




GENERAL

PROJECT EXECUTION PLAN

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		CLIENT DOCUMENT N°				REV.
CONTRACTOR		PSE DOCUMENT N°				00
						

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REVISION RECORD

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1 PURPOSE

For the execution of projects PSE is working with a Project Execution Plan (PEP) which is a guideline for successful planning and performing of a Project. It is serving as the terms of reference for the Project Management. The PEP is a living document which is going to be developed further as the Project is moving forward.

Based on the requirements of the project and the client PSE will update this document to a project related document.

This documents is the standard project execution plan for engineering, procurement and construction projects.

2 ABBREVIATIONS

ASME	American society of mechanical engineers
ATEX	Explosive Atmosphere Directive
API	American Petroleum Institute
BAT	Best Available Technology
BS	British Standard
DN	Nominal diameter
EPC	Engineering, procurement and construction (contractor)
EPCm	Engineering, procurement and construction management (contractor)
LLI	Long lead item(s)
MEGAL	Mittel-Europäische-Gasleitung (system)
MS	Metering station
NEC	Nationak Electrical Code
NFPA	National Fire Protection Agency
NPC	Net Present Costs
P	Pressure
PMC	Project Management Consultant
RF	Reverse flow
ROW	Right of way
SIL	Safety Integrity Level
T	Temperature

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3 DESCRIPTION OF THE SCOPE

Mellitah Oil & Gas B.V. (Oil Division) intends to up-grade and replace the existing fiscal Metering systems of Onshore fields and Mellitah Complex to the latest type of metering system.

The new metering system will be supplied as fully assembled skid including meters, filters, control and safety valves, Control & instrumentation equipment, control panels and cabinets, piping and steel structures.

The PSE scope of work for this project includes the following parts:

- Design and Engineering of the unit,
- Procurement of all related materials,
- Construction of the metering skids in there European work shop,
- Facotory and work shop testing, calibration and inspection of the pre-assembled units.
- Packing of the units suitable for sea transport and truck transport,
- Preparation of the documentation for all parts delivered by PSE,
- Prepare installation & commissioning procedures and documentation for the site installation, testing and commissioning by others.

4 SCHEDULE

The project execution schedule covers all activities taking into account the final target point of scope of delivery. After contract award the project execution schedule is the basis for the preparation of an overall project execution time schedule.

For each part of the project, a schedule will be issued, paying particular attention towards the schedule and time aspects for the engineering, construction and transportation of the equipment. The Project execution schedule outlines also the approval scenario to provide evidence that everything relevant to authority engineering activities is considered in a proper manner and to ensure that every possible deviation of the project execution schedule can be detected in time in order to initiate measures to ensure that the fixed project finish date is reached in time.

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5 THIRD PARTY APPROVALS

Third party approvals will be demanded wherever they are decided to be necessary during the procurement, construction or commissioning phase of the EPC project.

6 DESIGN AND ENGINEERING

Engineering work performed by PSE on this project will make full use of the project team's engineering knowledge and experience to reduce costs and improve quality, safety, and the project schedule.


All engineering / design work is to be done in accordance with the client standards and procedures, PSE standards and procedures as well as the common national and international engineering and design standards, codes and practices. For the project execution PSE will develop Project Procedures for Engineering and Design. These procedures will be issued to the client for approval. Furthermore, a List of Deliverables (LoD) will be prepared and controlled during the engineering and construction process and if necessary adapted to the actual status of finding. The LoD revisions will be issued to the client for approval.

6.1 Organisation and Responsibilities

Engineering team members are responsible for performing design work according to the execution strategies set forth in this plan. The Lead Discipline Engineers are responsible for the technical content of design documents.

For the different Engineering Phases written afore, office engineering teams will be organized and assigned to the project, and shown in PSE Project Organization Charts for the different project phase. The engineering will be carried out in PSE offices in Germany.

Qualifications and training specific to assigned functions are reviewed for engineering and design personnel. Engineers with appropriate expertise will be assigned to support project activities. Designs will be prepared by or under the direction of qualified Lead Discipline Engineers with strong supervision by the Engineering Manager and Project Manager.

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Subcontractors will be selected in time after contract award by PSE and will be led by PSE Project Manager.

The responsibilities of the third party engineering / design organization will be defined in the contract documents.

6.2 Project Engineering Phases

The methods of performance of engineering and design at PSE are process based and be oriented by the project phases.

