



WEST POWER COMPLEX

Quarterly Project Report

January 2023 (Report #2)

This Quarterly Report is being submitted pursuant to Section 23 of the Agreement in Principle contained within the Cooperative Endeavor Agreement between The Sewerage and Water Board of New Orleans and Entergy New Orleans for the Construction of a New Electrical Substation at the Sewerage and Water Board of New Orleans West Power Complex.

Program Summary

The **West Power Complex** is the future home of a dedicated transmission-level substation, three static frequency changers (SFCs), and modern power generation turbines to provide reliable, efficient power to the drainage, sewerage, and drinking water systems. The substation will provide a robust source of 60-hz power to SWBNO, which will be converted by frequency changers to 25-hz to power our pumps. Connecting to Entergy's transmission grid provides a more reliable, cleaner, and economical power source for day-to-day operations. The new secondary turbine generators will provide reliable backup power.

The development, design, and construction of the West Power Complex is a large capital program, consisting of two major phases: **Phase 1** allows for basic utilization of the Entergy substation, SFC's, and Turbine 7; and **Phase 2** incorporates the final build-out of the West Power Complex, including a new operations center and final configuration. The West Power Complex will be capable of providing the desired 60-hz power and backup generation power for the drainage and water systems once Phase 1 is complete.

The costs associated with designing and building the West Power Complex can be divided into three main categories:

- Professional services - costs to design the systems and manage the construction
- Equipment purchases - costs for the purchase of specific items such as Turbine 7, frequency changers, transformers, medium voltage cable, electrical switchgear, and auxiliary electrical equipment
- Integration components - site preparation, overhead utility rack, equipment foundations, electrical ductbanks, mechanical and electrical installations of the equipment, operations center building, and final configuration components.

Phase 1 consists of 15 individual construction and equipment purchase contracts, with current projected costs around \$261M, including the Entergy substation (\$34M+) and professional services contracts (\$25M+). The completion of Phase 1 is currently planned for late 2024. The

final costs and completion date will be dependent on supply chain availability, manufacturing timeframes, and actual construction days based on weather and other factors.

There are presently 8 individual funding sources being used for this phase, including Louisiana State Capital Outlay (current and future allocations), FEMA, HUD CDBG, HUD EDI, Fair Share funds, City bond allocation, SWBNO drainage tax bonds, and SWBNO system funds. Based on current estimates, funding sources have been identified for the entirety of Phase 1, but may require adjustments for final cost estimates and bids received. Note that this remains dependent upon the approval of \$39 million in State Capital Outlay funding as ‘Priority 1’ in the 2023 legislative session, and subsequent sale of bonds at the state level for our use.

Phase 2 currently includes an additional 4 individual contracts, estimated to be \$50M in total. This does not include Turbines 8 and 9 at this time, as funding for the other components will be prioritized first. At this time only a small portion of the funding for Phase 2 has been identified, so additional sources are needed to complete the entire program.

Attachment 1 (Program Schedule) and *Attachment 2 (Program Cost Summary)* provide the current program status at this time. Note that the engineering design of Phase 1 and Phase 2 is still underway; therefore, additional adjustments to cost and schedule are expected as the remaining design elements are refined.

Static Frequency Changers

The purchase and manufacturing of SFCs 1, 2, and 3 is encompassed by SWBNO contract 1417. SFCs 2 and 3 were added as a change order to contract 1417, and were funded by City Bond funds transferred to SWBNO pursuant to the Cooperative Endeavor Agreement between the City and SWBNO. Attachment 3 to this report includes the September 2022 report submitted to the City of New Orleans on the status of the purchase of SFCs 2 and 3, as required by the CEA. Reports are issued on a monthly basis and began in April 2022.

Table 1 provides details on the current cost for contract 1417 through December 2022. Contract 1417 provides for only the manufacturing and delivery of the SFCs and associated transformers/auxiliary equipment to the SWBNO Carrollton Water Plant Facility. The timing of the equipment commissioning is dependent on the completion of the scope of work contained in other future contracts:

- Construction of the foundations for the SFCs is included in contract 1415, which is anticipated to be advertised in December 2022, with work beginning in Q2 2023.
- The installation, connection, and commissioning of the SFCs is part of contract 1416, which is still in design. It is anticipated that contract 1416 will be issued for advertisement in Q2 2023, with final commissioning of all three SFCs in Q1 2025.
- The SFC1 commissioning (i.e. operational in-service) date is currently anticipated to be Q4 2024.

