
Power Barge EPC Execution Plan

For

Derwick Associates



Proposal No. 409-2837

October 20, 2009

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1.0 Introduction

ProEnergy Services (“ProEnergy”) is pleased to offer this fast track proposal for the EPC of the 98 MW ISO P&W FT4C-1 simple cycle 50 Hz Power Barge project. To that end, we have developed this proposal to address the challenges and issues of the project. We wish to highlight the following key elements of the proposed project approach:

- ProEnergy’s Corporate Profile and History
- Project Descriptions and Scope
- Pricing and Commercial Considerations

The core EPCM management team of ProEnergy Services will set out all procedures and controls required for coordinating and routing documentation, design and engineering information, technical interfaces and correspondence as required to ensure the following:

- ◆ Planning and scheduling all project activities across all three options.
- ◆ Coordinating project activities with vendors and client.
- ◆ Coordinating project interfaces with client.
- ◆ Monitoring and reporting all project activities.
- ◆ Producing progress reports and schedules.
- ◆ Providing Project Management of both Firm Fixed Price and Cost Plus activities.
- ◆ Providing contract management.

2.0 ProEnergy Services Overview

2.1 ProEnergy Corporate Profile and History

ProEnergy Services is an integrated service company with broad domestic and international experience. Established by a dedicated group of seasoned energy professionals in response to a growing need within the energy industry for a cost-effective, safe, reliable service group with high quality standards, ProEnergy provides a broad spectrum of services to the global energy industry.

Our team is committed to the energy industries, and is comprised of industry experts who possess the global experience, knowledge, financial depth, and a reputation for exceeding our clients' expectations, anywhere in the world. Our backgrounds include a wide variety of skill sets and experience which allows us to quickly understand your needs and provide innovative solutions. The value we can bring begins in the development stage of a project, through construction and start-up, and continues through the long term operations and maintenance of a facility.

Exceeding customer expectations is what sets apart the commercial successes of our era from the commercial failures. The business world today continues to evolve and the success or failure of organizations are often tied to their ability to remain focused on customer satisfaction, driving to reduce overhead so as to provide real value, and remaining dedicated to exceeding the expectations of their clientele. ProEnergy Services holds forth that same vision as the model for its success. At ProEnergy Services, we are dedicated to providing a level of service which eclipses our competitors... we do it better! We are passionate about client satisfaction, committed to lower costs, which we pass on to the consumer, and dedicated to exceeding our clients' expectations. It is this commitment that has allowed us to grow throughout the down turn in the energy market.

3.0 Project Execution Plan

ProEnergy's plan to execute this work is based on industry standards, and our standard processes developed and tested through and our experience in performing this type of project.

The Management team will provide the Project Manager responsible for the project and the project support functions required to assist the construction team. The support functions provided by the team includes coordination and logistics, procurement and purchasing, documentation and procedure development, engineering and technical expertise, environmental health and safety, and quality control. The Project Manager will ensure that the construction team is getting sufficient support from these functions to allow the Construction Team to be most effective.

The Construction Management Team at the site will manage, oversee, and direct the EPC of the power barge. This team will provide direct management of manpower, material control, documentation control, planning and scheduling, and technical direction to perform the work. The Construction Management Team will provide direct feedback to the subcontractors selected for manpower planning, equipment and tool requirements, and consumable materials to perform the work. The Construction Management Team will collect the necessary data to properly document the work for warranty, start-up, and maintenance.

ProEnergy will provide for the engineering required for the power barge. ProEnergy will mark up construction drawings and specifications to reflect changes that were made during the construction phase of the project. A final set of plant drawings and specifications will be issued after the completion of the project which will include all modifications performed during construction. The scope of engineering and design is attached in appendix A.

4.0 Project Management Team

ProEnergy Services will provide a Project Management Team to support the Construction Team with the following functions:

- Overall Project Management
- Procurement and purchasing services
- Quality Control / Quality Assurance
- Environmental Health and Safety
- Project Scheduling
- Engineering and technical support
- Coordination and logistics
- Human Resources
- Payroll and finance

The Project Management Team will be managed and coordinated by the Project Manager. The Project Manager will have overall responsibility to ensure that the Construction Team is meeting the project goals by coordinating and managing the resources for the project.

