Access Platform / Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	744	12268-CS-37	CS	CS37	CS37	MEL	WLS Pump Room Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	745	12265-CS-38	CS	CS38	CS38	MEL	Waste Monitor Tank Room C Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	746	2030-CS-41	CS	CS41	CS41	MEL	Turbine Bldg Area 1 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	747	2040-CS-42	CS	CS42	CS42	MEL	Turbine Bldg Area 2 Level 2 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	748	2031-CS-43	CS	CS43	CS43	MEL	Turbine Bldg Area 1 Level 3 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	749	2041-CS-44	CS	CS44	CS44	MEL	Turbine Bldg Area 1 Level 4 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	750	2051-CS-45	CS	CS45	CS45	MEL	Turbine Bldg Area 1 Level 5 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	751	2061-CS-46	CS	CS46	CS46	MEL	Turbine Bldg Area 1 Level 6 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	752	2071-CS-47	CS	CS47	CS47	MEL	Turbine Bldg Area 1 Level 7 External Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS48	CS48	MEL & Non-MEL	CS48 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS49	CS49	MEL & Non-MEL	CS49 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
			CS	CS50	CS50	MEL & Non-MEL	CS50 - Turbine Building (Allowance of 35 Ton)			Allowance based on tonnage provided on Master List.				No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	753	2039-CS-51	CS	CS51	CS51	MEL	Turbine Bldg Area 9 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	754	2049-CS-52	CS	CS52	CS52	MEL	Turbine Bldg Area 9 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	755	2059-CS-53	CS	CS53	CS53	MEL	Turbine Bldg Area 9 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	756	2053-CS-55	CS	CS55	CS55	MEL	Turbine Bldg Area 3 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	757	2063-CS-56	CS	CS56	CS56	MEL	Turbine Bldg Area 3 Level 6 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	758	4031-CS-61	CS	CS61	CS61	MEL	Annex Bldg Area 1 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	759	4031-CS-62	CS	CS62	CS62	MEL	Annex Bldg Area 1 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	760	4032-CS-63	CS	CS63	CS63	MEL	Annex Bldg Area 2 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	761	4042-CS-64	CS	CS64	CS64	MEL	Annex Bldg Area 2 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	762	4033-CS-66	CS	CS66	CS66	MEL	Annex Bldg Area 3 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	763	4043-CS-67	CS	CS67	CS67	MEL	Annex Bldg Area 3 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	764	4053-CS-68	CS	CS68	CS68	MEL	Annex Bldg Area 3 Level 5 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	765	4033-CS-69	CS	CS69	CS69	MEL	Annex Bldg Area 3 100' to 107'-2" Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	766	4034-CS-71	CS	CS71	CS71	MEL	Annex Bldg Area 4/2 Level 3 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	767	4044-CS-72	CS	CS72	CS72	MEL	Annex Bldg Area 4/2 Level 4 Stairs			Based on model generated from CH64 Stair Module to Tonnage on rest of modules.			DOES NOT EXIST IN DOCUMENTUM	No tonnage provided by Westinghouse - VCS is using all labored ours from the VGTL estimate as whatsoever informastin was granted by Westinghouse
Standard Plant	6006	1213-KB-04	KB	KB04	KB04	MEL	WGS Guard Bed and Delay Beds		1	Already install in unit prior to ETC cutoff date 4/16				1 - VGTL 'S MODULE IS ALREADY INSTALLED
Standard Plant	6007	1212-KB-10	KB	KB10	KB10	MEL	WWS Sump Module		1	Module to be sent to site approx. 60% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB10 Dwgs. for installation hours.				1 - VCS HAS ADDITIONAL RE-WORK TO PERFORM THAN VGTL
Standard Plant	6008	1214-KB-11	KB	KB11	KB11	MEL	WLS Charcoal Filter / Ion Exchanger Module		1	Ass'y Est #16-047-01; Install Est #16-067-01				1 - VCS HAS ADDITIONAL RE-WORK TO PERFORM THAN VGTL
Standard Plant	6009	1214-KB-12	KB	KB12	KB12	MEL	Spent Fuel Demineralizer Module		1	Ass'y Est #16-048-01; Install Est #16-068-01				VCS Added labor for all missed bolts, drilling, torquing and grouting
Standard Plant	6010	1214-KB-13	KB	KB13	KB13	MEL	WRS Sump Pump Module		1	Module to be sent to site approx. 60% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB13 Dwgs. for installation hours.				1 - VCS HAS ADDITIONAL SITEWORK TO PERFORM THAN VGTL
Standard Plant	6011	1213-KB-14	KB	KB14	KB14	MEL	WGS Equipment/Valve Module		1	Install estimate # 16-30-01				1 - NO COMMENT NECESSARY
Standard Plant	6012	1213-KB-15	KB	KB15	KB15	MEL	Degasifier Discharge Pump Module		1	Already install in unit prior to ETC cutoff date 4/16				1 - NO COMMENT NECESSARY
Standard Plant	6013	1213-KB-16	KB	KB16	KB16	MEL	WLS Degasifier Associated Equipment Module		1	Already install in unit prior to ETC cutoff date 4/16				1 - NO COMMENT NECESSARY
Standard Plant	6014	1226-KB-20	KB	KB20	KB20	MEL	WLS Chemical Waste Pump Module		1	Module to be sent to site approx. 50% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB20 Dwgs. for installation hours.				1 - NO COMMENT NECESSARY
Standard Plant	6015	1225-KB-21	KB	KB21	KB21	MEL	WLS Effl Holdup Pump A Module	One of the site rebuilds	1	Install estimate # 16-69-01				NO COMMENT NECESSARY
Standard Plant	6016	1226-KB-22	KB	KB22	KB22	MEL	WLS Effl Holdup Pump B Module		1	Module to be sent to site approx. 85% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB22 Dwgs. For installation hours.				NO COMMENT NECESSARY
Standard Plant	6017	1226-KB-23	KB	KB23	KB23	MEL	WLS Monitor Pump C Module		1	Module sent to site approx. 50% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB23 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6018	1226-KB-25	KB	KB25	KB25	MEL	SFS Pump A, Piping, and Valves Module	One of the site rebuilds	1	Used KB25 Dwgs. for installation hours.				1 - VGTL had to assemble 40% of the module, VCS had to assemble 25% of the module 2 - Bolt count corrected, brought down to 4 from 32
Standard Plant	6019	1226-KB-26	KB	KB26	KB26	MEL	SFS Pump B, Piping, and Valves Module	One of the site rebuilds	1	Used KB26 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6020	1226-KB-27	KB	KB27	KB27	MEL	Waste Holdup Pump A Module		1	Module to be sent to site approx. 50% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB27 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6021	1226-KB-28	KB	KB28	KB28	MEL	Waste Holdup Pump B Module		1	Module to be sent to site approx. 50% assembled. Includes coating hours. Ass'y Est #16-089-01, Used KB28 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6022	1223-KB-33	KB	KB33	KB33	MEL	CVS Makeup Pump Room Platform Module	One of the site rebuilds	1	Used KB33 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6023	1231-KB-36	KB	KB36	KB36	MEL	PCS Pump/Valve Module		1	Used KB36 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6024	1235-KB-37	KB	KB37	KB37	MEL	WLS Monitor Pump A Module		1	Used KB37 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant	6025	1236-KB-38	KB	KB38	KB38	MEL	WLS Monitor Pump B Module		1	Used KB38 Dwgs. for installation hours.				NO COMMENT NECESSARY
Standard Plant				KB47	KB47	Non-MEL				No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS
Standard Plant				KB55	KB55	Non-MEL				No scope provided unable to develop a cost estimate				1 - PER DOR THIS MODULE NO LONGER EXISTS

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
Standard Plant	6026	1112-KQ-10	KQ	KQ10	KQ10	MEL	Reactor Coolant Drain Tanks & Piping & Pumps Module		1	Module sent to site approx. 38% assembled. Includes coating hours. Ass'y Est #16-089-01. Used KQ10 Dwgs. for installation hours.				
Standard Plant	6027	1112-KQ-11	KQ	KQ11	KQ11	MEL	Containment Sump Pumps & Piping Module		1	Used KQ11 Dwgs. for installation hours.				
Standard Plant	6028	1120-KQ-22	KQ	KQ22	KQ22	MEL	Lower CVCS Module		1	Complete assembly required. Includes coating hours. Ass'y Est #16-86-01. Used KQ22 Dwgs. for installation hours.			DOUBLE HANDLING OF 22 TO 23 +double handling of both to set-tack-final base weld	NO COMMENT NECESSARY
Standard Plant	6029	1120-KQ-23	KQ	KQ23	KQ23	MEL	Upper CVCS Module		1	Complete assembly required. Includes coating hours. Ass'y Est #16-87-01. Used KQ22 Dwgs. for installation hours.			DOUBLE HANDLING OF 22 TO 23 +double handling of both to set-tack-final base weld	NO COMMENT NECESSARY
Standard Plant	6030	1122-KU-20CVA	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6031	1122-KU-20CVB	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6032	1213-KU-20CV4	KU	KU20	KU20	MEL	High Pressure Filter/Floor Modules		1	Used KU20 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6033	1214-KU-21SFA	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6034	1214-KU-21SFB	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6035	1214-KU-21WL6	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6036	1214-KU-21WL7	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
Standard Plant	6037	1246-KU-21WS3	KU	KU21	KU21	MEL	Low Pressure Filter/Floor Modules		1	Used KU21 Dwgs. for installation hours.				1 - VCS DETERMINED FILTER BOXES TO BE FIELD WELDED COMPLETELY 2 - VGTL ASSUMES ONLY TOP OF BOX REQUIRES FIELD WELD
			MZ	MZ07	MZ07	MEL & Non-MEL	MZ07-Auxiliary Bldg Inspection Platform			Allowance based on average tonnage of other platforms.				New Fuel Vault Inspection Platform - vcs USING vgtl VALUES AS THEY PERFORMED ESTIMATE
Standard Plant	19783	1123-Q2-23	Q2	Q223	Q223	MEL	DVI B Valve Module		1	Used Q223 Dwgs. for installation hours.				1 - overlooked ledger welding added to VCS 2 - no field fab, 100 hrs deleted
Standard Plant	19784	1124-Q2-33	Q2	Q233	Q233	MEL	DVI A Valve Module		1	Used Q233 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19785	1120-Q2-40	Q2	Q240	Q240	MEL	Normal RHR Piping		1	Install Est. #16-170-01				2 - no field fab, 100 hrs deleted
Standard Plant	19786	1132-Q3-05	Q3	Q305	Q305	MEL	CVS/PXS/WLS Containment Isolation Valve Module		1	Used Q305 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19787	1140-Q4-02	Q4	Q402	Q402	MEL	CCS Distribution Piping Module		1	Used Q402 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19788	1162-Q6-01	Q6	Q601	Q601	MEL	PSADS Piping		1	Used Q601 Dwgs. for installation hours.				2 - no field fab, 100 hrs deleted
Standard Plant	19789	1216-R1-04	R1	R104	R104	MEL	EI. 74'-10" Commodity Module Room 12172 East-West		1	Used Highbridge estimate to assemble module excluding paint. 100% Assembly. Install Est # 16-028-01				NO COMMENT NECESSARY
Standard Plant	19790	1215-R1-06	R1	R106	R106	MEL	Room 12171 Commodity Module		1	Module sent to site approx. 90% assembled. Includes coating hours. Ass'y Est #16-089-01, Install Est. # 16-019-01				NO COMMENT NECESSARY
Standard Plant	19791	1214-R1-51	R1	R151	R151	MEL	EI. 74'-10" Commodity Module Room 12151 North-South		1	Used Highbridge estimate to assemble module excluding paint. 100% Assembly. Install Est # 16-028-01				1 - reduced VGTL Fld Fab by 754hrs as a result of deleting module painting
Standard Plant	19792	1213-R1-55	R1	R155	R155	MEL	EI. 74'-10" Commodity Module Room 12155 North-South		1	Used Est # 16-190-01 with 20% Inefficiency for assembly excludes painting. Ass'y Est #16-089-01				1 - Module is field rebuilt
Standard Plant	19793	1215-R1-61	R1	R161	R161	MEL	EI. 74'-10" Commodity Module Room 12161 North-South		1	Used Highbridge estimate to assemble module excluding paint. 100% Assembly. Install Est # 16-028-01				NO COMMENT NECESSARY
Standard Plant	19794	1225-R2-16	R2	R216	R216	MEL	WLS Valve Module South Wall		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19795	1226-R2-19	R2	R219	R219	MEL	Pipe, Raceway, Duct East-West Module	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19796	1224-R2-51	R2	R251	R251	MEL	EI. 91' Commodity Module Room 12251	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19797	1225-R2-61	R2	R261	R261	MEL	EI. 91' Commodity Module Room 12261	One of the site rebuilds	1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19798	1236-R3-65	R3	R365	R365	MEL	Cask Loading, Fuel Xfer Canal, & Spent Fuel Pool Xfer/Drain		1	Used drawings for all installation connections and removal or component installations.			includes all piping connection between modules 18ea	NO COMMENT NECESSARY
Standard Plant	19799	1245-R4-51	R4	R451	R451	MEL	Corridor 12461 Piping Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19800	1245-R4-74	R4	R474	R474	MEL	Train Bay EI 125' Commodity Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19801	1255-R5-01	R5	R501	R501	MEL	CCS Return Piping		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
Standard Plant	19802	1255-R5-03	R5	R503	R503	MEL	Corridor 12561 Piping/Tray/Duct Module		1	Used drawings for all installation connections and removal or component installations.				NO COMMENT NECESSARY
			SB	SB	SB MS-FW	MEL & Non-MEL	SB MS-FW Penetration - Delivery VS2-1278-SC-MS-01		1	No scope provided unable to develop a cost estimate				
			SP	SP05	SP05	MEL & Non-MEL	SP05-Platform and Ladder - RCDT Rm 82'-10.5"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP06	SP06	MEL & Non-MEL	SP06-Stairway - SG 1 Compt 80' - 83'			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers

Combined Module List_Basis of Estimate.xlsx

Standard Plant MEL Module Data Vogtle Units 3 & 4										VOGTLE Summary		VC Summer Estimate		Module Estimate Reconciliation Comments
SP/SS	MEL ID	Tag #	Mod	MEL Commodity Code	Sub Module Number	Source	Commodity Description	Comments	MEL Quantity Required	Estimate Comments 1	Estimate Comments 2	Comments 1	Comments 2	
			SP	SP07	SP07	MEL & Non-MEL	SP07-Stairway - SG 2 Compt 80' - 83'			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP09	SP09	MEL & Non-MEL	SP09-Platform - Accum Rm A Center 98' - 3"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP10	SP10	MEL & Non-MEL	SP10-Platform - Accum Rm B Center 98' - 3"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP11	SP11	MEL & Non-MEL	SP11-Platform and Ladder - SG 1 Compt 104'-7"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP12	SP12	MEL & Non-MEL	SP12-Platform and Ladder - SG 2 Compt 104'-7"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP13	SP13	MEL & Non-MEL	SP13-Platform and Stairs - Vertical Access East 107'-2"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP14	SP14	MEL & Non-MEL	SP14-Platform and Stairs - Vertical Access West 107'-2"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP15	SP15	MEL & Non-MEL	SP15-Platform and Ladder - SG 2 Compt 116'-4.5"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP16	SP16	MEL & Non-MEL	SP16-Platform and Ladder - SG 1 Compt 116'-4.5"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP17	SP17	MEL & Non-MEL	SP17-Grating Maintenance Floor / Mezzanine 118'-6"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP20	SP20	MEL & Non-MEL	SP20-Platform - IRWST Overlook 138'-11.75"			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP21	SP21	MEL & Non-MEL	SP21-IRWST South Platform and Ladders			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SP	SP21	SP21	MEL & Non-MEL	SP21-IRWST North Platform and Ladders			Allowance based on average tonnage of other platforms.				VGTL did more rogorous estimate VCS will use their numbers
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB Area 7 Stairs 82'-9" to 100'-0"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB Area 2 Stairs 141'-3" to 158'-7"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB 1st Bay Stairs 100'-0" to 117'-6"			Allowance based on average tonnage of other stairs.				
			SS	SS01	SS01	MEL & Non-MEL	SS01-TB 1st Bay Stairs 117'-6" to 148'-10"			Allowance based on average tonnage of other stairs.				
Standard Plant			xA	xAI Panels		MEL & Non-MEL	Air Inlet Panels - Shield Building	CBIS to install not part of Fluor scope	43	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xS	xSB MSFW		MEL	Main Steam Feed Water Panels - Shield Building		1	Used 1208 Series Dwgs. for installation hours.				
Standard Plant			xS	xSB Panels		MEL & Non-MEL	Lower Panels - Shield Building		167		This is a subcontract with CBI Services and doesn't need to be estimated.			0
Standard Plant			xS	xSB Roof Steel		MEL	Roof Steel - Shield Building		1	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xT	xTR Panels		MEL & Non-MEL	Tension Ring Panels - Shield Building		11	Used 1278 Series Dwgs. for fabrication / installation hours.				By CB&I services?
Standard Plant			xx	xxRing Girder		MEL	Pressurizer Ring Girder		1	Used PH01 Series Dwgs. for fabrication / installation hours.				0
				XXX Upender Pit		Non-MEL				No scope provided unable to develop a cost estimate				0
				CH85-B	CH85-B									0
				CH85-B	CH85-B									VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
				CH86-B	CH86-B									VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
				CH86-B	CH86-B									VGTL uses VCS number as VCS performed detailed estimate, VCS reduced mhr/ton as it was overstated at 200mhr/ton
							VCS Unit 2					See IRWST Estimate and Basis		#N/A
							VCS Unit 2					See IRWST Estimate and Basis		#N/A
							VCS Unit 3					See IRWST Estimate and Basis		#N/A
							VCS Unit 3					See IRWST Estimate and Basis		#N/A

Demobilization

VC Summer CONSTRUCTION

This is an OOM (Order Of Magnitude) estimate for the demobilization of the Project.

Basis of Estimate.

1. Field Non-Manual (FNM) Supervision Cost are covered in the staffing curve and additional FNM are not included in this cost.
2. Landscaping, hydro seeding and plants included in Subcontract Budget already and therefore in not included in this estimate.(\$2,177,000).
3. Asphalt paving is in the Subcontract Budget and already included in the estimate. (\$737,000)
4. Site Building demolition is included. This is to match up with the \$1M Fluor is carrying to demo SNC buildings. Assume same is required at VCS.
5. Does not include transportation off-site of equipment.
6. Assume temporary buildings and trailers will be sold with no residual value. Buyer will remove.

Site Restoration Quantities in Site Specific estimate. (Not included in this OOM)

1. Slope Protection Rip-Rap
2. Gravel Surfacing
3. Paving (Asphalt and concrete)
4. Guard Railing
5. Guard posts and bollards

OOM SUMMARY

1. Demolish Buildings	\$ 1,000,000
2. Heavy Lift Derrick	\$ 4,000,000
3. Refurbish Buildings	\$ 800,000
4. Balance of Demob	<u>\$ 3,498,000</u>
Total	\$ 9,298,000

OOM Estimate (from below)= \$8,968,226 (OOM itemized below)

Heavy Lift Derrick

The HLD shall be disassembled and removed from the Site. This is also a prerequisite to loading fuel in Unit-4 and may be required prior to implementing full security measures for Unit-3.

\$4M

Refurbish Buildings

All permanent SNC 300-series buildings that were temporarily used for construction purposes shall be restored to their original "Turnover" conditions (Bldgs 303, 306, 307, etc.). This will occur prior to Project Demobilization.

Painting 100,000 SF x \$3 SF = \$300,000

Carpeting 100,000 SF x \$5 SF = \$500,000

Total OOM for building repair = \$800,000

Balance of demobilization

Work includes:

All temporary modularized facilities shall be removed.

- i. All temporary construction concrete pads within the security fence line shall be removed.
- ii. The concrete batch plant shall be removed.
- iii. All laydown yards shall be cleared.
- iv. The concrete spoil pile(s) shall be pulverized and the resulting aggregate disposed of or turned over to SNC for reuse.
- v. The offsite warehouse in Waynesboro will be evacuated.

- b. Notable cost and schedule items if removal is ultimately required by SNC –
 - i. Building-1xx and -2xx series of temporary structures and pads including:
 - 1. Construction shops and craft change buildings (steel framed and sided)
 - 2. Module Assembly Building/MAB (Bldg-150)
 - 3. Onsite warehouse (Bldg-104)
 - 4. Containment vessel fabrication and assembly pad (Bldg-108)
 - ii. Roller compacted concrete (RCC)/Soil Cemented parking areas and roads
 - 1. Field Non-Manual (FNM) parking lot (NOI-10)
 - 2. Craft parking lot (Bldg-114)
 - 3. All surfaced roads that are not part of the permanent plant facilities
 - 4. If the roller compacted concrete (RCC) parking areas and roads described above have to be restored, they will require extensive heavy equipment activity and modification of existing storm drainage inlets in order to achieve final grade configuration and to accommodate seeding and/or tree planting.
 - iii. Temporary underground construction utilities (mechanical and electrical)
 - 1. Removal of thousands of lineal feet of construction utilities would impact installed permanent electrical grounding grid and in-service permanent mechanical utilities, including Plant Fire Protection.
- c. Final site grading per design within the security fence line and in the outlying NOI's shall be performed to comply with State of Georgia Environmental Protection Division (EPD) storm water and sheet flow drainage regulations.
 - i. Final Finish Site grading shall be performed to design drawing requirements.
 - 1. Includes at least the partial demolition of the HLD ring foundation and possibly the top of the tension tie-column counterweight (extent to be determined through negotiation with SNC).
 - 2. Will include some cut and fill of material, particularly in NOI-5 (Power Block area) and NOI-6 (Cooling Tower area). Some as yet undetermined amount will have to be performed prior to the implementation of full security measures for Unit-3.

Cost estimate for Balance of Demobilization

Assume 6 months demolition

Assume 50 persons (working 50 hour weeks)

Labor

50 hrs x 4.33 wks/month x 6 months = 1,299 Hours per per person

1,299 x 50 people = 64,950 manhours
64,950 mh's x \$31.00 (indirect rate) = \$2,013,450 Labor

Small tools/Equipment (\$7 x 64,950) = \$454,650
Consumables (\$2 x 64,950) = \$129,900
Special Equipment = Allowance of \$200,000 (Concrete pulverizes)
Site Grading Subcontract (100 acres x \$2,000) = \$200,000
Remove gravel parking lots = \$250,000
Disposal Allowance = \$250,000

Total = \$3,498,000

Demobilization

VOGTLE CONSTRUCTION

This is an OOM (Order Of Magnitude) estimate for the demobilization of the Project.

Basis of Estimate.

1. Field Non-Manual (FNM) Supervision Cost are covered in the staffing curve and additional FNM are not included in this cost.
2. Landscaping (hydro seeding and planting) not included in this project. (Site Management note on quantity report). No cost added in the OOM for this activity.
3. Site Building demolition is not in the OOM estimate. Subcontract notes indicate that Fluor is carrying \$1M to demo SNC buildings.
4. Does not include transportation off-site of equipment.
5. Assume temporary buildings and trailers will be sold with no residual value. Buyer will remove.

Site Restoration Quantities in Site Specific estimate. (Not included in this OOM)

1. Slope Protection Rip-Rap
2. Gravel Surfacing
3. Paving (Asphalt and concrete)
4. Guard Railing
5. Guard posts and bollards

OOM SUMMARY

1. Heavy Lift Derrick	\$ 4,000,000
2. Refurbish Buildings	\$ 800,000
3. Balance of Demob	<u>\$ 4,168,226</u>

Total \$ 8,968,226

OOM Estimate (from below)= \$8,968,226 (OOM itemized below)

Heavy Lift Derrick

The HLD shall be disassembled and removed from the Site. This is also a prerequisite to loading fuel in Unit-4 and may be required prior to implementing full security measures for Unit-3.

\$4M

Refurbish Buildings

All permanent SNC 300-series buildings that were temporarily used for construction purposes shall be restored to their original "Turnover" conditions (Bldgs 303, 306, 307, etc.). This will occur prior to Project Demobilization.

Painting 100,000 SF x \$3 SF = \$300,000

Carpeting 100,000 SF x \$5 SF = \$500,000

Total OOM for building repair = \$800,000

Balance of demobilization

Work includes:

All temporary modularized facilities shall be removed.

- i. All temporary construction concrete pads within the security fence line shall be removed.
 - ii. The concrete batch plant shall be removed.
 - iii. All laydown yards shall be cleared.
 - iv. The concrete spoil pile(s) shall be pulverized and the resulting aggregate disposed of or turned over to SNC for reuse.
 - v. The offsite warehouse in Waynesboro will be evacuated.
- b. Notable cost and schedule items if removal is ultimately required by SNC –
- i. Building-1xx and -2xx series of temporary structures and pads including:
 1. Construction shops and craft change buildings (steel framed and sided)

2. Module Assembly Building/MAB (Bldg-150)
 3. Onsite warehouse (Bldg-104)
 4. Containment vessel fabrication and assembly pad (Bldg-108)
- ii. Roller compacted concrete (RCC)/Soil Cemented parking areas and roads
1. Field Non-Manual (FNM) parking lot (NOI-10)
 2. Craft parking lot (Bldg-114)
 3. All surfaced roads that are not part of the permanent plant facilities
 4. If the roller compacted concrete (RCC) parking areas and roads described above have to be restored, they will require extensive heavy equipment activity and modification of existing storm drainage inlets in order to achieve final grade configuration and to accommodate seeding and/or tree planting.
- iii. Temporary underground construction utilities (mechanical and electrical)
1. Removal of thousands of lineal feet of construction utilities would impact installed permanent electrical grounding grid and in-service permanent mechanical utilities, including Plant Fire Protection.
- c. Final site grading per design within the security fence line and in the outlying NOI's shall be performed to comply with State of Georgia Environmental Protection Division (EPD) storm water and sheet flow drainage regulations.
- i. Final Finish Site grading shall be performed to design drawing requirements.
1. Includes at least the partial demolition of the HLD ring foundation and possibly the top of the tension tie-column counterweight (extent to be determined through negotiation with SNC).
 2. Will include some cut and fill of material, particularly in NOI-5 (Power Block area) and NOI-6 (Cooling Tower area). Some as yet undetermined amount will have to be performed prior to the implementation of full security measures for Unit-3.