Table 1. Contract 1414 (SFC Purchase) Budget

	1417 – SFC Procurement (Walter J Barnes Electric Co)
Original Contract Value	\$9,878,000
Change Orders – Approved	\$21,590,000
Current Contract Value	\$31,468,000
Pending Change Orders	-

Funding Considerations

Payment for invoices for SFC 1 via contract 1417 is reimbursed to SWBNO from GOHSEP, via the current FEMA HGMP program. Payment for invoices for SFCs 2 and 3 via contract 1417 is made using the disbursement of the \$22M in bond funds from the City to SWBNO, which occurred on April 29, 2022.

Payment from SWBNO to Entergy New Orleans for the second installment of the Contribution in Aid of Construction (CAIC) as outlined in the Agreement in Principle is due on February 1, 2023.

Collaboration with Entergy

SWBNO and Entergy continue to collaborate as needed regarding the construction of the substation on SWBNO property. A pre-construction meeting for construction of the substation was held at SWBNO facilities on 18 October 2022, and Entergy began mobilization on 5 December 2022.

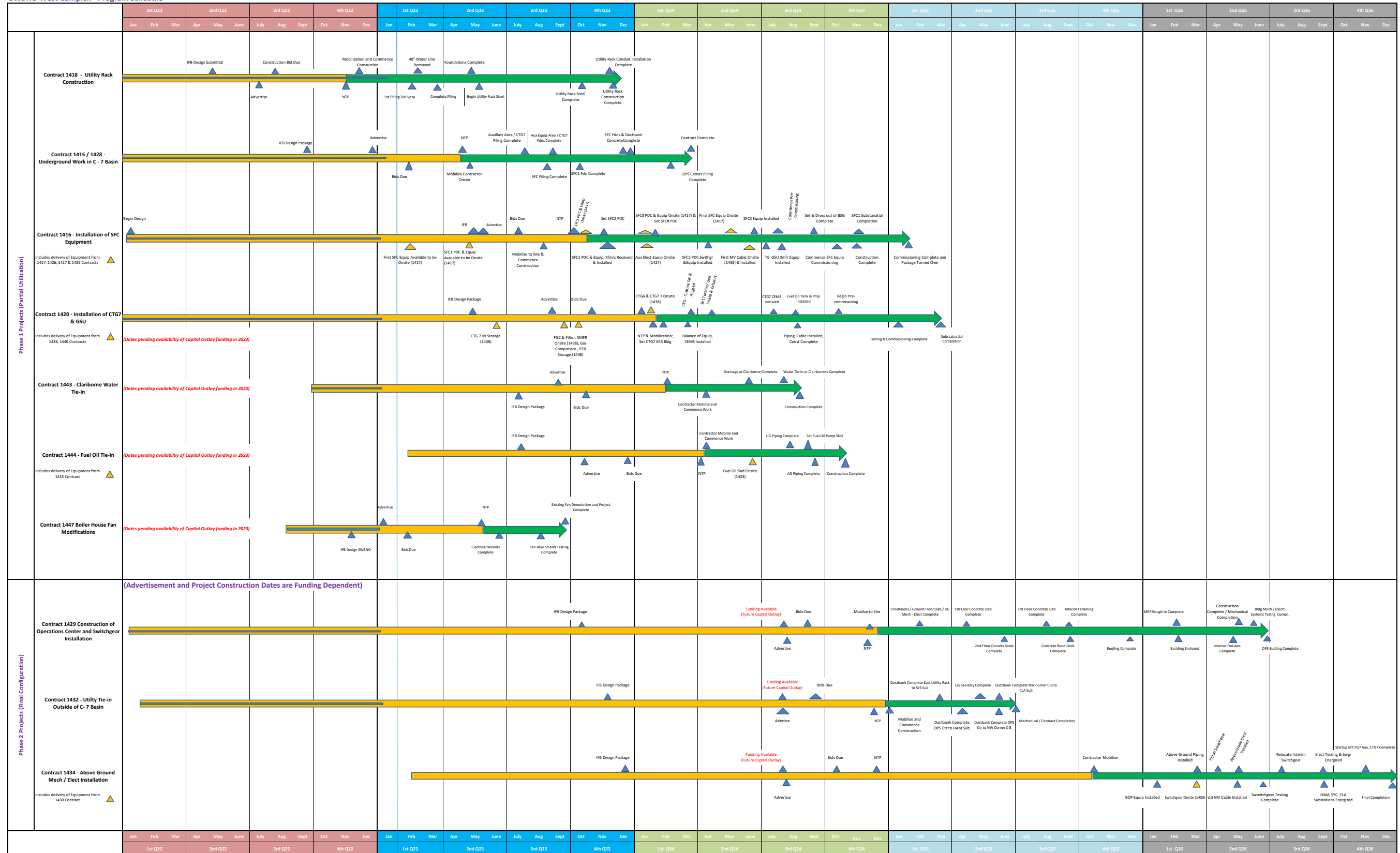
Attachment 1 - WPC Program Schedule

Prepared by: Power Engineers, Jacobs Engineering Group
 Status Date: 1/30/2023
 Month Ending: December 2022



DRAFT - SUBJECT TO CHANGE

SWBNO West Complex - Program Schedule



Attachment 2 - WPC Program Cost Summary

SWBNO West Power Complex Program

24-Jan-23

*Note that values and dates shown are based on information available at the time and subject to change as design continues and construction progresses.

red = subject to change with final design and/or final award value

estimates in progress

Project Phase	Contract	Project Element	Contractor	Primary Funding Source	Contract Amount / Cost Estimate	Project Phase
Professional Services (\$25M)	Design and Construction Management		Jacobs Engineers and Power Engineers	Fair Share, FEMA, System Funds	\$ 25,000,000	In progress
Interim Configuration (\$202+M)	1403	C7/C8 Site Preparation	Cycle Construction	Capital Outlay	\$ 12,890,000	Construction Closeout