6.3 Design Basis

The design will be prepared in accordance with the design criteria defined in the contract, as modified by approved changes, and in compliance with local and national consensus codes and standards. The design basis documentation will be controlled.

For the project execution a Basis of Design (BoD) will be prepared and issued to the client for approval. During all phases of project, the BoD will be reviewed again and if it is necessary, the BoD will be adjusted to the actual project requirements of each phase.

The Design will define the scope of work for each required task based upon design criteria provided in accordance with the prime contract and the BoD. The design criteria will be reviewed by appropriate disciplines to refine the work scope. The Work Breakdown Structure (WBS) developed for the project will form the basis for identifying all engineering work.

Modifications to the basic design criteria will be performed only upon written agreement between the client and PSE. Omissions or other modifications to the design criteria will be identified to the client and the design will be altered only upon agreement by and direction from the client.

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6.4 Constructability, Maintainability and Operability (CMO) Process

During the engineering phase, options will be evaluated a.o. by budgetary estimations and evaluations (CAPEX, OPEX, life cycle cost), reliability and operability parameters, maintenance aspects, schedule, etc, if required in the contract.

6.5 Design Deliverables

Design document deliverables will include drawings, specifications, calculations, required for the project. The design deliverables are defined in the List of Deliverables for each engineering discipline, measure and task. Design documents will be produced using the reference systems described in this document.

All project deliverables will be checked by someone other than the person responsible for creating the original. In general, evidence of checking will appear on the document itself.

6.6 Drawings

Drawings will be produced as follows:

- Design drawings will utilize computer aided design and drafting as described in the Automation section of this plan.
- Drawings for reports / studies will be A4 sized sheets, while P&IDs, flow diagrams, engineering drawings, etc. will generally be A1 and A0 sized as described in the Project Quality Plan.
- The PSE or client site standard title block will be used.
- Drawings will be turned over to DCC for issue and filing.

6.7 Specifications

Specifications will be produced using client and / or PSE format. The specifications will be customized in order to provide equipment with the required level of quality for the function the equipment is performing.

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The same is mentioned for specifications which are related to piping components and materials, instrumentation items as well as, components and items which are issued by electrical engineering.

Drawings will be turned over to DCC for issue and filing.

6.8 Calculations

Analytical software programs, which are not already qualified by PSE and have been used for calculations, will be subject to verification and validation on the project, and their use will be controlled by the Lead Discipline Engineer.

Completed formal calculations which support the final issued design will be turned over to DCC for file retention.

6.9 Engineering Study Reports

Engineering studies will be prepared in a standard format established for the project by the Project Engineering Manager.

Studies will be turned over to DCC for issue and filing.

6.10 Design Control

Design control will be facilitated by using Activity Plans which specify the appropriate procedures, work instructions, and requirements for checking, review, and approval. The following sections summarize this information and provide additional detail where required.

6.11 Reviews

Design reviews will be performed at appropriate stages in the design. All design review comments will be resolved prior to final approval.

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The following design reviews will be performed on project deliverables, if applicable:

- Value Engineering Reviews
- Constructability, Maintainability, and Operability Reviews
- Plant Operations Safety Reviews
- Interim Design Reviews (includes client)
- Interdiscipline Reviews (Squad Check)
- Technical / Peer Reviews
- Final Design Reviews (includes client)

Technical / Peer Reviews will be performed on the following contractually specified items, systems or components. Additional Technical / Peer Reviews may be performed at the discretion of the Lead Discipline Engineer, or as directed by the Project Engineering Manager, on other specific items (such as those important to safety).

6.12 Revision Numbering

The engineering disciplines will be responsible to see that proper revision control is used for engineering documents. A revision numbering system will be used for both internal / draft issues of documents, as well as documents that are issued to the client (such as study reports or Approved for Design / Engineering drawings).

6.13 Responsibilities / Approvals

Project checking / approval (signature) requirements for project deliverables are discussed in detail in the discipline Quality Plans, and the Project Quality Plan and are summarized below. Approvals required by the client are also listed in this table. In case of conflict, the approved Project Quality Plan will govern.