Cost estimate for Balance of Demobilization

Assume 6 months demolition

Assume 50 persons (working 50 hour weeks)

Labor

50 hrs x 4.33 wks/month x 6 months = 1,299 Hours per person

1,299 x 50 people = 64,950 manhours

64,950 mh's x \$37.47 (indirect rate) = \$2,433,676 Labor

Small tools/Equipment (\$7 x 64,950) = \$454,650

Consumables ($\$2 \times 64,950$) = \$129,900

Special Equipment = Allowance of \$200,000 (Concrete pulverizes)

Site Grading Subcontract (100 acres \times \$2,000) = \$200,000

Remove Roller compacted Concrete \$500,000

Disposal Allowance = \$250,000

Total = \$4,168,226

Vogtle Subcontract List 5-25-16

	Contract Number	Brief Description	Commercial Management		Construction Supervision	
			Floor	WECTEC/ Westinghouse	Floor	WECTEC/ Westinghouse
1	1270	General Maintenance	X		X	
2	1275	Site Prep & Environ. Maint.	X		X	
3	1278	Temporary Phones & IT work for On-Site		X		X
4	1398	Geotechnical	X		X	
5	1399	Excavation NI - misc earth work as needed	X		X	
6	1421	Concrete and Soils Testing	X		X	
7	1422	Backfill around nuclear units	X		X	
8	1428	Personal Access Point		X		X
9	1430	River Water Intake area - Well Monitoring	X		X	
10	1452	Underground HDPE Pipe Installation	X		X	
11	1456	River Water Intake Structure - Civil only	X		X	
12	1459	Crane / Operator Rental - callout	X		X	
13	1460	Maintenance Support	X		X	
14	1464	Durawall	X		X	
15	1466	NDE Testing	X		X	
16	1468	High Voltage Electrical Work on site		X	X	
17	1471	CWT Basin Ringwall	X		X	
18	1472	Waterproof Coating for Nuclear Island	X		X	
19	1477	Productivity Survey Consultant	X		X	
20	1600	Landscaping and Paving	X		X	
21	1608	Electric Heat Tracing & Associated Insulation	X		X	
22	1612	Specialized Field Machining		X		X
23	1613	ISO Phase & Non-Seg Bus Duct	X		X	
24	1614	Transformer Dress-Out	X		X	
25	1615	Lightning Protection	X		X	
26	1618	Coatings	X		X	
27	1619	Receiving Warehouse	X		X	
28	1620	Trash Hauling / Disposal for project	X		X	
29	1622	Shoring & Forming	X		X	
30	1623	Field Craft Productivity - Consultant		X		X
31	1625	HVAC Fab & Installation Unit 3 only	X		X	
32	1626	Main Warehouse	X		X	
33	1627	Field Erected Tanks - EPC (16 tanks)	X		X	
34	1629	Crane / Operator Rental - callout	X		X	
35	1630	Crane / Operator Rental - callout	X		X	
36	1631	Vacuum Trucks - Call out	X		X	
37	1632	Shield Building Erection		X		X
38	1633	Potable Water System - Maintenance	X		X	
39	1636	Cooling Tower Construction	X		X	
40	1637	Small Tools and Consumables Supply	X		X	
41	1801	Concrete Pump Trucks	X		X	
42	1802	Concrete Pump Trucks	X		X	
43	1803	Post Weld Heat Treatment	X		X	
44	1804	Vacuum Trucks - Call out	X		X	
45	1805	Vacuum Trucks - Call out	X		X	
46	1806	Concrete and Soils Testing	X		X	
47	1807	Special High Value tools	X		X	
48	1808	Heavy Haul	X		X	
49	1809	Raw Water Pump Replacement	X		X	

VCS Subcontract List 5-25-16

Contract Number	Brief Description	Commercial Management		Construction Supervision	
		Floor	WECTEC/ Westinghouse	Floor	WECTEC/ Westinghouse
1160	Surveying Services		X	X	
1166	Geologic Mapping		X	X	
1167	Fencing Work	X		X	
1171	Transmission Switchyard (ZBS)		X	X	
1180	Geotechnical Site Investigation Srvcs		X	X	
1182	Hydroseeding; Philen Construction	X		X	
1183	Destructive & Non-Destructive Testing		X	X	
1186	Asphalt Paving Work	X		X	
1189	OWS Water Treatment Facility		X	X	
1190	Temp Retaining Wall	X		X	
1193	Triple Stack Microwave Links	X		X	
1194	Circulating Water System (CWS) Cooling Towers		X	X	
1196	FET Work	X		X	
1198	Heat Tracing Work	X		X	
1203	Fire Protection - Std Plant & Balance of Plant		X	X	
1204	Waste Wtr Sys (WWS)		X	X	
1206	Crane Rental	X		X	
1207	Heavy Haul	X		X	
1208	Ice House Services	X		X	
1209	Access Control Point (ACP)		X	X	
1210	Personnel Entry		X	X	
1211	Services Permanent Building		X	X	
1212	Landscaping - Grass, Shrubs, Trees, etc	X		X	
1546	Metal Siding		X	X	
1547	Above Ground Pipe Heat Trace, Ins, & Lagging	X		X	
1548	HVAC Insulation - Standard Plant	X		X	
1549	Penetration Seals - Fire Stop	X		X	
1550	Active Vehicle Barriers	X		X	
1551	Speciality Coatings	X		X	
1552	Elevators - Traction	X		X	
1554	Fire Alarm Panels	X		X	
1555	Reactor Coolant Loop Piping Installation		X		X
1556	Cooling Tower Piling	X		X	
1557	NDE Service		X	X	
1558	Electrical Labor	X		X	
1607	Security Services III		X		X
1638	WWS Retention Basin Liner	X		X	
1639	Shield Building Erection U2/U3		X		X
1641	Isophase & Non Seg. Bus Duct	X		X	
1642	Material Testing	X		X	
1643	Unit 2 Waterproof Membrane	X		X	
1644	Jack & Bore Work	X		X	
1646	Specialized Pipe Cleaning Services	X		X	
1647	Transformer Dress Out Services		X	X	
1743	Elevators - Rack & Pinion	X		X	
1744	Architectural Finishes - Std Plant Bldgs		X	X	
1745	HVAC Duct -Standard Plant, Unit 2		X	X	
1746	EFS Communication System	X		X	
1747	Membrane Roof Systems - Standard Plant Building		X	X	

Vogtle Subcontract List 5-25-16

	Contract Number	Brief Description	Commercial Management		Construction Supervision	
			Floor	WECTEC/ Westinghouse	Floor	WECTEC/ Westinghouse
50	1810	Chemical Cleaning	X		X	
51	1811	Traction elevators (12 Elevators)	X		X	
52	1812	Fire Protection and Detection	X		X	
53	1813	Permanent Plant Communications		X	X	
54	1814	SWS Chemical Treatment Bldg	X		X	
55	1815	Insulation Unit 3 (conventional)	X		X	
56	1816	HSS Piping Statistical Analysis - Consultant		X		X
57	1817	Metal Siding Pkg. 1	X		X	
58	1818	Membrane Roofing	X		X	
59	1819	Penetration Seals (Blockouts & Barriers)	X		X	
60	1820	Railroad Track installation & maintenance	X		X	
61	1821	Fireproofing (Structural Steel)	X		X	
62	1822	Annulus Seal - Waterproof Sealants	X		X	
63	1824	Permanent Plant Security System		X	X	
64	1837	Bulk Gas Storage	X		X	
65	1866	Construction Air Services - On site	X		X	
66	1875	HVAC Fab & Installation Unit 4 only	X		X	
67	1876	HVAC Unit 3&4 Testing & Balance	X		X	
68	1877	MAB Support & NI-3	X		X	
69	1878	Craft Support for MAB	X		X	
70	1879	Jack & Bore underground drilling	X		X	
71	1880	Wireless Site Network		X		X
72	1882	Machine Welders	X		X	
73	1885	General Construction Services	X		X	
74	1886	Construction Air Services - On site	X		X	
75	1887	Electrical Services Subcontract	X		X	
76	1888	Demo. SNC Bldg/Infrastr. & U/G Perm Works		X	X	
77	1889	Site Prep.		X		X
78	1891	Consulting Service - FE - work package	X		X	
79	1892	ECAR Consulting		X		X
80	1893	Security (SGI) Consulting		X		X
81	2018	CWT Pump Structure - Stabilization	X		X	
82	2092	Diesel Generator Building (1 ea. Unit)	X		X	
83	2093	Weld Test Facility	X		X	
84	2094	General Services & Staffing	X		X	
85	2096	Rack & Pinion Elevators (4 Elevators)	X		X	
86	2097	Unarmed Security Guards		X		X
87	2098	Safeguards Security Wall	X		X	
88	2099	Plant Mapping / Technical Services	X		X	
89	2100	CV Ring HVAC Duct Work Installation		X		X
90	2101	Precision Measurement	X		X	
91	2103	ECAR Consulting		X		X
92	2105	Unit 3 Concrete and Rebar Installation	X		X	
93	2110	Shield Building Consultant		X		X
94	2111	ECP Consulting		X		X
95	2113	Above Ground SES / EFS / ZFS Installation		X	X	
96	2115	Welder Pkg 3	X		X	
97	2119	ECAR Program Consulting		X		X
98	2120	Construction Management, Etc.		X		X

VCS Subcontract List 5-25-16

Contract Number	Brief Description	Commercial Management		Construction Supervision	
		Floor	WECTEC/ Westinghouse	Floor	WECTEC/ Westinghouse
1763	Overhead Crane Main.	X		X	
1765	U2/U3 Field Erected Tanks - Carbon & Stainless Construction	X		X	
1766	Welding Services - General Site	X		X	
1776	Miscellaneous Civil Works - Final Site Grade & Other	X		X	
1777	Masonry Services	X		X	
1779	HDPE Pipe Installation	X		X	
1781	High Mast Security Lighting (Plant Area Lighting)	X		X	
1782	Concrete Pumping Services	X		X	
1783	Bulk Gas Storage System	X		X	
1784	U2/U3 Modular Srvc Wtr (SWS) Chemical Treatment Bldgs		X	X	
1785	Railroad Service	X		X	
1786	Remove and Replace MAB Siding and Columns	X		X	
1787	Permanent Security Fencing	X		X	
1788	MSE Wall Work	X		X	
1793	General Vacuum Services II	X		X	
1794	Modular Insulation	X		X	
1795	Pre-Heat/Post Weld Heat Treatment	X		X	
2125	Durawall Fire Protection	X		X	
2126	Passivation Duplex SS Modules	X		X	
2127	Lightning Protection	X		X	
2128	Steel Fireproofing	X		X	
2129	Permanent Warehouse		X	X	
2231	General Site Services	X		X	
2232	NI Fire Protection - Scope Seismic and QA related		X	X	
2234	Annulus Seal Design	X		X	
2235	Module Fitup and Welding Module Fab Wrk Units 2 & 3		X		X
2236	Drilled Piers	X		X	
2237	Vacuum Services - III	X		X	
2240	Electricians	X		X	
2241	Hydraulic Lifts	X		X	
2242	Fire Protection Inspections & Maintenance	X		X	
2243	Precision Measurements - Shield Building		X	X	
2244	Per Diem Audit		X	X	
2245	Shield Wall Tension Ring		X		X
2246	Temporary Power & Light (TPL) Electrical Services	X		X	
2250	Containment Vessel Temporary Attachments		X		X
2312	Ph 14 Laydown / Site Grading	X		X	
2313	Concrete Demolition	X		X	
2315	Coatings II	X		X	
2318	Fiber Installation & Splicing (Onsite)	X		X	
2319	Machining Services		X		X
2320	Security Services		X		X
2366	Condenser Waterbox Liners		X	X	
2368	Third Party Inspection Services		X	X	
2369	Materials Storage Building	X		X	
2370	Recycling		X	X	
2371	Rebar Installation	X		X	
2372	Tank Inspections		X		X
2373	Blasting Services	X		X	

Vogtle Subcontract List 5-25-16

	Contract Number	Brief Description	Commercial Management		Construction Supervision	
			Fluor	WECTEC/ Westinghouse	Fluor	WECTEC/ Westinghouse
99	2377	CWT Concrete placement - RCC	X		X	
100	2380	Communication Support (Bldg 305)		X		X
101	2378	Coatings 2nd Pkg	X		X	
102	2166	Turbine Center-Line Work - Toshiba		X		X
103	TBD	RWI Structure Work - Phase III	X		X	
104	TBD	Insulation Unit 4 (conventional)	X		X	
105	TBD	Above Ground Electrical Installation Unit #3 and #4	X		X	
106	TBD	Metal Siding Pkg. 2	X		X	
107	2379	NDE - Pkg 2	X		X	
108	TBD	Earthwork & Erosion Control	X		X	
109	TBD	Spoils Maintenance & Concrete Crushing	X		X	
110	TBD	Surveying	X		X	
111	TBD	Yard Area Pools/Liners	X		X	
112	TBD	Architectural Finishes	X		X	
113	TBD	Battery Testing	X		X	
114	TBD	RCL - NSSS Work		X		X
115	TBD	Shield Building Tension Ring		X	X	
116	TBD	Shield Building Tank		X	X	
117	TBD	Personal Access Point (Bldg 304 Subcontract 2)		X	X	
118	TBD	Demo (No Mans Land) Work		X	X	
119	TBD	Final Paving	X		X	

VCS Subcontract List 5-25-16

Contract Number	Brief Description	Commercial Management		Construction Supervision	
		Fluor	WECTEC/ Westinghouse	Fluor	WECTEC/ Westinghouse
2374	Fiber Services (Offsite)	X		X	
2432	Turbine Generator Center Line Erection		X		X
2433	Concrete Repair	X		X	
2434	Remote Cleaning and Inspection Services	X		X	
2435	Schweitzer Relays, CWS PDCs	X		X	
2536	Battery Charger Testing, CWS PDCs	X		X	