	1417	SFC 1, 2, and 3 Purchase	WJ Barnes Electric	FEMA + City of New Orleans	\$ 31,468,000	Manufacturing
	1438	T7 equipment purchase	Solar Turbines	CDBG	\$ 16,005,748	Manufacturing
	1440	GSU Transformers Procurement	WJ Barnes Electric	Fair Share	\$ 3,650,000	Manufacturing
	1427	Packaged Auxiliary Power System Procurement	WJ Barnes Electric	Fair Share	\$ 6,400,000	Manufacturing
	1418	Utility Rack Construction	MR Pittman Group	Capital Outlay	\$ 32,215,000	Construction
	1415	SFC Foundations and C7 Underground Package	TBD	Drainage Tax Bond	\$ 40,300,000	Advertisement
	1447	Transformer 3 modifications	TBD	Fair Share	\$ 600,000	Advertisement
	Additional Procurement Contracts		TBD	Multiple	\$ 19,250,000	Design/Estimating
	Additional Construction Contracts		TBD	Multiple	\$ 39,500,000	Design/Estimating
Substation (by Entergy)				City of New Orleans	\$ 34,000,000	
Professional Services, Phase 1, and Substation Total					\$ 261,278,748	
Final Configuration (\$47M+)	Additional Procurement Contracts		TBD	TBD	\$ 7,700,000	Preliminary/ Initial Design
	Additional Construction Contracts		TBD	TBD	\$ 38,620,000	Preliminary/ Initial Design
Program Total					\$ 307,598,748	



Monthly Report – West Power Complex: Static Frequency Changers

December 2022

Project Name: West Power Complex

Project 1 – Static Frequency Changer 2 and 3

Project Number: 1417

Capital Bond Funds: **\$22,000,000**

Project Start Date: May 2022

Projected End Date: January 2024 (Schedule update pending)

CAPITAL BOND FUNDS COOPERATIVE ENDEAVOR AGREEMENT

The Sewerage and Water Board of New Orleans and the City of New Orleans (SWBNO) entered into a Cooperative Endeavor Agreement (CEA) with the City of New Orleans (CNO). CNO has agreed to appropriate bond funds in the amount of \$22,000,000.00 for the design, purchase, construction, and/or installation for the Static Frequency Changer 2 and 3 Project and the Auxiliary Power Equipment Project.