Project Manager

The Project Manager's primary function is to ensure the project goals are being met. The Project Manager will monitor progress of the project and will ensure the project supports functions are providing the necessary functions required by the Construction Team throughout the various stages of implementation from design through to completion. The Project Manager has complete responsibility for the project's execution, from contract signing to final acceptance, and will ensure the appropriate company resources are applied to the project to meet the goals set forth.

The Construction Manager will report directly to the Project Manager and will communicate any issues, support needs, technical concerns, project status, and manpower needs on a daily basis.

Procurement

ProEnergy will provide procurement and purchasing services. Any purchases required will be performed through the ProEnergy Procurement and Purchasing group.

All purchases will be made through a procurement process developed at the beginning of the project. The process for local purchases will be somewhat different than the purchases made from the Procurement and Purchasing group. However, any purchase made will require approval from the customer prior to the purchase being made.

ProEnergy will provide expediting services for all equipment and material purchased for the Customer to ensure compliance with the project's schedule requirements. Records and reports will be maintained and communicated to inform all participants of the status of fabrication and delivery dates. Any potential deviation from the plan will be flagged as soon as it is identified so that appropriate corrective actions can be discussed and initiated before it can impact the overall schedule.

Quality Control

ProEnergy is committed to accomplishing the construction and pre-commissioning of this project within schedule at budgeted cost with high quality and reliability in full compliance with industry codes, engineering standards, and Customer requirements.

The ProEnergy corporate Quality Program will be utilized including our standard procedures and instructions adapted specifically for this project. These procedures have been developed and enhanced through use on past and present successful projects.

This Quality Program provides effective integration, planning, monitoring, and control of the activities performed in all facets of the project. It will provide the framework for effective communication and coordination of the interfaces between the Project Team, Project Suppliers, and the Customer.

Project Scheduling

The overall project schedule will be developed and submitted to the customer for comments. The schedule will be adjusted and resubmitted as the final schedule that the project will be constructed from. ProEnergy will update the schedule on a weekly basis and provide details of any deviations of the original schedule in weekly reports to the customer. The Project Schedule will be updated by a ProEnergy scheduler based off site.

5.0 Construction Management

ProEnergy will provide Construction Management Services to construct the facility and perform the pre-commissioning of the power barge. The Construction Management team will consist of project management engineering support, technical specialists, quality control, documentation and material control, and supervision to perform the work.

Attached below is our proposed site organization. The site staff will be composed of the key personnel defined below, adjusted to the specific needs of the project as it progresses.

The Construction Manager is assigned to the site for construction and pre-commissioning phases of the project. His responsibilities include coordinating with the various team members on all aspects of the project effecting construction and startup. The Construction Manager's responsibility will also include forming a close working relationship with the customer and any subcontractors selected to perform the work.

The Construction Manager is supported by a staff of individuals experienced in the mechanical/piping, electrical, and instrument and controls disciplines. These individuals will provide rapid resolution of any questions, concerns, or problems that may arise during the project to ensure quality and adherence to schedule. Additionally, individuals experienced in QA/QC, safety, and supervision of labor will complete the Construction Team to provide the required expertise in those areas.

The Construction Manager is responsible for the conduct of all construction related activities for the duration of the Project. The Project Manager is directly responsible for job site work performance and accomplishment of the construction schedule and goals. Planning and scheduling of site work is vital to the success of any project. The Construction Manager forecasts labor manpower requirements, allocates manpower, equipment, and material, and administers the overall construction activities. For this task, he is supported by an experienced staff comprised of the following members.

The Site Engineer is responsible for the engineering and design interfaces. The Site Engineer is also responsible for providing field engineering support to the construction supervisors and Construction Manager.

The Quality Assurance/Quality Control (QA/QC) Manager is responsible for the Field Quality Assurance and Quality Control Program. All manuals and procedures for the Program are produced under his direction. He is also responsible for the direction and supervision of the Quality Control and Testing Program. The Quality Assurance/Quality Control Manager will be supported by the ProEnergy QA/QC Group.