VC Summer Subcontractors List								
Comm. Mgnt	Dir/Ind	Contract Number	Description	WECTEC Provided EAC	Fluor Contracts Best Fcst at EAC	Fluor Contracts Best Fcst ETC (EAC - Vouchered)	Inserted into Fluor's Estimate	Account Inserted to;
Fluor	Direct	1182	Hydroseeding	\$2,059,850	\$2,080,132	\$232,985	Yes	00
		1186	Asphalt Paving Work	\$1,112,736	\$2,931,630	\$2,555,632	Yes	00
		1193	Triple Stack Microwave Links	\$557,252	\$4,250,000	\$4,250,000	Yes	00
		1196	Field Erected Tanks	\$3,486,036	\$3,500,000	\$13,964	Yes	40
		1198	Heat Tracing	\$380,113		\$275,150	Yes	60
		1212	Landscaping - Grass, Shrubs, Trees, Etc	\$2,176,950	\$2,176,950	\$2,176,950	Yes	00
		1309	Cathodic Protection	\$0	\$0	No Information Provided, Craft Lbr Incl'd as Self Perfo		
		1547	Above Ground Pipe Heat Trace, Ins, & Lagging	\$27,712,465	\$27,000,000	\$27,000,000	Yes	60
		1548	HVAC Insulation	\$3,655,295	\$20,000,000	\$20,000,000	Yes	82
		1549	Penetrations - Fire Stop	\$3,859,827	\$23,520,000	\$23,520,000	Yes	30
		1550	Active Vehicle Barriers	\$20,388,397	\$20,388,396	\$20,388,396	Yes	40
		1551	Specialty Coatings	\$30,625,362		\$30,625,362	Yes	81
		1552	Elevators - Traction	\$3,295,941	\$6,500,000	\$6,500,000	Yes	40
		1554	Fire Alarm Panels	\$721,722		\$123,759	Yes	60
		1556	Cooling Tower Pilings	\$7,650,837	\$7,635,450	\$221,125	Yes	00
		1588	Electrical Labor	\$0	\$7,635,450	\$2,960,418	Yes	60.203
		1638	WWS Retention Basin Liner	\$1,592,523		\$1,091,910	Yes	00
		1641	Isophase & Non Seg Bus Duct	\$20,979,471	\$18,000,000	\$18,000,000	Yes	60.201
		1643	Unit 2 Waterproofing	\$2,475,728	\$1,540,588	\$575,707	Yes	10
		1644	Jack and Bore Work	\$0	\$15,000	\$15,000	Yes	00
		1646	Specialized Pipe Cleaning	\$0	\$1,500,000	\$1,500,000	Yes	50
		1743	Elevators - Rack & Pinion	\$712,639	\$4,000,000	\$4,000,000	Yes	40
		1744	Architectural Finishes	\$14,086,170	\$14,086,170	\$14,086,170	Yes	30
		1746	EFS Communications System	\$0	\$5,325,000	\$5,325,000	Yes	60.202
		1765	Construction - U2/U3 Field Erected Tanks	\$9,088,496	\$38,000,000	\$38,000,000	Yes	40
		1766	Welding Services (119,600 Welder Hours)	\$500,000	\$17,608,513	\$17,608,513	Yes	50
		1776	Miscellaneous Civil Works - Final Site Grade & Other	\$0	\$1,000,000	\$1,000,000	Yes	00
		1777	Masonry Services	\$86,696	\$0		No	30
		1779	HDPE Pipe Installation; C A Murren & Sons	\$7,581,172	\$9,577,030	\$7,148,203	Yes	50
		1781	High Mast Security Lighting (Plant Area Lighting)		\$2,800,000	\$2,800,000	Yes	60
		1783	Bulk Gas Storage System	\$403,696	\$7,500,000	\$7,500,000	Yes	30
		1786	Remove and Replace MAB Siding and Columns	\$1,176,301	\$4,373,156	\$3,995,158	Yes	41
		1787	Permanent Security Fencing		\$2,500,000	\$2,500,000	Yes	00
		1788	MSE Wall Work	\$3,390,000	\$2,913,500	\$2,913,500	Yes	30
		1794	Modular Insulation	\$280,380	\$175,000	\$0	No/Excl'd	Excl'd
		2125	Durawall Fire Protection		\$4,500,000	\$4,500,000	Yes	30
		2126	Passivation Duplex SS Modules		\$1,250,000	\$1,250,000	Yes	41
		2127	Lightning Protection		\$750,000	\$750,000	Yes	60.207
		2128	Steel Fireproofing		\$3,500,000	\$3,500,000	Yes	30
		2234	Annulus Seal Design		\$2,000,000	\$2,000,000	Yes	30
		2236	Drilled Piers	\$486,445	\$757,222	\$757,222	Yes	00
		2240	Electricians - Staff Augmentation		\$0			
		2241	Floor Module Assembly - Hydraulic Lifts to Install	\$178,928	\$29,475,000	\$29,475,000	Yes	40
		2315	Coatings II		\$25,000,000	\$25,000,000	Yes	81
		2318	Fiber Installation & Splicing (Onsite)	\$200,000	\$200,000	\$85,923	Yes	60.206
		2369	Materials Storage Building #338		\$0		Yes	30
		2373	Blasting Services	\$275,000	\$275,000	\$68,617	Yes	00
		2433	Concrete Repair	\$300,000	\$198,421	\$198,421	Yes	10
		2435	Schweitzer Relays, CWS PDCs		\$2,200,000	\$2,200,000	Yes	60.203
		2436	Battery Charger Testing, CWS PDCs		\$900,000	\$900,000	Yes	60
		2437	HVAC - Unit 3	\$44,988,721	\$0	\$0	Excl'd	
		2442	Pipe Flushing Services		\$10,000,000	\$10,000,000	Yes	50
		2501	First Bay Concrete Repair		\$2,000,000	\$2,000,000	Yes	10
		TBD	Diesel Generator testing - S/U		\$531,600	\$531,600	Yes	60
			Hydraulic Lifts		\$11,256,000	\$11,256,000	Yes	40
			MOV/AOV Valve Actuator Services - S/U		\$1,500,000	\$1,500,000	Yes	50
			VFD Testing - S/U		\$58,608	\$58,608	Yes	60
		Direct Total		\$216,465,149	\$354,883,816	\$364,934,293		
	IND	1167	Fencing Work	\$151,742	\$1,363,481	\$1,252,350	Yes	91-61
		1206	Crane Rental	\$157,187	\$150,000	\$150,000	Yes	96-10
		1207	Heavy Haul	\$8,125,895		\$6,779,452	Yes	95-13
		1190	Temporary Retainng Wall	\$9,271,282	\$9,070,644	\$114,794	Yes	91-60
		1208	Ice House Services	\$0	\$504,632	\$279,632	Yes	92-12
		1558	Electrical Labor (temporary Power)	\$3,433,084	\$5,000,000	\$2,960,418	Yes	91-41
		1642	Material Testing	\$2,641,945	\$18,596,000	\$16,189,343	Yes	92-17
		1763	Overhead Crane Maintenance	\$117,080	\$100,000	\$65,923	Yes	95-14

VC Summer Subcontractors List

Comm. Mgmt	Dir/Ind	Contract Number	Description	WECTEC Provided EAC	Fluor Contracts Best Fcst at EAC	Fluor Contracts Best Fcst ETC (EAC - Vouchered)	Inserted into Fluor's Estimate	Account Inserted to;
		1782	Concrete Pumping Services	\$1,440,806	\$1,301,233	\$527,000	Yes	95-14
		1785	Railroad Service	\$100,922	\$100,000	\$163,000	Yes	95-10
		1793	General Vacuum Services II	\$4,141,667	\$4,050,000	\$1,348,278	Yes	92-18
		1795	Pre-Heat/Post Weld Heat Treatment		\$11,000,000	\$11,000,000	Yes	92-17
		2231	General Site Services; Thompson Turner Construction	\$2,702,315	\$2,972,618	\$2,134,776	Yes	92-11
		2237	Vacuum Services - III	\$2,958,333	\$14,705,408	\$12,067,533	Yes	92-18
		2242	Fire Protection Inspections & Maintenance		\$0	\$0	Yes	92-17
		2246	Temporary Power & Light (TPL) Electrical Services		\$0	\$0	Yes	91-44
		2312	Ph 14 Laydown / Site Grading		\$0	\$0	Yes	91-66
		2313	Concrete Demolition	\$50,000	\$140,000	\$115,816	Yes	91-18
		2371	Rebar Installation		\$0	\$0	Yes	91-60
		2374	Fiber Services (Offsite)		\$0	\$0	Yes	91-46
		2434	Remote Cleaning and Inspection Services	\$800,000	\$2,528,442	\$1,728,442	Yes	92-17
		2494	Construction		\$0	\$0	No	
		2495	Construction		\$0	\$0	No	
		TBD	Crane Testing Services - S/U		\$1,800,000	\$1,800,000	Yes	95-14
		(blank)	Augmented Subcontract Labor Training		\$0	\$2,724,993	Yes	92-12
			Bldg 302 10 Plex		\$0	\$400,000	Yes	91-14
			Containmen Vessel Rodational Dome		\$0	\$140,000	Yes	91-14
			FAA 12B Expand Parking Lot 3		\$0	\$1,040,000	Yes	91-14
		IND Total		\$36,092,258	\$73,382,458	\$62,981,750		