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ACTIVITY DESCRIPTION	PREPARED BY	CHECKED / REVIEWED BY	APPROVED BY
Calculations	Discipline Engineers	Discipline Engineers	Lead Discipline Engineers
Drawings	Design Engineering	Discipline Engineers Design Checkers Other Disciplines	[Designers] [Checkers] [Discipline Engineers] [Lead Discipline Engineer] [Project Engineering Mgr.] [Project Manager] [Client]
Specifications	Discipline Engineers	Discipline Engineers Other Disciplines	[Discipline Engineers] [Lead Discipline Engineer] [Project Manager] [Client]
Study Reports	Discipline Engineers	Discipline Engineers Other Disciplines Project Manager	[Lead Discipline Engineer] [Project Manager]
Other Deliverables	Discipline Engineers	Discipline Engineers Other Disciplines Project Manager	[Lead Discipline Engineer] [Project Manager]

6.14 Technical Document Control of Engineering Documents

The term "document" refers to technical information or data (including client supplied and external information such as codes and standards), which is either printed, stored electronically, or exists in any other format. The Technical Document Control (TDC) group on the project will control technical documentation, including:

- Controlling documents by providing a unique identifier.
- Subjecting each revision to a documented checking and approval process for adequacy, prior to use, by those functions which originally checked or approved the document.

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- Identifying the nature of the revision on the document where practicable.
- Maintaining up-to-date listings of documents and their current revision.
- Establishing methods to control obsolete documents (e.g. identified, marked "superseded," or withdrawn, (i.e. segregated or destroyed) to protect against unintended use).
- Establishing standard document distribution arrangements and records of issue for main project documents.
- Controlling interfaces and document transmittal between different groups.

6.15 Engineering Plan and Engineering Management

The PSE project team shall be responsible for review and verification of conceptual design, and for development of all basic and detail design and engineering required to complete the entire Scope of Work, taking into account all specified requirements. As specified herein, PSE project team will perform all additional engineering and design work required to complete all project phases, as described in this document, and in the tender documentation.

6.16 Verification of Tender Documentation

The scope of work requires that PSE shall be responsible for review and verification of tender documentation required for sub contracted work.

6.17 Authority Engineering / Permitting

PSE will appoint an Authority Manager to the project if it is applicable for the project.

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6.18 Engineering Management

With an engineering team consisting of the lead discipline engineers of various engineering departments and disciplines the engineering will be controlled by PSE and will be headed by the Project Engineering Manager. The Engineering Manager will report directly to the responsible Project Manager.

6.19 Process Engineering

The process engineering discipline will:

- Design in accordance with climatic condition and provide for any other factors require to make production facilities safe, well designed and easy to operate and to maintain
- Calculate piping system pressure drops and applicable compressor heads and adjust line sizes accordingly
- Review and check overall piping systems with respect to pipe runs, elevations, pockets, vapour locks, location of instruments, specifications breaks, equipment connections, locations of relief valves, accessibility of operating valves, etc.
- Ensure activities by other relative to Loss Prevention system are executed and coordinated in a proper manner
- Be responsible to execute the Hazard and Operability study, its follow-up and resolution of all action items
- Generate PFD's, Process and Utility P&ID's and equipment list to reflect development during detailed engineering phase until mechanical completion
- Review, check and approve technical data from Vendors
- Review check vendor's package units, prepare P&IDs for these units
- Update utility summaries and balances

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- Prepare plant operating instructions including start-ups, shut-downs, and emergency shut downs
- Prepare Plant manual including detailed plant description, and commissioning including first start up.

6.20 Mechanical and Equipment

The Mechanical and Equipment engineering discipline shall:

- Prepare, check and update instructions, specifications, datasheets, safety instructions sheets, noise sheets, all as required for the procurement, fabrication and installation of the equipment required for the facilities
- Complete data sheet to show all Vendor data
- Provide equipment prices spare parts list, manuals, start-up, operation, lubrications, maintenance and repair instructions
- Review and approve vendor data.

6.21 Layout & Piping

The Layout & Piping discipline shall:

- Define and prepare the relevant piping and layout drawings
- Prepare piping arrangement drawings for the facilities
- Prepare isometric drawings for piping above 2" diameter
- Prepare piping material take off
- Prepare hydrostatic test procedure

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- Provide list of tie-ins for hook-up piping spools
- Prepare Hot-taps drawing and details in collaborations with supplier
- Prepare specification for non-standard pipe support and the relevant guide drawings
- Provide a tag number to manual valves 2" and larger, indicate on P&IDs list them in the instrument index
- Prepare preliminary design calculation for pipe stress analysis
- Prepare preliminary design calculation for machinery and piping including vibrations, anchor location and analysis of attachment forces
- Prepare painting and insulation instructions and procedures including painting, fire proofing and insulation list as per client specifications