The QA/QC Manager will also be responsible for Environmental Health and Safety functions at the site. The QA/QC Manager will ensure that all ProEnergy and Subcontractor personnel support and comply with the site safety and environmental requirements.

ProEnergy will provide Mechanical and Electrical Superintendents and Foremen to plan and direct the work. The Superintendents will coordinate and plan material, manpower, equipment, tools, and consumables to execute the work. The Superintendents will work with the Mechanical and Electrical Managers to perform the planning and execution of the work.

The Mechanical and Electrical Foreman will provide direct planning of the labor for each project task. The Foremen will ensure that tasks are being performed properly and any technical data is being captured. The Foremen will also be responsible for production and quality of the labor.

The Documentation and Materials Coordinator will be supported by the Office Manager and will be responsible for controlling material purchases, arranging for and maintaining construction equipment, coordinating material turned over for construction, and assembling documentation for the project.

The Project Scheduler is responsible for the development of the project schedule and weekly updates. The project schedule will include all aspects of the project including design, procurement, construction, and pre-commissioning of the power barge. The Project Scheduler will update the schedule on a weekly basis and provide any deviations to the Construction and Project Manager.

A key element of an effective management program is the communication between all levels of the team. During the construction phase of the Project, communication is accomplished through regularly scheduled meetings. The agenda for these meetings typically include the following:

- ◆ Progress reports from those responsible for the various work tasks.
- ◆ Information concerning material deliveries for planning work.
- ◆ Information concerning quality issues and work plans.
- ◆ Information concerning design issues requiring resolution.
- ◆ Discussions and presentation of plans for the upcoming period.
- ◆ Development of action items and assignment of responsibility for resolution.
- ◆ Discussion of any special site activities such as heavy lifts, etc.
- ◆ Later in the project, pre-commissioning plans will be presented at these meetings.

At the conclusion of the meeting, minutes of the meeting are developed and distributed to all project participants. Attachments such as schedules, cost evaluations, and other documentation will be distributed as appropriate.

The Project Manager will be responsible for the day-to-day management of the project team and ensuring that the contract is fulfilled within the completion dates and to the satisfaction of the Customer. The design Engineering Subcontractor will report directly to the Project Manager. Additional personnel assigned to the project as well as subcontractors will report through these individuals to the Project Manager as shown on the organizational chart below.

The ProEnergy Construction Manager will be the primary point of contact on the project. The core management team will set out all procedures and controls required for coordinating and routing documentation, design and engineering information, technical interfaces and correspondence as required to ensure the following:

- ◆ Planning and scheduling all project activities.
- ◆ Coordination of project activities.
- ◆ Coordination of project interfaces.
- ◆ Monitor and report all project activities.
- ◆ Produce progress reports and schedules.
- ◆ Provide site Management and Coordination.
- ◆ Providing contract management.

6.0 Project Engineering

ProEnergy will provide the design and engineering required to construct and install the 98MW ISO P&W FT4C-1 Power Barge. ProEnergy will provide sufficient engineering resources to support the construction team with technical questions, design issues, and any specifications for material purchasing. The engineering subcontractor will report directly to the ProEnergy Project Manager and will be responsible to provide timely responses to support project goals.

ProEnergy will provide the electrical and mechanical drawings and specifications required to construct pre-commission the power barge. The ProEnergy Construction team will mark up the construction drawings to meet the “as built” configuration of the systems. After completion of the project, ProEnergy will provide final drawings that will replace the “as built” drawings.

6.1 Technical Specification:

General Description

The deck barge is a ballastable steel deck barge that measures 300' x 90' x 20'. Fully outfitted with the 99 MW power plant, the draft is expected to be about 7'. The deck barge has two on deck 96,000 gallon storage tanks, one for demineralized water and one for fuel. It also has a BOP control building. Under deck, there is a machinery space with a storm water tank and oily water separator, and a pump room for ballasting and deballasting the deck barge. The deck barge was recently surveyed and found to be in very good condition.