Vogle Subcontractors List								
Comm. Mgmt	Dir/Ind	Contract Number	Description	WECTEC Provided EAC	Fluor Contracts Best Fcst at EAC	Fluor Contracts Best Fcst ETC (EAC - Vouchered)	Inserted into Fluor's Estimate	Account Inserted to;
Fluor	Direct	1399	Excavation NI - misc earth work as needed	\$119,114,491	\$123,352,767	\$23,774,711	Yes	00
		1422	Non-Union - Backfill around nuclear units	\$63,855,430	\$64,397,423	\$2,228,834	Yes	00
		1430	River Water Intake area - Well Monitoring	\$19,386,814	\$20,113,512	\$3,202,471	Yes	00
		1452	Underground HDPE Pipe Installation	\$23,843,884	\$21,033,752	\$3,283,864	Yes	50-211
		1456	River Water Intake Structure - Civil only	\$28,378,448	\$30,223,827	\$27,633,052	Yes	00
		1460	Building 303 - Maintenance Support	\$15,224,317	\$15,224,316	\$120,926	Yes	30
		1464	Durawall	\$3,000,000	\$3,000,000	\$3,000,000	Yes	30
		1471	CWT Basin Ringwall	\$18,624,366	\$18,624,366	\$740,080	Yes	10
		1472	Waterproof Coating for Nuclear Island	\$9,800,000	\$9,583,769	\$785,322	Yes	10
		1600	Landscaping & Paving	\$12,173,016	\$1,500,000	\$1,500,000	Yes	00
		1608	Electric Heat Tracing & Associated Insulation	\$1,227,826	\$1,500,000	\$1,500,000	Yes	60.208
		1613	ISO Phase & Non-Seg Bus Duct	\$33,057,611	\$17,392,820	\$17,392,820	Yes	60.201
		1614	Transformer Dress-Out	\$6,200,000	\$6,325,300	\$6,325,300	Yes	60.203
		1615	Lightning Protection	\$750,000	\$750,000	\$750,000	Yes	60.207
		1618	Coatings	\$86,892,047	\$85,202,047	\$58,859,499	Yes	81
		1619	Building 306 - Receiving Warehouse	\$5,772,040	\$5,772,039	\$133,855	Yes	30
		1622	Form Work	\$21,347,010	\$30,807,907	\$30,807,907	Yes	10
		1625	HVAC Fab & Installation Unit #3	\$53,234,950	\$53,464,287	\$0	No	Excluded
		1626	Building 307 - Main Warehouse	\$12,073,744	\$12,073,744	\$1,188,645	Yes	30
		1627	Field Erected Tanks - EPC (12 tanks)	\$16,702,057	\$17,245,536	\$12,647,278	Yes	40
		1636	Cooling Tower Construction	\$128,450,561	\$106,955,094	\$33,792,877	Yes	40
		1809	Raw Water Pump Replacement	\$0	\$0	\$0	No	Excluded
		1810	Chemical Cleaning	\$0	\$0	\$0	No	Excluded
		1811	Traction elevators (12 Elevators)		\$6,500,000	\$6,500,000	Yes	40
		1812	Fire Protection and Detection		\$57,000,000	\$57,000,000	Yes	60
		1814	SWS Chemical Treatment Bldg		\$8,500,000	\$8,500,000	Yes	30
		1815	Insulation Unit 3 (conventional)		\$11,000,000	\$11,000,000	Yes	82
		1817	Metal Siding Pkg. 1 (Unit #3)		\$24,800,000	\$24,800,000	Yes	30
		1818	Membrane Roofing		\$10,000,000	\$10,000,000	Yes	30
		1819	Penetration Seals (Blockouts & Barriers)		\$25,000,000	\$25,000,000	Yes	30
		1820	Railroad Track installation & maintenance	\$408,615	\$408,615	\$321,451	Yes	00
		1821	Fireproofing (Structural Steel)	\$1,000,000	\$1,000,000	\$1,000,000	Yes	30
		1822	Annulus Seal - Waterproof Sealants	\$2,000,000	\$2,000,000	\$2,000,000	Yes	30
		1837	Bulk Gas Storage Facility	\$8,600,000	\$8,600,000	\$8,600,000	Yes	30
		1875	HVAC Fab & Installation Unit #4	\$37,000,000	\$37,000,000	\$0	No	Excluded
		1876	HVAC Unit 3&4 Testing & Balance	\$10,000,000	\$10,000,000	\$0	No	Excluded
		1877	MAB Support & NI-3	\$217,182,398	\$243,980,643	\$115,038,934	Yes	41
		1878	Craft Support for MAB	\$103,324,613	\$133,539,443	\$72,259,418	Yes	41
		1879	Jack & Bore underground drilling	\$2,744,906	\$2,744,906	\$21,320	Yes	00
		1882	Machine Welders	\$2,208,750	\$2,208,750	\$2,208,750	Yes	50.203
		1887	Electrical Services Subcontract	\$0	\$0	\$0	No	Excluded
		2018	CWT Intake Structure - Stabilization	\$5,000,000	\$5,000,000	\$5,000,000	Yes	00
		2092	Diesel Generator Bldg U3 & U4	\$3,000,000	\$3,000,000	\$3,000,000	Yes	30
		2378	Coatings - Pkg 2	\$20,000,000	\$15,000,000	\$15,000,000	Yes	81
	TBD		Above Ground Electrical Installation	\$10,000,000	\$10,000,000	\$10,000,000	Yes	60
			Architechural Finishes	\$250,000	\$250,000	\$250,000	Yes	30
			Final Paving	\$3,000,000	\$4,000,000	\$4,000,000	Yes	00
			Insulation Unit 4 (conventional)	\$10,000,000	\$8,000,000	\$8,000,000	Yes	82
			Metal Siding Pkg. 2 (Unit #4)	\$11,000,000	\$10,000,000	\$10,000,000	Yes	30
			RWI Structure Work - Phase III	\$3,000,000	\$3,000,000	\$3,000,000	Yes	40
			Yard Area Pools/Lining	\$500,000	\$500,000	\$500,000	Yes	40
	Direct Total			\$1,129,327,894	\$1,287,574,863	\$632,667,314		
	Indirect	1270	Non-Union - General Maintenance	\$35,630,177	\$38,970,629	\$23,909,688	Yes	92-12
		1275	Non-Union - Site Prep & Environ. Maint.	\$54,872,678	\$51,448,277	\$5,162,269	Yes	91-62
		1398	Geotechnical	\$965,226	\$965,225	\$20,785	Yes	92-17
		1421	Concrete and Soils Testing	\$56,369,171	\$63,439,241	\$26,931,599	Yes	92-17
		1459	Crane / Operator Rental - callout	\$100,000	\$100,000	\$100,000	Yes	95-10
		1466	NDE Testing	\$40,754,374	\$37,086,086	\$21,424,858	Yes	92-17
		1477	Productivity Survey Consultant	\$284,785	\$284,785	\$3,123	Yes	92-17
		1620	Trash Hauling / Disposal for project	\$4,091,667	\$4,204,003	\$2,483,846	Yes	92-12
		1629	Crane / Operator Rental - callout	\$100,000	\$100,000	\$100,000	Yes	95-10
		1630	Crane / Operator Rental - callout	\$100,000	\$100,000	\$68,161	Yes	95-10
		1631	Vacuum Trucks - Call out	\$24,975,410	\$25,497,371	\$20,390,209	Yes	92-18
		1633	Potable Water System - Maintenance	\$300,140	\$295,840	\$177,505	Yes	92-12
		1637	Small Tools and Consumables Supply	\$56,120,519	\$75,247,575	\$69,790,858	Yes	95-20
		1801	Concrete Pump Trucks	\$50,000	\$50,000	\$41,050	Yes	95-10
		1802	Concrete Pump Trucks	\$5,515,219	\$5,490,450	\$3,325,915	Yes	95-10
		1803	Post Weld Heat Treatment	\$10,684,401	\$10,539,108	\$9,318,368	Yes	92-15
		1804	Vacuum Trucks - Call out	\$32,837,000	\$32,837,000	\$24,955,620	Yes	92-18
		1805	Vacuum Trucks - Call out	\$21,270,403	\$26,209,093	\$15,875,578	Yes	92-18
		1806	Concrete and Soils Testing	\$5,938,009	\$6,127,956	\$2,758,892	Yes	92-17
		1807	Special High Value tools	\$26,437,222	\$36,572,029	\$21,445,446	Yes	95-20
		1808	Heavy Haul	\$11,675,795	\$15,255,071	\$7,086,584	Yes	95-13
		1866	Construction Air Services - On site		\$3,500,000	\$3,500,000	Yes	95-20

Vogle Subcontractors List								
Comm. Mgt	Dir/Ind	Contract Number	Description	WECTEC Provided EAC	Fluor Contracts Best Fcst at EAC	Fluor Contracts Best Fcst ETC (EAC - Vouchered)	Inserted into Fluor's Estimate	Account Inserted to;
		1885	Union - General Construction Services	\$400,000	\$0	\$400,000	Yes	92-14
		1891	Consulting Service - FE - work package	\$623,426	\$623,426	\$623,426	Yes	92-17
		2093	Weld Test Facility	\$2,064,540	\$2,064,539	\$2,064,539	Yes	92-11
		2094	General Services & Staffing	\$2,600,000	\$3,600,000	\$1,498,009	Yes	93-30
		2099	Plant Mapping / Technical Services	\$810,060	\$810,060	\$340,772	Yes	92-12
		2101	Precision Measurement	\$1,045,780	\$1,045,780	\$172,741	Yes	92-17
		2102	Scaffolding Mgmt / System		\$0	\$0	Yes	92-17
		TBD	Battery Testing	\$200,000	\$200,000	\$200,000	Yes	92-15
			Traffic Singage - Upgrade to LED Lights			\$600	Yes	92-17
			Concrete Spoils Crushing	\$1,500,000	\$1,800,000	\$1,800,000	Yes	92-12
			Earth Work & Ersosion Control	\$5,000,000	\$5,000,000	\$5,000,000	Yes	91-62
			NDE - Pkg 2	\$13,000,000	\$20,000,000	\$20,000,000	Yes	92-17
			Surveying	\$2,000,000	\$2,000,000	\$2,000,000	Yes	92-12
			Containment Vessel Rotational Dome Cover	\$0	\$140,000	\$140,000	Yes	91-14
			Indirect Total	\$418,316,002	\$471,603,544	\$293,110,441		
			Fluor Total	\$1,547,643,896	\$1,759,178,407	\$925,777,755		

ETC Cost Summary - VC Summer

Client: Westinghouse Electric Company
 Project: VC Summer Nuclear Power Station - Units 2 & 3
 Location: Jenkensville, SC
 Project Description: Estimate to Complete Units 2 & 3



Estimate Date: 10/21/2016
 File Print Date: 10/21/2016
 Rev: Rev 0
 Resp Estimator: Fluor

Acct	Description	Wage Rate	Unit Rate \$\$/Unit - UNO	Est Qty	Unit	Direct Hire Labor		Contracts		Material Costs (\$US)	Other Costs		Total (\$US)
						Site Hours	(\$US)	S/C Hrs	(\$US)		Unit Rate	(\$US)	
00	: Site Prep, Roads, Excav, & Piling	\$ 20.22	\$ 46,251,381	1	LS	1,552,025	\$ 31,381,940		\$ 14,869,441	\$ -			\$ 46,251,381
10.000	: Concrete	\$ 27.32	20.7 /Mhrs/Cy	235,741	CY	4,878,978	\$ 133,293,681		\$ 2,774,128	\$ -			\$ 136,067,809
10.101	: Concrete - Other	\$ 27.32	4.36 /Mhrs/Cy	1	LS	1,028,965	\$ 28,111,315		\$ -	\$ -			\$ 28,111,315
20.000	: Steel	\$ 29.01	76.01 /Mhrs/Unit	30,182	TN	2,294,063	\$ 66,550,760		\$ -	\$ -			\$ 66,550,760
30.000	: Buildings	\$ 26.46	\$ 59,441,372	1	LS	53,730	\$ 1,421,702		\$ 58,019,670	\$ -			\$ 59,441,372
30.101	: HVAC Excluded - All HVAC Work is WEC Commercial Managed												\$ -
40.000	: Equipment	\$ 27.93	\$ 176,972,376	1	LS	2,410,992	\$ 67,339,015		\$ 109,633,361	\$ -			\$ 176,972,376
41.000	: Modules	\$ 28.61	6,037 /Mhrs/Unit	497	EA	3,000,582	\$ 85,846,648		\$ 5,245,158	\$ -			\$ 91,091,806
50.000	: Piping	\$ 26.23	5.16 /Mhrs/Unit	495,860	LF	2,559,205	\$ 67,127,936		\$ 10,000,000	\$ -			\$ 77,127,936
50.201	: UG Pipe - Circ Water	\$ 26.23	28.64 /Mhrs/Unit	5,487	LF	157,155	\$ 4,122,178		\$ -	\$ -			\$ 4,122,178
50.202	: Pipe - Valves	\$ 26.23	8.02 /Mhrs/Unit	19,526	EA	156,604	\$ 4,107,714		\$ 1,500,000	\$ -			\$ 5,607,714
50.203	: Pipe - Othe NOTE: Average Wage Rate Reduced due to Seconded Lab	\$ 25.37	\$ 111,557,073.50	1	LS	3,644,135	\$ 92,448,560		\$ 19,108,513	\$ -			\$ 111,557,073
50.211	: Pipe (UG)	\$ 26.23	4.92 /Mhrs/Unit	163,111	LF	802,191	\$ 21,041,461		\$ 7,148,203	\$ -			\$ 28,189,664
50.212	: Pipe (Non-Alloy AG)	\$ 26.23	2.81 /Mhrs/Unit	5,861	LF	16,498	\$ 432,750		\$ -	\$ -			\$ 432,750
50.213	: Pipe (High Energy Alloy AG)	\$ 26.23	10.59 /Mhrs/Unit	7,789	LF	82,484	\$ 2,163,559		\$ -	\$ -			\$ 2,163,559
60.000	: Electrical	\$ 28.72	\$ 7,172,888	1	LS	152,259	\$ 4,372,888		\$ 2,800,000	\$ -			\$ 7,172,888
60.201	: Switchyard &/or Transmission	\$ -	\$ 18,000,000	1	LS	0	\$ -		\$ 18,000,000	\$ -			\$ 18,000,000
60.202	: Electrical (Auxiliary Systems)	\$ 28.72	\$ 6,928,641.2	1	LS	51,528	\$ 1,479,882		\$ 5,448,759	\$ -			\$ 6,928,641
60.203	: Electrical Equipment	\$ 28.72	\$ 51,701,147	1	LS	618,920	\$ 17,775,371		\$ 33,925,776	\$ -			\$ 51,701,147
60.204	: Cable Tray (Excl. Supports, covers, etc.)	\$ 28.72	1.17 /Mhrs/Unit	189,189	LF	221,122	\$ 6,350,624		\$ -	\$ -			\$ 6,350,624
60.205	: Conduit (Excl. Supports/clamps, etc)	\$ 28.72	.73 /Mhrs/Unit	1,541,165	LF	1,117,698	\$ 32,100,273		\$ -	\$ -			\$ 32,100,273
60.206	: Wire & Cable (Incl Terms)	\$ 28.72	.11 /Mhrs/Unit	10,059,515	LF	1,136,569	\$ 32,642,263		\$ 85,923	\$ -			\$ 32,728,186
60.207	: Grounding	\$ 28.72	.47 /Mhrs/Unit	800,744	LF	378,596	\$ 10,873,284		\$ 750,000	\$ -			\$ 11,623,284
60.208	: Other	\$ 28.72	\$ 91,591,927	1	LS	3,189,134	\$ 91,591,927		\$ -	\$ -			\$ 91,591,927
70.000	: Control Systems	\$ 25.89	\$ 3,350,790	1	LS	129,424	\$ 3,350,790		\$ -	\$ -			\$ 3,350,790
70.101	: Instruments	\$ 25.89	25.93 /Mhrs/Unit	4,454	EA	115,472	\$ 2,989,564		\$ -	\$ -			\$ 2,989,564
70.301	: Instrument Bulks	\$ 25.89	\$ 5,091,238	1	LS	196,649	\$ 5,091,238		\$ -	\$ -			\$ 5,091,238
81.000	: Paint	\$ -	. /Mhrs/Unit	5,168,619	SFCA	0	\$ -		\$ 55,625,362	\$ -			\$ 55,625,362
82.000	: Insulation	\$ -	. /Mhrs/Unit	174,777	LF	0	\$ -		\$ 20,000,000	\$ -			\$ 20,000,000
83.000	: Scaffolding (Included with Indirects)	\$ -	0.00%	0	hrs	0	\$ -		\$ -	\$ -			\$ -
	: Premium Paid over Day S.T. (\$1.00 for 2nd Shift + OT)	\$ 3.96	14.58%		Oth		\$ 118,703,362						\$ 118,703,362
	: Subtotal: Direct Field Costs	\$ 27.18				29,944,977	\$ 932,710,687	0	\$ 364,934,294		\$ -		\$ 1,297,644,981

ETC Cost Summary - VC Summer

Client: Westinghouse Electric Company
 Project: VC Summer Nuclear Power Station - Units 2 & 3
 Location: Jenkensville, SC
 Project Description: Estimate to Complete Units 2 & 3