STATIC FREQUENCY CHANGER 2 & 3

Project Scope

The design, purchase, construction, and installation of Static Frequency Changer 2 and 3 is a change order to SWBNO contract 1417, for the design, purchase, construction, and installation of Static Frequency Changer 1. The Static Frequency Changer 2 and 3 Project (SFC 2/3) will include design, procurement, assembly, testing, delivery, and commissioning of two (2) new SFCs and associated auxiliary equipment, which will provide for an interconnection between the existing 60-Hz Turbine 6 and upcoming Turbine 7, and critical 25-Hz loads throughout the system. In addition, the ultimate buildout includes interconnection to a new 60-Hz utility substation as a primary feed and new 60-Hz generators as backup.

Project Team

Owner – Sewerage and Water Board of New Orleans: Jamie Rowe, PE; Chris Bergeron, PE; M. Ron Spooner, PE

Design Manager – Sonya Reiser, PE, Jacobs Engineering Group

Senior Operations Specialist – Rodney Carpenter, Jacobs Engineering Group

Vendor – Bill Ellis, III, Walter J. Barnes Electric Co., Inc.

Design

Designer: Jacobs Engineering

Completed and ongoing activities:

- Milestone 1 – Partial completion with Pay Applications 4 (\$6,914,679.50) & 5 (\$1,403,150.00). Pay Applications 1, 2, & 3 were for SFC 1 (not part of this agreement).
- Milestone 1 – Fully complete with Pay Application 6. Pay Application 6 included items for SFC 1, 2, & 3, with 2 & 3 accounting for \$252,000.00 of the total \$1,072,600.00

Upcoming activities include:

- Milestone 2 - Interconnection Equipment Manufacturing and Factory Acceptance Testing
- Milestone 3 - Interconnection Equipment Shipping
- Milestone 4 – Auxiliary Power System Manufacturing, Factory Testing, Shipping, and Delivery
- Milestone 5 – Power Electronics Manufacturing, Factory Testing, Shipping, and Delivery
- Milestone 6 – Cooling System Manufacturing, Factory Testing, Shipping, and Delivery
- Milestone 7 – Input/Output Transformers Manufacturing, Factory Testing, Shipping, and Delivery

West Power Complex: Static Frequency Changers
 Monthly Report – December 2022

- Milestone 8 – Control Systems Manufacturing, Factory Testing, Shipping, and Delivery
- Milestone 9 – Spare Parts and Special Tools provision
- Milestone 10 – Final Field Testing and Commissioning

*See Milestone List (attached) for details

**Various components of each Milestone will be completed at different times. Pay applications will be submitted with partial Milestones being complete.

Project Schedule

Item	Design Start	Design Complete	Bid Award	NTP	Duration (days)	Final Completion
SFC 1 (Original Contract)	10-2-2020	2-11-2021	6-3-2021	7-12-2021	561	2-7-2023
SFC 2 & 3 (Change Order)	N/A	N/A	N/A	5-2-2022	297	7/19/2024*

* Schedule submittals from contractor are under review

Project Budget

	Design (Jacobs Engineering)	1417 – SFC Procurement (Walter J Barnes Electric Co)
Original Contract Value	\$634,142	\$9,878,000
Change Orders – Approved	\$7,246,235	\$21,590,000
Current Contract Value	\$7,880,377	\$31,468,000
Pending Amendment/CO	-	-

*Note: The design service agreement with Jacobs Engineering includes design of SFC 1, civil/structural components, electrical and control components, the Utility Rack, and other integration items associated with the West Power Complex. These costs are not included in the CEA, but are shown here for completeness.

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Project Projected Cash Flow

The monthly cash-flow expenditure values shown below are present estimates based on current contractor schedule for milestone payments, and are subject to change.