6.22 Electrical

The Electrical engineering discipline shall:

- Prepare, check and update instructions, specifications, datasheets, safety instructions sheets, noise sheets, all as required for the procurement, fabrication and installation of the equipment required for the facilities
- Prepare all project relevant drawings for this engineering discipline
- Provide documents for electrical work
- Furnish information to perform overall power system analysis

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6.23 Instrumentation

The Instrumentation Engineering discipline shall:

- Prepare, check and update instructions, specifications, datasheets, other drawings and documentation required for the detailed design, procurement, fabrication, construction and installation of all field instruments, relief valves, control valves, shutdown valves, local control panels, control room mounted instruments etc. required to complete the facilities
- Provide documents for Instrumentation Work

6.24 Civil & Steelwork

The Civil Engineering discipline shall:

- Prepare all relevant drawings for all sections of the facilities
- Prepare all relevant steel work drawings and calculations
- Prepare all drawings which are related to foundations
- Prepare all documents which are related to the Building Permit
- Prepare civil material take off
- Carry out the required static calculations

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7 MATERIAL MANAGEMENT

7.1 Organisation and Management

Material Management is comprised of all purchasing, expediting, Supplier Quality Surveillance (SQS), traffic and logistics, and field purchasing and warehousing activities required for project execution. This plan establishes the Material Management organisation and outlines the philosophy to be adopted on the project.

This philosophy will be integrated with engineering and construction to ensure that project execution will support the development of high quality, cost effective purchase orders which support successful completion of the project.

It is PSE policy that procurement of goods and services be performed in an ethical manner, using sound business practices, from whatever sources that provide maximum value for each expenditure, taking into consideration cost, delivery, quality, technical availability, reliability, safety integrity according to applicable laws, regulations and the contract.

7.2 Purchasing

The Project Procurement Manager is responsible for and supervises the overall procurement effort on the project, which includes all activities related to the purchase and delivery of equipment and materials. PSE will develop and or implement a project specific Procurement Strategy Document and standard procurement procedures referencing in principle the PSE procedures. PSE will develop a vendor list that is to be reviewed and approved by the client to ensure that only approved vendors are used on the project.

The project will procure goods and services from qualified Suppliers who have certified quality and HSE systems, and have demonstrated their ability to meet quality and health, safety and environmental requirements. Environmental requirements are defined by European Law, certificates and licences regarding noise, air and water pollution protection were applicable. Procurement will maintain a list of approved Suppliers for the project.

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The procurement plan for the project will describe the key execution elements of the equipment and material procurement philosophy for the project. Adequate planning is the single most important determinate in reaching the objectives of successful material management. The project procurement plan should as a minimum address the following activities:

- Identify the market to be procured from (local, global, etc.)
- Identify the key Suppliers that will be used on the project.
- Initiate procurement participation in requisition development during material requirements identification and planning.
- Establish minimum surplus goals by commodity type.
- Establish procurement negotiating strategies.
- Determine finance considerations.
- Taxes, duties.
- Freight
- Spares philosophy
- Service Capability

The Project Procurement Manager will be responsible for all Procurement activities on the project, closely monitoring project functions and performing as much of the procurement activities as possible in order to expedite the purchasing commitments.

The Project Procurement Manager will align with the following procurement functions:

- Maintaining a database of potential Suppliers and their capabilities and experience, knowledge of various commodities, available manufacturers, and principal distributors and market trends.

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- Working with other disciplines and Suppliers to assist in the development of an approved bidders list for the project that includes financially sound, reputable, and capable manufacturers and Suppliers, taking into account any restrictions such as client-approved Suppliers, project financing (i.e., Export / Import financing), etc.
- Preparing and issuing Requests for Quotations (RFQs),
- Working with the Engineering, who support the short-listing process and prepare the technical portion of the bid summary for engineered equipment, and forwarding alternative bids that appear technically and economically attractive to engineering for review.
- Evaluating quotations and negotiating with Suppliers. Proposals may be evaluated on a basis other than price, including ratings for engineering, delivery, quality, commercial terms, execution, and safety.
- Preparing, issuing, and administering Purchase Orders (POs) and change orders, which includes verifying the accuracy of invoices, negotiating back charges for final settlement, and closing-out purchase order files.
- Handling the processing of back charges that may occur during the project.
- Completing Supplier performance evaluations to provide additional bid evaluation basis. The rating system takes into consideration engineering, delivery, quality, commercial terms, execution, and safety.