Estimate Date: 10/21/2016
 File Print Date: 10/21/2016
 Rev: Rev 0
 Resp Estimator: Fluor

Acct	Description	Wage Rate	Unit Rate \$\$/Unit - UNO	Est Qty	Unit	Direct Hire Labor		Contracts		Material Costs (\$US)	Other Costs		Total (\$US)
						Site Hours	(\$US)	S/C Hrs	(\$US)		Unit Rate	(\$US)	
: Indirect Field Costs													
91-00	: Temp Construction Buildings & Facilities	\$ 26.24				2,204,831	\$57,852,000		\$6,023,378	\$44,598,500		\$ 9,298,000	\$ 117,771,878
92-00	: Construction Services	\$ 32.53				11,971,085	\$389,415,762		\$47,472,997	\$123,917,922		\$ 18,480,450	\$ 579,287,131
93-00	: Field Staff (incl. policy costs and overhead)	\$ 74.38	Base Wages, B&B,, Overheads			13,847,143	\$ 1,030,015,120					\$ 217,788,000	\$ 1,247,803,120
94-00	: Craft Payroll Burdens & Benefits + Per Diem					0	\$16,178,886		\$0	\$0		\$ 828,417,250	\$ 844,596,136
95-00	: Constr Equipment & Cranes & Heavy Haul	\$ 27.12				4,906,035	\$133,039,500		\$2,705,923	\$186,362,400		\$ 66,317,971	\$ 388,425,794
95-00	: Constr Small Tools, Consumables	\$ -				0	\$0		\$6,779,452	\$10,063,300		\$ 3,025,367	\$ 19,868,119
96-00	: Insurance, Permits, Sales Tax, Misc, etc.	\$ -				0	\$0		\$0	\$0		\$ -	\$ -
96-00	: Misc. Field Indirects					0	\$0		\$0	\$0		\$ 357,300	\$ 357,300
: Subtotal: Indirect Field Costs						32,929,094	\$ 1,626,501,268		\$ 62,981,750			\$ 1,143,684,338	\$ 3,198,109,478
: Construction / Pre-Operational Testing & Commissioning													
	: Construction Testing(Phase 1) - Craft	\$ -	Included within Unit Man-Hour Rates in Directs			0	\$ -		\$ -			\$ -	\$ -
	: Construction Testing(Phase 1) - Staff & Other Costs	\$ -	Included within Acct. 93-00 Above			0	\$ -		\$ -			\$ -	\$ -
	: Const Testing (Phase 2) Pre-Op Testing(Phase 3) - Craft	\$ 41.14	Average All-in Labor Rate			413,000	\$ 16,989,384		\$ -		\$.91 /Mhr	\$ 375,816	\$ 17,365,200
	: Const Testing (Phase 2) Pre-Op Testing(Phase 3) - Staff & Other C	\$ 112.50	All in Labor Rate Except Policy & Per Diem)			88,365	\$ 9,941,003		\$ -		\$55.61 /Mhr	\$ 4,914,157	\$ 14,855,160
	: Start Up Testing / Commissioning - Craft Excluded	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: Start Up Testing / Commissioning - Staff & Other Excluded	\$ -				0	\$ -		\$ -			\$ -	Excluded
: Subtotal: Constr. / Pre-Operational Testing						501,365	\$ 26,930,387	0	\$ -			\$ 5,289,973.00	\$ 32,220,360
: Home Office Costs													
	: Home Office Support	\$ -				0	\$ -		\$ -			\$ -	\$ -
	: IPMO Support (50% Allocation to Each Site)	\$ 140.31	Direct Labor - Base & Burdens			72,435	\$ 10,163,100		\$ -		\$13.44 /Mhr	\$ 973,526	\$ 11,136,626
	: Fluor Engineering	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: DEC Engineering	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: Bond / Bank Guarantee / LOC	\$ -				0	\$ -		\$ -			\$ -	Excluded
: Subtotal: Home Office Costs						72,435	\$ 10,163,100		\$ -			\$ 973,526	\$ 11,136,626
: Total: Field & Home Office Costs						63,447,871	\$ 2,596,305,442		\$ 427,916,044			\$ 1,149,947,837	\$ 4,539,111,445
: Other Project Costs													
	: Escalation											Excluded	Excluded
	: Contingency - Estimate (Estimated and Included by Wec)											Excluded	Excluded
	: Contingency - Event (BRMF) - (Estimated and Included by Wec)											Excluded	Excluded
	: Contingency - Schedule - (Estimated and Included by Wec)											Excluded	Excluded
	: Warranty - (Estimated and Included by Wec)											Excluded	Excluded
	: Extended Warranty - (Estimated and Incuded by Wec)											Excluded	Excluded
	: Business Line Overhead (Included in Above Labor Line items)											Included Above	Included Above
	: G&A / Fee											\$ 200,000,000	\$ 200,000,000
: FLUOR TOTAL						63,447,871	\$ 2,596,305,442		\$ 427,916,044			\$ 1,349,947,837	\$ 4,739,111,445

ETC Cost Summary - Plant Vogtle

Client: Westinghouse Electric Company
 Project: Vogtle Nuclear Power Station - Units 3 & 4
 Location: Waynesboro, GA
 Project Description: Estimate to Complete Units 3 & 4



Estimate Date: 10/21/2016
 File Print Date: 10/21/2016
 Rev: Rev 0
 Resp Estimator: Fluor

Acct	Description	Wage Rate	Unit Rate \$\$/Unit - UNO	Est Qty	Unit	Direct Hire Labor		Contracts		Material Costs (\$US)	Other Costs		Total (\$US)
						Site Hours	(\$US)	S/C Hrs	(\$US)		Unit Rate	(\$US)	
00	: Site Prep, Roads, Excav, & Piling	\$ 18.69	\$ 87,278,481	1	LS	1,048,509	\$ 19,596,642		\$ 67,681,839	\$ -			\$ 87,278,481
10.000	: Concrete	\$ 29.51	31.69 /Mhrs/Cy	174,815	CY	5,540,640	\$ 163,504,286		\$ 32,333,309	\$ -			\$ 195,837,595
10.101	: Concrete - Other	\$ 29.51	5.92 /Mhrs/Cy	1	LS	1,035,555	\$ 30,559,218		\$ -	\$ -			\$ 30,559,218
20.000	: Steel	\$ 28.97	70.07 /Mhrs/Unit	31,044	TN	2,175,318	\$ 63,018,958		\$ -	\$ -			\$ 63,018,958
30.000	: Buildings	\$ 26.58	\$ 98,129,556	1	LS	20,170	\$ 536,130		\$ 97,593,426	\$ -			\$ 98,129,556
30.101	: HVAC Excluded - All HVAC Work is WEC Commercial Managed												\$ -
40.000	: Equipment	\$ 29.82	\$ 120,002,817	1	LS	2,131,545	\$ 63,562,662		\$ 56,440,155	\$ -			\$ 120,002,817
41.000	: Modules NOTE: Average Wage Rate Reduced due to Seconded Lab	\$ 23.90	6,331 /Mhrs/Unit	495	EA	3,133,636	\$ 74,897,410		\$ 187,298,352	\$ -			\$ 262,195,762
50.000	: Piping	\$ 37.14	5.39 /Mhrs/Unit	490,472	LF	2,644,368	\$ 98,211,834		\$ -	\$ -			\$ 98,211,834
50.201	: UG Pipe - Circ Water	\$ 37.14	29.54 /Mhrs/Unit	5,487	LF	162,120	\$ 6,021,139		\$ -	\$ -			\$ 6,021,139
50.202	: Pipe - Valves	\$ 37.14	9.7 /Mhrs/Unit	18,008	EA	174,756	\$ 6,490,447		\$ -	\$ -			\$ 6,490,447
50.203	: Pipe - Other Items	\$ 37.14	\$ 155,676,526.25	1	LS	4,132,143	\$ 153,467,776		\$ 2,208,750	\$ -			\$ 155,676,526
50.211	: Pipe (UG)	\$ 37.14	6.93 /Mhrs/Unit	155,375	LF	1,076,501	\$ 39,981,257		\$ 3,283,864	\$ -			\$ 43,265,121
50.212	: Pipe (Non-Alloy AG)	\$ -	./Mhrs/Unit	0	LF	0	\$ -		\$ -	\$ -			\$ -
50.213	: Pipe (High Energy Alloy AG)	\$ 37.14	10.92 /Mhrs/Unit	7,789	LF	85,030	\$ 3,158,012		\$ -	\$ -			\$ 3,158,012
60.000	: Electrical	\$ 28.56	\$ 4,792,657	1	LS	167,810	\$ 4,792,657		\$ -	\$ -			\$ 4,792,657
60.201	: Switchyard &/or Transmission	\$ -	\$ 17,392,820	1	LS	0	\$ -		\$ 17,392,820	\$ -			\$ 17,392,820
60.202	: Electrical (Auxiliary Systems)	\$ 28.56	\$ 781,017	1	LS	27,347	\$ 781,017		\$ -	\$ -			\$ 781,017
60.203	: Electrical Equipment	\$ 28.56	\$ 22,859,084	1	LS	578,914	\$ 16,533,784		\$ 6,325,300	\$ -			\$ 22,859,084
60.204	: Cable Tray (Excl. Supports, covers, etc.)	\$ 28.56	1.15 /Mhrs/Unit	171,433	LF	196,663	\$ 5,616,707		\$ -	\$ -			\$ 5,616,707
60.205	: Conduit (Excl. Supports/clamps, etc)	\$ 28.56	.81 /Mhrs/Unit	1,030,315	LF	830,983	\$ 23,732,877		\$ -	\$ -			\$ 23,732,877
60.206	: Wire & Cable (Incl Terms)	\$ 28.56	.12 /Mhrs/Unit	9,197,777	LF	1,146,928	\$ 32,756,253		\$ 67,000,000	\$ -			\$ 99,756,253
60.207	: Grounding	\$ 28.56	.38 /Mhrs/Unit	1,852,673	LF	710,382	\$ 20,288,508		\$ 750,000	\$ -			\$ 21,038,508
60.208	: Other	\$ 28.56	\$ 95,333,254	1	LS	3,285,478	\$ 93,833,254		\$ 1,500,000	\$ -			\$ 95,333,254
70.000	: Control Systems	\$ 36.34	\$ 4,510,440	1	LS	124,118	\$ 4,510,440		\$ -	\$ -			\$ 4,510,440
70.101	: Instruments	\$ 36.34	27.04 /Mhrs/Unit	4,900	EA	132,498	\$ 4,814,984		\$ -	\$ -			\$ 4,814,984
70.301	: Instrument Bulks	\$ 36.34	\$ 7,800,976	1	LS	214,666	\$ 7,800,976		\$ -	\$ -			\$ 7,800,976
81.000	: Paint	\$ 25.04	.03 /Mhrs/Unit	5,271,680	SFCA	161,461	\$ 4,042,989		\$ 73,859,499	\$ -			\$ 77,902,488
82.000	: Insulation	\$ -	./Mhrs/Unit	177,098	LF	0	\$ -		\$ 19,000,000	\$ -			\$ 19,000,000
83.000	: Scaffolding (Included with Indirects)	\$ -	0.00%	0	hrs	0	\$ -		\$ -	\$ -			\$ -
	: Premium Paid over Day S.T. (\$0.25 for 2nd Shift + OT)	\$ 5.00	16.43%		Oth		\$ 154,816,266						\$ 154,816,266
	: Subtotal: Direct Field Costs	\$ 30.46				30,937,540	\$ 1,097,326,481	0	\$ 632,667,314		\$ -		\$ 1,729,993,795

ETC Cost Summary - Plant Vogtle

Client: Westinghouse Electric Company
 Project: Vogtle Nuclear Power Station - Units 3 & 4
 Location: Waynesboro, GA
 Project Description: Estimate to Complete Units 3 & 4



Estimate Date: 10/21/2016
 File Print Date: 10/21/2016
 Rev: Rev 0
 Resp Estimator: Fluor