2022	
June	\$ 7,278,610
August	\$ 1,477,000
November	\$ 257,300
December	\$ 165,760
Total:	\$ 9,178,670
2023	
June	\$ 392,000
July	\$ 168,000
August	\$ 399,360
September	\$ 467,500
October	\$ 1,701,175
December	\$ 1,701,175
Total:	\$ 4,829,210
2024	
January	\$ 161,900
March	\$ 161,900
April	\$ 2,132,630
May	\$ 1,291,530
June	\$ 2,337,630
August	\$ 1,496,530
Total:	\$ 7,582,120
Grand Total	\$ 21,590,000

Project Invoices

The values shown below are present amounts paid by SWBNO to The Contractor.

Invoice Number	Invoice Date	Invoice Net Amount	SFC 2 & 3 Expense
1417 – 01	7/20/2021	\$ 875,805.00	
1417 – 02	12/31/2021	\$ 2,249,552.50	
1417 – 03	2/20/2022	\$ 929,955.00	
1417 – 04	8/10/2022	\$ 6,914,679.50	\$ 6,914,679.50
1417 – 05	8/10/2022	\$ 1,403,150.00	\$ 1,403,150.00
1417 – 06	11/18/2022	\$ 1,018,970.00	\$ 240,160.00
Total:		\$13,392,112.00	\$8,557,989.50

Critical Issues

None at this time.

Attachments:

Milestone List

Milestone	SOV Item	Description
1	10A	Down Payment - SFC Power Block Interface with Power Distribution Control System (PDCS)
	11A	Down Payment - SFC Power Block Cooling System
	11B	PO Issued to Manufacturer - SFC Power Block Cooling System
	1A	Mobilization/Bond - Prepare & Submit Design Documents for Approval - Physical Design Components
	2A	Mobilization/Bond - Prepare & Submit Design Documents for Approval - Non- Physical Design Components
	3A	Down payment - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	3B	PO Issued to Manufacturer - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	4A	Down Payment - SFC Power Block Power Electronics
	4B	PO Issued to Manufacturer - SFC Power Block Power Electronics
	5A	Down Payment - SFC Power Block Power Input/Output Transformers
	5B	PO Issued to Manufacturer - SFC Power Block Power Input/Output Transformers
	6A	Down Payment - SFC Power Block Interconnection Equipment
	6B	PO Issued to Manufacturer - SFC Power Block Interconnection Equipment
	7A	Down Payment - SFC Power Block Auxillary Power System
	7B	PO Issued to Manufacturer - SFC Power Block Auxillary Power System
	8A	Down Payment - SFC Power Block Interconnecting Electrical Equipment
	8B	PO Issued to Manufacturer - SFC Power Block Interconnecting Electrical Equipment
	9A	Down Payment - SFC Power Block Miscellaneous Electrical System Elements
	9B	PO Issued to Manufacturer - SFC Power Block Miscellaneous Electrical System Elements
	10B	PO Issued to Manufacturer - SFC Power Block Interface with Power Distribution Control System (PDCS)
1B	Approval of Submittals - Physical Design Components	
2B	Approval of Submittals - Non-Physical Design Components	

2	6C	Manufacturing Complete - SFC Power Block Interconnection Equipment
	8C	Manufacturing Complete - SFC Power Block Interconnecting Electrical Equipment
	9C	Manufacturing Complete - SFC Power Block Miscellaneous Electrical System Elements
	8D	Factory Acceptance Testing Complete - SFC Power Block Interconnecting Electrical Equipment
	9D	Factory Acceptance Testing Complete - SFC Power Block Miscellaneous Electrical System Elements

3	8E	Shipped from Manufacturer - SFC Power Block Interconnecting Electrical Equipment
	9E	Shipped from Manufacturer - SFC Power Block Miscellaneous Electrical System Elements

4	7C	Manufacturing Complete - SFC Power Block Auxillary Power System
	16	Factory Testing - SFC Power Block Auxiliary Power System
	25	Equip. Delivery - SFC Power Block Auxiliary Power System
	7D	Factory Acceptance Testing Complete - SFC Power Block Auxillary Power System
	7E	Shipped from Manufacturer - SFC Power Block Auxillary Power System
	10C	Manufacturing Complete - SFC Power Block Interface with Power Distribution Control System (PDCS)
	18	Factory Testing - SFC Power Block Miscellaneous Electrical System Elements
27	Equip. Delivery - SFC Power Block Miscellaneous Electrical System Elements	