This proposal assumes that one Twin Pac will be installed off centerline over the existing Twin Pac substructure and the second Twin Pac installed on the port side of the power barge. This offer includes pre-commissioning but not on-site commissioning or delivery. It is estimated that this cost will be about \$44M per power barge and the power barge will be ready for shipping in 5 months after notice to proceed.

The following provides additional information regarding the equipment mounted on the FT4 power barge:

Power Island – Scope of Supply

1. 2 P&W FT4C-1 Gas turbines (fully instrumented), with turbine overhaul and new controls.
2. Generator,
3. Air inlet plenum (lower section)
4. Air inlet support structure and filter systems with filters
5. PLC Plant controls and control building module

6. Batteries and battery chargers
7. CO2 Enclosure fire fighting systems
8. Generator breaker in NEMA III all weather enclosure in accordance with the attached specifications
9. Turbine compressed air starting system
10. I&C cables, LV, MV and HV cable and duct bus
11. 2 60 MVA 132 kV substation and breakers

Balance of Plant - Scope of Supply

1. Engineer and design completed power barge.
2. Provide project management
3. Receive and store all Power Island equipment.
4. Provide a suitable existing deck barge
5. Ship deck barge to shipyard.
6. Modify deck barge for foundation loads
7. Design, fabricate and install fire main, hose stations and foam stations (no deluge on substation)
8. Design, fabricate and install the following foundations:
 - a. Gas Turbine Packages (2)
 - b. Generator (2)
 - c. Starting Package (2)
 - d. Generator Breaker Enclosure (2)
 - e. Exhaust Stack (2)
 - f. Auxiliary Transformer (1)
 - g. Control Room (1)
9. Design, fabricate and install the following foundation pedestals:
 - a. Air Inlet (2)
 - b. Exhaust (2)
 - c. Aux. skids (as required)
10. Install the following:
 - a. Gas turbines (4)
 - b. Exhaust/silencer (2)
 - c. Generator (2)
 - d. Generator breaker/building (2)
 - e. Air inlet plenum/transition sections/air inlet house (2)
 - f. Starting package (2)
 - g. Auxiliary transformers (1)
 - h. Control room (1)
11. Touch-up barge paint.
12. Design, procure and install liquid fuel supply skid and piping including the:
 - a. Y strainer
 - b. Meter
 - c. Stop Valve

13. Design and fabricate and install gratings, walkways and ladders.
14. Procure and install cable trays (low/medium voltage/I&C)
15. Specify, procure, pull and terminate medium voltage and low voltage cables and high voltage bus duct.
16. Specify, procure, pull and terminate grounding systems. .
17. Pre-commission all systems available
18. Preparation for sea transportation.

7.0 Commercial Terms

ProEnergy will perform the following responsibilities below for the EPC of the 98 MW ISO P&W FT4C-1 Power Barge. ProEnergy will perform this work scope for **\$44,000,000. All equipment is subject previous sale.**

- Project Management and Headquarters Support
- Engineering
- Procurement
- Construction
- Pre-Startup

8.0 Terms & Conditions

This proposal shall be valid for thirty (30) days; provided, however, the obligation to treat this proposal as confidential, and that it cannot be shared with any third party without the prior written consent of ProEnergy, shall survive.

This proposal, and any resulting contract or agreement, shall be subject to the terms and conditions set forth in the attached Supplemental Terms.

9.0 Assumptions and Clarifications:

- This price does not include
 - Onsite Startup
 - Transportation
 - Demin Water Treatment
 - FO Treatment
 - Commissioning on site
 - CEMS System
 - Fire, potable and demineralized water will be supplied from shore.
 - Fuel for gas turbine will be P&W spec for FT4C-1 and not require fuel treatment.
 - No on-board offices, restrooms, living quarters are required.
 - Black start will not be required.
 - Delivery to client or installation not included.

- 2 week advanced engineering prior to notice to proceed.
- The power barge will be ready for shipping in 5 months after notice to proceed.
- This price is subject to availability of the equipment.
- This is a plus or minus 10% deal until firm negotiations has been completed by suppliers.

10.0 Follow Up

Please contact the following person at ProEnergy for information regarding this proposal:

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