Acct	Description	Wage Rate	Unit Rate \$\$/Unit - UNO	Est Qty	Unit	Direct Hire Labor		Contracts		Material Costs (\$US)	Other Costs		Total (\$US)
						Site Hours	(\$US)	S/C Hrs	(\$US)		Unit Rate	(\$US)	
: Indirect Field Costs													
91-00	: Temp Construction Buildings & Facilities					2,422,377	\$59,854,700		\$12,767,408	\$29,335,700		\$ 8,968,226	\$ 110,926,034
92-00	: Construction Services					10,041,545	\$343,410,100		\$173,387,010	\$85,766,145		\$ 12,356,187	\$ 614,919,442
93-00	: Field Staff (incl. policy costs and overhead)					13,450,219	\$ 978,451,720		\$1,498,009	\$0		\$ 327,791,696	\$ 1,307,741,425
94-00	: Craft Payroll Burdens & Benefits + Per Diem					0	\$0		\$0	\$0		\$ 891,325,300	\$ 891,325,300
95-00	: Constr Equipment & Cranes & Heavy Haul					5,063,962	\$129,693,700		\$98,371,430	\$171,665,900		\$ 58,417,050	\$ 458,148,080
95-00	: Constr Small Tools, Consumables					0	\$0		\$7,086,584	\$0		\$ -	\$ 7,086,584
96-00	: Insurance, Permits, Sales Tax, Misc, etc.					0	\$0		\$0	\$0		\$ -	\$ -
96-00	: Misc. Field Indirects					0	\$0		\$0	\$0		\$ 15,493,300	\$ 15,493,300
: Subtotal: Indirect Field Costs						30,978,103	\$ 1,511,410,220		\$ 293,110,441			\$ 1,314,351,759	\$ 3,405,640,165
: Construction / Pre-Operational Testing & Commissioning													
	: Construction Testing(Phase 1) - Craft	\$ -				0	\$ -		\$ -			\$ -	\$ -
	: Construction Testing(Phase 1) - Staff & Other Costs	\$ -				0	\$ -		\$ -			\$ -	\$ -
	: Const Testing (Phase 2) Pre-Op Testing(Phase 3) - Craft	\$ 47.90				413,000	\$ 19,784,384		\$ -		\$.91 /Mhr	\$ 375,816	\$ 20,160,200
	: Const Testing (Phase 2) Pre-Op Testing(Phase 3) - Staff & Other C	\$ 112.50				88,365	\$ 9,941,003		\$ -		\$55.61 /Mhr	\$ 4,914,157	\$ 14,855,160
	: Start Up Testing / Commissioning - Craft Excluded	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: Start Up Testing / Commissioning - Staff & Other Excluded	\$ -				0	\$ -		\$ -			\$ -	Excluded
: Subtotal: Constr. / Pre-Operational Testing						501,365	\$ 29,725,387	0	\$ -			\$ 5,289,973.00	\$ 35,015,360
: Home Office Costs													
	: Home Office Support	\$ -				0	\$ -		\$ -			\$ -	\$ -
	: IPMO Support (50% Allocation to Each Site)	\$ 140.31				72,435	\$ 10,163,100		\$ -		\$13.44 /Mhr	\$ 973,526	\$ 11,136,626
	: Fluor Engineering	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: DEC Engineering	\$ -				0	\$ -		\$ -			\$ -	Excluded
	: Bond / Bank Guarantee / LOC	\$ -				0	\$ -		\$ -			\$ -	Excluded
: Subtotal: Home Office Costs						72,435	\$ 10,163,100		\$ -			\$ 973,526	\$ 11,136,626
: Total: Field & Home Office Costs						62,489,443	\$ 2,648,625,189		\$ 925,777,755			\$ 1,320,615,259	\$ 5,181,785,947
: Other Project Costs													
	: Escalation											Excluded	Excluded
	: Contingency - Estimate (Estimated and Included by Wec)											Excluded	Excluded
	: Contingency - Event (BRMF) - (Estimated and Included by Wec)											Excluded	Excluded
	: Contingency - Schedule - (Estimated and Included by Wec)											Excluded	Excluded
	: Warranty - (Estimated and Included by Wec)											Excluded	Excluded
	: Extended Warranty - (Estimated and Incuded by Wec)											Excluded	Excluded
	: Business Line Overhead (Included in Above Labor Line items)											Included Above	Included Above
	: G&A / Fee											\$ 100,000,000	\$ 100,000,000
: FLUOR TOTAL						62,489,443	\$ 2,648,625,189		\$ 925,777,755			\$ 1,420,615,259	\$ 5,281,785,947

ETC Estimate - By Bldg and Account

Direct Craft ManhHour Summary - VC Summer

VC Summer	0 Acct	1 Acct	2 Acct	3 Acct	4 Acct	Modules	5 Acct	6 Acct	7 Acct	Coatings 81 Acct	Insul 82 Acct	Total
Containment (NI)		1,051,816	112,419	2,661	903,005	921,313	982,297	1,360,591	146,840	-	-	5,480,942
Auxiliary Bldg (NI)		1,319,173	209,355	6,965	138,327	859,805	1,032,378	1,557,599	97,605	-	-	5,221,207
Shield Bldg (NI)		579,893	546,352	-	-	0	-	1,316	-	-	-	1,127,561
Turbine Bldg (TI)		1,017,281	615,594	22,511	1,317,059	1,064,047	3,520,883	1,460,225	142,181	-	-	9,159,781
Annex Bldg (OBS)		883,210	350,587	13,666	15,451	49,991	739,344	1,078,140	29,446	-	-	3,159,835
Radwaste Bldg (OBS)		70,447	50,677	4,973	3,513		115,727	41,918	4,546	-	-	291,802
Diesel Generator Bldg (OBS)		30,931	29,569	2,954	8,291		96,302	73,206	10,394	-	-	251,647
MAB											-	0
Standard Plant	-	4,952,752	1,914,553	53,730	2,385,646	2,895,156	6,486,932	5,572,995	431,012	-	-	24,692,775
Site	1,548,625	585,897	353,437	0	9,706		881,748	1,130,117	5,456	-	-	4,514,986
Standard Plant Yard	3,399.57	369,294	26,073	0	12,239		48,963	98,334	3,321	-	-	561,624
BOP	1,552,025	955,191	379,510	-	21,945	-	930,711	1,228,451	8,777	-	-	5,076,610
To Be Determined					3,400	105,426	629	60,411	1,756.00			171,622
TBD - To Be Determined								3,971				3,971
Grand Total	1,552,025	5,907,943	2,294,063	53,730	2,410,991	3,000,582	7,418,272	6,865,828	441,545	0	0	29,944,978

ETC Estimate - By Bldg and Account

Direct Craft ManhHour Summary - Plant Vogtle

Plant Vogtle	0 Acct	1 Acct	2 Acct	3 Acct	4 Acct	Modules	5 Acct	6 Acct	7 Acct	Coatings 81 Acct	Insul 82 Acct	Total
Containment (NI)		1,425,896	105,328	1,313	931,885	1,081,145	1,000,688	1,424,312	150,166		-	6,120,733
Auxiliary Bldg (NI)		1,346,623	245,596	8,716	165,791	1,592,852	1,439,834	1,688,518	98,403	45,776	-	6,632,109
Shield Bldg (NI)		451,613	562,888	-	-	-	-	1,326		41,853	-	1,057,680
Turbine Bldg (TI)		882,353	618,488	2,559	956,469	322,749	3,612,594	1,471,537	145,300	16,951	-	8,029,000
Annex Bldg (OBS)		804,347	290,356	5,755	16,074	49,697	734,850	1,011,096	29,322	44,315	-	2,985,813
Radwaste Bldg (OBS)		72,623	51,877	-	3,628		115,727	43,310	4,452	6,444	-	298,062
Diesel Generator Bldg (OBS)		31,927	30,287	618	8,622		110,190	76,254	10,388	1,919	-	270,205
MAB												
Standard Plant	-	5,015,382	1,904,820	18,961	2,082,469	3,046,443	7,013,882	5,716,353	438,031	157,258	-	25,393,600
Site	1,042,541	1,088,328	235,932	1,210	33,755		1,197,934	1,080,552	28,288	4,204	-	4,712,745
Standard Plant Yard	5,968.33	472,484	34,566	0	12,176		62,485	83,956	3,156	-		674,791
BOP	1,048,509	1,560,812	270,498	1,210	45,931	0	1,260,419	1,164,508	31,444	4,204	0	5,387,536
To Be Determined				0	3,145	87,194	616	63,643	1,808.00			156,406
Grand Total	1,048,509	6,576,195	2,175,318	20,171	2,131,545	3,133,637	8,274,918	6,944,504	471,283	161,462	0	30,937,542

VC Summer Staffing Plan

		Total Hours	Base Labor + Burdens	Overheads	Disbursements	Business Expense Meals/Car/Hotel	Policy Expense	Fee	Estimate Total
Project Management	Plan	85,405	\$ 14,056,800	\$ 268,300	\$ 167,700	\$ 213,500	\$ 1,397,000	\$ 644,100	\$ 16,747,400
	Fcst.	85,405	\$ 14,056,800	\$ 268,300	\$ 167,700	\$ 213,500	\$ 1,397,000	\$ 644,100	\$ 16,747,400
	Act.	0							
Construction Management	Plan	515,700	\$58,316,000	\$1,941,000	\$1,213,100	\$515,700	\$5,103,500	\$2,683,600	\$69,772,900
	Fcst.	515,700	\$58,316,000	\$1,941,000	\$1,213,100	\$515,700	\$5,103,500	\$2,683,600	\$69,772,900
	Act.	0							
Construction	Plan	1,808,793	\$151,662,220	\$7,235,170	\$4,521,980	\$1,539,330	\$21,910,820	\$7,474,780	\$194,344,300
	Fcst.	1,808,793	\$151,662,220	\$7,235,170	\$4,521,980	\$1,539,330	\$21,910,820	\$7,474,780	\$194,344,300
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Field Engineering	Plan	5,988,180	\$448,857,100	\$23,952,700	\$14,970,500	\$5,988,200	\$26,052,300	\$20,792,800	\$540,613,500
	Fcst.	5,988,180	\$448,857,100	\$23,952,700	\$14,970,500	\$5,988,200	\$26,052,300	\$20,792,800	\$540,613,500
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Project Administration	Plan	100,088	\$4,844,400	\$400,400	\$250,200	\$100,100	\$454,400	\$242,000	\$6,291,400
	Fcst.	100,088	\$4,844,400	\$400,400	\$250,200	\$100,100	\$454,400	\$242,000	\$6,291,400
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communications	Plan	6,555	\$345,400	\$26,200	\$16,400	\$6,600	\$120,100	\$20,600	\$535,300
	Fcst.	6,555	\$345,400	\$26,200	\$16,400	\$6,600	\$120,100	\$20,600	\$535,300
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PBS - Finance	Plan	187,589	\$12,999,800	\$711,800	\$444,800	\$187,600	\$2,101,600	\$657,800	\$17,103,400
	Fcst.	187,589	\$12,999,800	\$711,800	\$444,800	\$187,600	\$2,101,600	\$657,800	\$17,103,400
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HR / IR	Plan	552,932	\$36,249,100	\$2,173,100	\$1,358,200	\$552,900	\$6,465,500	\$1,872,000	\$48,670,800
	Fcst.	552,932	\$36,249,100	\$2,173,100	\$1,358,200	\$552,900	\$6,465,500	\$1,872,000	\$48,670,800
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Project Controls	Plan	647,385	\$54,535,200	\$2,589,500	\$1,618,500	\$647,400	\$7,221,200	\$2,664,500	\$69,276,300
	Fcst.	647,385	\$54,535,200	\$2,589,500	\$1,618,500	\$647,400	\$7,221,200	\$2,664,500	\$69,276,300
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Estimating	Plan	38,855	\$4,182,700	\$155,400	\$97,100	\$38,900	\$676,700	\$206,000	\$5,356,800
	Fcst.	38,855	\$4,182,700	\$155,400	\$97,100	\$38,900	\$676,700	\$206,000	\$5,356,800
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
IT	Plan	495,900	\$23,876,600	\$1,984,400	\$1,240,300	\$496,100	\$5,459,900	\$1,322,300	\$34,379,500
	Fcst.	495,900	\$23,876,600	\$1,984,400	\$1,240,300	\$496,100	\$5,459,900	\$1,322,300	\$34,379,500
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HSE	Plan	1,192,308	\$78,399,700	\$4,769,200	\$2,980,800	\$1,192,300	\$13,093,900	\$4,017,400	\$104,453,300
	Fcst.	1,192,308	\$78,399,700	\$4,769,200	\$2,980,800	\$1,192,300	\$13,093,900	\$4,017,400	\$104,453,300
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Quality	Plan	1,870,840	\$127,879,500	\$7,483,400	\$4,677,100	\$1,870,800	\$14,047,700	\$6,238,300	\$162,196,800
	Fcst.	1,870,840	\$127,879,500	\$7,483,400	\$4,677,100	\$1,870,800	\$14,047,700	\$6,238,300	\$162,196,800
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contracts Management	Plan	329,115	\$30,463,400	\$1,316,500	\$822,800	\$329,100	\$2,954,700	\$1,435,500	\$37,321,900
	Fcst.	329,115	\$30,463,400	\$1,316,500	\$822,800	\$329,100	\$2,954,700	\$1,435,500	\$37,321,900
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Procurement	Plan	584,925	\$39,613,800	\$2,339,700	\$1,462,300	\$584,900	\$4,904,700	\$1,956,200	\$50,861,700
	Fcst.	584,925	\$39,613,800	\$2,339,700	\$1,462,300	\$584,900	\$4,904,700	\$1,956,200	\$50,861,700
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Regulatory Affairs	Plan	23,805	\$2,246,100	\$95,200	\$59,500	\$23,800	\$452,400	\$115,100	\$2,992,100
	Fcst.	23,805	\$2,246,100	\$95,200	\$59,500	\$23,800	\$452,400	\$115,100	\$2,992,100
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ops Readiness	Plan	161,570	\$11,645,100	\$646,300	\$403,900	\$161,600	\$1,721,300	\$583,100	\$15,161,300
	Fcst.	161,570	\$11,645,100	\$646,300	\$403,900	\$161,600	\$1,721,300	\$583,100	\$15,161,300
	Act.	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL STAFF FTE	Plan	67,799							
	Fcst.	67,799							
	Act.	0							
TOTAL STAFF HOURS	Plan	14,589,943							
	Fcst.	14,589,943							
	Act.	0							
TOTAL STAFF COST	Plan	\$1,376,080,293	\$1,100,172,920	\$58,088,270	\$36,305,180	\$14,448,830	\$114,137,720	\$52,926,080	\$1,376,078,700
	Fcst.	\$1,376,080,293	\$1,100,172,920	\$58,088,270	\$36,305,180	\$14,448,830	\$114,137,720	\$52,926,080	\$1,376,078,700
	Act.	\$0							
TOTAL STAFF COST	Plan	\$1,376,080,293	\$1,100,172,920	\$58,088,270	\$36,305,180	\$14,448,830	\$114,137,720	\$52,926,080	\$1,376,078,700
	Fcst.	\$1,376,080,293	\$1,100,172,920	\$58,088,270	\$36,305,180	\$14,448,830	\$114,137,720	\$52,926,080	\$1,376,078,700
	Act.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL SECONDED	Plan	742,800	\$70,157,800	\$2,970,800	\$1,856,800	\$0	\$364,400	\$3,014,100	\$78,364,000
	Fcst.	742,800	\$70,157,800	\$2,970,800	\$1,856,800	\$0	\$364,400	\$3,014,100	\$78,364,000
	Act.								
TOTAL STAFF MINUS SECONDED	Plan	13,847,143	\$1,030,015,120	\$55,117,470	\$34,448,380	\$14,448,830	\$113,773,320		\$1,247,803,120
	Fcst.	13,847,143	\$1,030,015,120	\$55,117,470	\$34,448,380	\$14,448,830	\$113,773,320		\$1,247,803,120
	Act.								