5	4C	Manufacturing Complete - SFC Power Block Power Electronics
	15	Factory Testing - SFC Power Block Interconnection Equipment
	24	Equip. Delivery - SFC Power Block Interconnection Equipment
	6D	Factory Acceptance Testing Complete - SFC Power Block Interconnection Equipment
	6E	Shipped from Manufacturer - SFC Power Block Interconnection Equipment
	6F	Delivery - SFC Power Block Interconnection Equipment

Milestone	SOV Item	Description
6	11C	Manufacturing Complete - SFC Power Block Cooling System
	20	Factory Testing - SFC Power Block Cooling System
	11D	Factory Acceptance Testing Complete - SFC Power Block Cooling System
	19	Factory Testing - SFC Power Block Interface w/ Power Dist. Control Sys. (PDCS)
	28	Equip. Delivery - SFC Power Block Interface w/ Power Dist. Control Sys (PDCS)
	10D	Factory Acceptance Testing Complete - SFC Power Block Interface with Power Distribution Control System (PDCS)
	10E	Shipped from Manufacturer - SFC Power Block Interface with Power Distribution Control System (PDCS)
	11E	Shipped from Manufacturer - SFC Power Block Cooling System
	10F	Upon Delivery - SFC Power Block Interface with Power Distribution Control System (PDCS)
	29	Equip. Delivery - SFC Power Block Cooling System Equipment
	11F	Equip. Delivery - SFC Power Block Cooling System

7	5C	Manufacturing Complete - SFC Power Block Power Input/Output Transformers
	7F	Equip. Delivery - SFC Power Block Auxillary Power System
	8F	Equip. Delivery - SFC Power Block Interconnecting Electrical Equipment
	9F	Equip. Delivery - SFC Power Block Miscellaneous Electrical System Elements
	4D	Factory Acceptance Testing Complete - SFC Power Block Power Electronics
	13	Factory Testing - SFC Power Block Power Electronics Enclosure
	22	Equip. Delivery - SFC Power Block Power Electronics Enclosure
	4E	Shipped from Manufacturer - SFC Power Block Power Electronics
	14	Factory Testing - SFC Power Block Input/Output Transformers
	23	Equip. Delivery - SFC Power Block Input/Output Transformers
	5D	Factory Acceptance Testing Complete - SFC Power Block Power Input/Output Transformer:
	5E	Shipped from Manufacturer - SFC Power Block Power Input/Output Transformer:
	5F	Equip. Delivery - SFC Power Block Power Input/Output Transformers
	3C	Manufacturing Complete - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	12	Factory Testing - SFC Power Block Power Electronics & Power Filtering
3D	Factory Acceptance Testing Complete - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System	

8	3E	Shipped from Manufacturer - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	3F	Equip. Delivery - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	21	Equip. Delivery - SFC Power Block Power Elec. & Power Filtering & Controls
	32	Training
	4F	Equip. Delivery - SFC Power Block Power Electronics
	17	Factory Testing - SFC Power Block Interconnecting Electrical Equipment
	26	Equip. Delivery - SFC Power Block Interconnecting Electrical Equipment

9	33	Spare Parts & Special Tools
	10G	Complete Field Testing & Commissioning - SFC Power Block Interface with Power Distribution Control System (PDCS)

10	30	Installation Supervision
	11G	Complete Field Testing & Commissioning - SFC Power Block Cooling System
	3G	Complete Field Testing & Commissioning - SFC Power Block Power Electronics, Power Filtering, & Electrical Control System
	4G	Complete Field Testing & Commissioning - SFC Power Block Power Electronics
	5G	Complete Field Testing & Commissioning - SFC Power Block Power Input/Output Transformers
	6G	Complete Field Testing & Commissioning - SFC Power Block Interconnection Equipment
	7G	Complete Field Testing & Commissioning - SFC Power Block Auxillary Power System
	8G	Complete Field Testing & Commissioning - SFC Power Block Interconnecting Electrical Equipment
	9G	Complete Field Testing & Commissioning - SFC Power Block Miscellaneous Electrical System Elements