Field Non Manual Summary - Plant Vogtle

Plant Vogtle Unit 3 & 4

14-Oct-16

Total Fluor Self Perform Value

Department	Total MH	Total Dollars	Percent of Total MH	All-In Avg \$/MH
CM	2,946,060	\$ 298,818,909	22%	\$ 101.43
CO	9,264	\$ 1,118,257	0%	\$ 120.71
Contracts	132,834	\$ 12,777,302	1%	\$ 96.19
FE	5,160,239	\$ 519,120,054	38%	\$ 100.60
HR	252,762	\$ 24,765,621	2%	\$ 97.98
HSE	826,618	\$ 76,892,006	6%	\$ 93.02
IT	27,982	\$ 2,892,499	0%	\$ 103.37
PBS	153,829	\$ 11,154,141	1%	\$ 72.51
PC	699,022	\$ 72,551,493	5%	\$ 103.79
PR	1,145,438	\$ 89,848,157	9%	\$ 78.44
QC	1,986,659	\$ 184,600,334	15%	\$ 92.92
RA	109,512	\$ 11,704,643	1%	\$ 106.88
	13,450,219	\$ 1,306,243,416	100%	\$ 97.12

Note: All-In Avg \$/MH rate does not include fee.

Field Non Manual Summary - Plant Vogtle

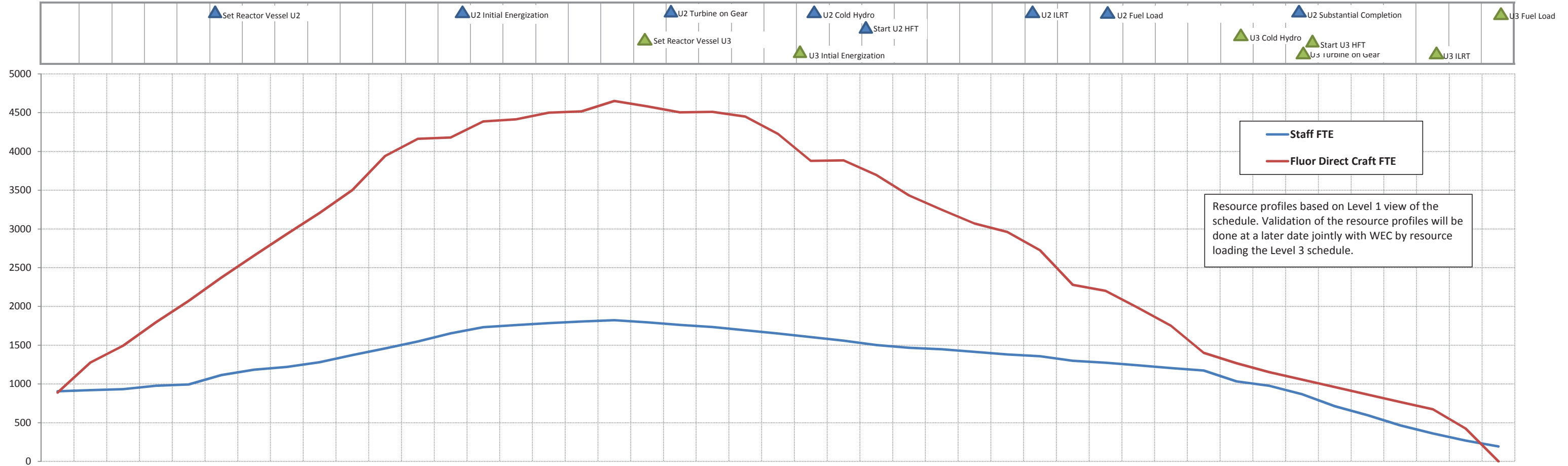
RECAP W/O WEC	Base Labor + Burdens	Overheads	Disbursements	Business Expense Meals/Car/Hotel	Policy Expense	Estimate Total	Pre Hours	Post Hours	Total Hours
CM	\$ 223,892,445	\$ 11,755,280	\$ 7,375,275	\$ 2,946,060	\$ 52,849,849	\$ 298,818,909	12,010	2,934,050	2,946,060
CO	\$ 825,300	\$ 42,256	\$ 28,035	\$ 9,264	\$ 213,402	\$ 1,118,257	650	8,614	9,264
Contracts	\$ 10,078,812	\$ 536,536	\$ 336,960	\$ 132,834	\$ 1,692,160	\$ 12,777,302	650	132,184	132,834
FE	\$ 385,930,477	\$ 20,652,156	\$ 12,911,098	\$ 5,160,239	\$ 94,466,085	\$ 519,120,054	1,400	5,158,839	5,160,239
HR	\$ 19,272,517	\$ 1,027,528	\$ 659,780	\$ 252,762	\$ 3,553,034	\$ 24,765,621	7,270	245,492	252,762
HSE	\$ 58,284,357	\$ 3,317,912	\$ 2,077,270	\$ 826,618	\$ 12,385,849	\$ 76,892,006	1,430	825,188	826,618
IT	\$ 2,254,821	\$ 117,128	\$ 74,830	\$ 27,982	\$ 417,738	\$ 2,892,499	650	27,332	27,982
PBS	\$ 8,944,329	\$ 622,596	\$ 391,398	\$ 153,829	\$ 1,041,990	\$ 11,154,141	910	152,919	153,829
PC	\$ 56,269,258	\$ 2,824,888	\$ 1,774,555	\$ 699,022	\$ 10,983,770	\$ 72,551,493	3,600	695,422	699,022
PR	\$ 70,238,679	\$ 4,626,872	\$ 2,918,320	\$ 1,145,438	\$ 10,918,848	\$ 89,848,157	10,850	1,134,588	1,145,438
QC	\$ 133,136,505	\$ 7,956,556	\$ 4,975,948	\$ 1,986,659	\$ 36,544,667	\$ 184,600,334	1,240	1,985,419	1,986,659
RA	\$ 9,324,220	\$ 401,568	\$ 252,005	\$ 109,512	\$ 1,617,338	\$ 11,704,643	650	108,862	109,512
Totals	\$ 978,451,720	\$ 53,881,276	\$ 33,775,473	\$ 13,450,219	\$ 226,684,728	\$ 1,306,243,416	41,310	13,408,909	13,450,219

Resource Curve - Fluor Direct Craft and FNM Staff



Status: October 21 2016

VC Summer Nuclear Power Project Direct Craft and FNM Profile

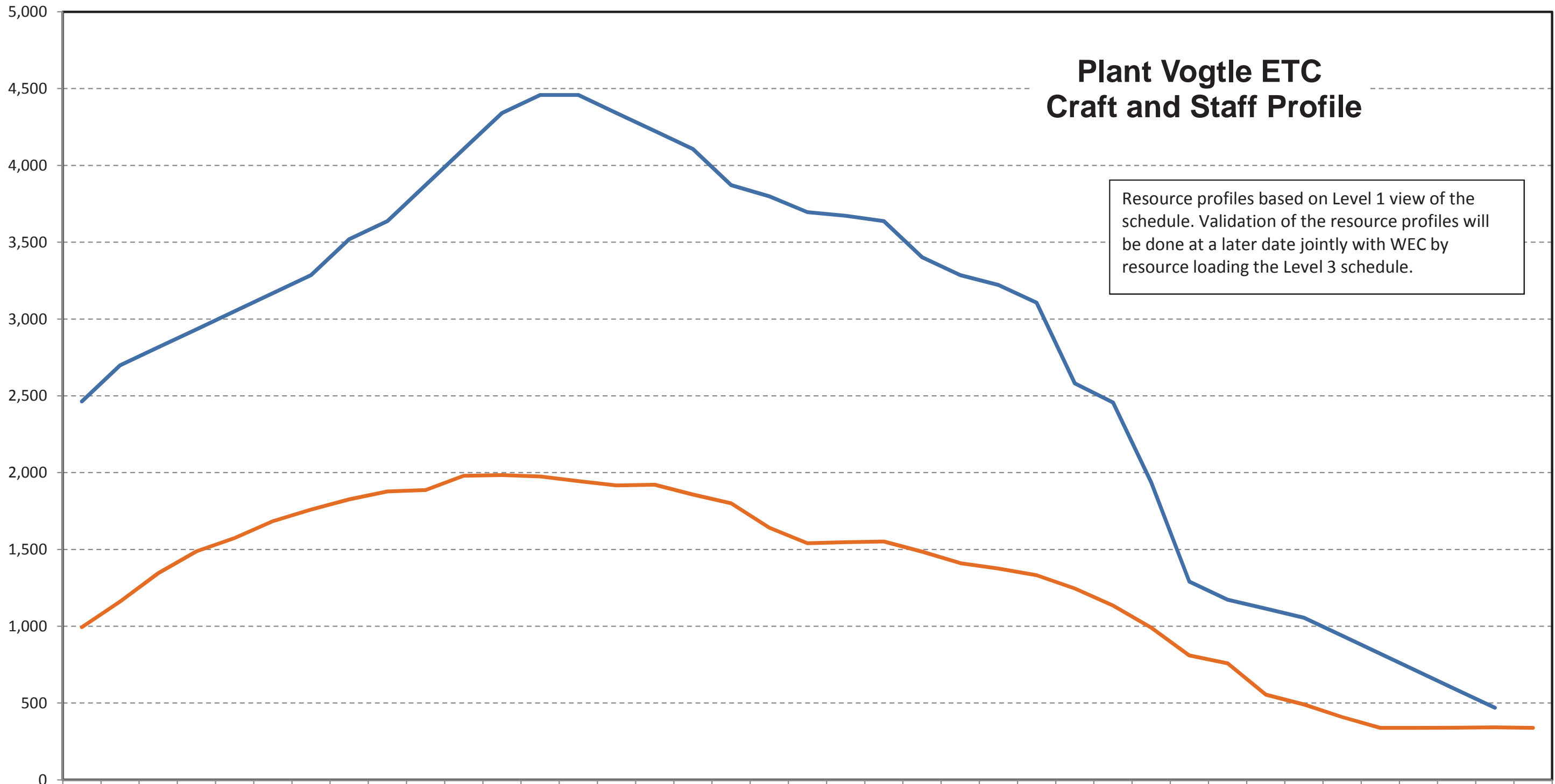


	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Staff FTE	904	920	932	976	993	1,115	1,184	1,219	1,279	1,372	1,457	1,548	1,652	1,731	1,760	1,784	1,806	1,823	1,796	1,762	1,734	1,693	1,650	1,605	1,559	1,503	1,466	1,447	1,414	1,380	1,358	1,299	1,274	1,239	1,204	1,173	1,034	977	867	713	596	466	361	268	194
Fluor Direct Craft FTE	889	1,275	1,493	1,796	2,072	2,373	2,656	2,935	3,206	3,502	3,941	4,164	4,180	4,388	4,413	4,500	4,516	4,652	4,581	4,505	4,512	4,451	4,227	3,878	3,884	3,697	3,432	3,248	3,070	2,961	2,726	2,278	2,201	1,981	1,751	1,402	1,267	1,152	1,055	960	864	768	672	423	0
Ratio FNM to Craft	102%	72%	62%	54%	48%	47%	45%	42%	40%	39%	37%	37%	40%	39%	40%	40%	40%	39%	39%	39%	38%	38%	39%	41%	40%	41%	43%	45%	46%	47%	50%	57%	58%	63%	69%	84%	82%	85%	82%	74%	69%	61%	54%	63%	N/A

Resource Curve - Fluor Direct Craft and FNM Staff

Plant Vogtle ETC Craft and Staff Profile

Resource profiles based on Level 1 view of the schedule. Validation of the resource profiles will be done at a later date jointly with WEC by resource loading the Level 3 schedule.



	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Total DH Direct Craft	2,464	2,699	2,816	2,933	3,051	3,168	3,285	3,520	3,637	3,872	4,107	4,341	4,459	4,459	4,341	4,224	4,107	3,872	3,798	3,696	3,672	3,637	3,403	3,285	3,222	3,107	2,581	2,457	1,936	1,291	1,173	1,115	1,056	939	821	704	587	469	
Total Staff	994	1,161	1,346	1,488	1,574	1,684	1,760	1,826	1,878	1,887	1,980	1,984	1,975	1,945	1,916	1,921	1,857	1,800	1,641	1,540	1,548	1,552	1,486	1,410	1,376	1,333	1,246	1,136	990	810	759	555	491	409	339	339	340	342	339