Good Supplier relations will be maintained by treatment which is consistently fair and courteous. To meet this criteria, the project will adhere to the following specific policies:

- Bidders will be afforded equal opportunity. They will be required to compete on exactly the same terms as their competitors.
- Prices and special information supplied by any bidder will be kept absolutely confidential.

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7.3 Expediting

The expeditors will report via Project Procurement Manager to the Engineering Manager and QA/QC Coordinator to get the Engineering documents and data's in time and be responsible for all expediting activities on the project, including:

- Reviewing and evaluating the Supplier's understanding of purchase order requirements.
- Monitoring the status and schedule progress of assigned major purchase orders.
- When necessary, evaluating and recommending techniques, strategies, and / or priorities to Supplier management which will optimize performance in support of purchase order requirements.
- Assessing and assuring that the commitment of resources and facilities by the Supplier is appropriate to meet purchase order requirements, and if not, developing plans for resolution of critical post-award performance deficiencies (such as applying technical or management resources, re-evaluating Supplier capability, implementing remedies or other recommendations as appropriate).
- An expediting plan will be developed for the project and included in the Project Quality Plan. This expediting plan is a list of purchase orders that are to be expedited with the expediting mode and contact frequency identified. Items are typically included in the plan if they have critical schedule and material requirements or are affected by market economic conditions and shop loads.

7.4 Quality Surveillance

Quality Surveillance will ensure that the goods and services that have been procured for the project meet the quality requirements, and that the performance of suppliers is evaluated.

Quality Surveillance activities include:

- Organising and attending Pre-Inspection Meetings.
- Reviewing project documents regarding Supplier quality control requirements.

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- Performing surveillances at a Supplier's (or their sub supplier's) facility to examine equipment / material to ensure conformance to requirements.
- Applying shop inspection resources to equipment based on criticality rating.
- Performing evaluations of Supplier quality systems at a Supplier's (or their sub supplier's) facility to determine Supplier capabilities.
- Issuing surveillance or evaluation reports in a timely manner. A non conformance report will be issued when work presented by the Supplier as being complete is found to be deficient.
- Interfacing with engineering, project, client and Supplier personnel to resolve Supplier quality deficiencies.
- Conducting Supplier Quality Alignment Meetings at a Supplier's facility when requested.

8 CONSTRUCTION

Construction will be involved from the beginning of the project in order to achieve a construction driven approach to engineering, procurement and contracting of the equipment. The project will utilize the construction team's knowledge and experience to control costs, and improve the project schedule, quality, and safety.

8.1 Organisation and Responsibilities

The Construction Manager is responsible to the Project Manager for the functional direction and support for all construction organisation operations. Construction departments, including Construction Operations, Technology, Quality Control, and Safety report to the Project Manager and are responsible for the execution of their assigned construction activities.

Construction team members are responsible for performing their work to meet the requirements of this plan.

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8.2 Construction Plan

PSE will primarily execute their scope using the PSE management procedures. Primarily a part of the scope is to be executed using sub-contracts.

A construction plan will be developed by the Project Manager which will describe the methods and requirements to implement the construction execution strategy.

Construction will also help develop the project procurement and contracting plans prepared by the procurement and contracting groups to establish the philosophy and guidelines for project procurement and contracting for construction work, including front-end, pre-award, and post-award activities.

8.3 Construction Quality Control

Construction Quality Control is responsible for implementing a comprehensive QA / QC program for all construction activities, which will reference the procedures and methods for deploying the construction quality system to the project, including:

- Establishment and verification of Contractor quality requirements.
- Maintaining quality personnel qualification and training.
- Administration and custody of site quality records.
- Administering an audit and surveillance program.
- Tracking and monitoring resolution of non conformances.
- Conducting, witnessing or monitoring in-process and final inspections.
- Administering control of special processes, such as welding, post-weld heat treatment
- Packing
- Final review and release for shipment.

The quality manual describes the controls for inspections and testing to ensure that all products are not used, processed, or installed until they have been adequately inspected or tested to verify conformance with specified requirements.

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Inspections, control practices, characterizations to be inspected, and methods to be employed will be described in inspection planning documents, which include provisions for:

- Verification through receiving inspection and testing that incoming product is not used or processed, except under controlled conditions, until inspected or otherwise verified as conforming to specified requirements.
- Monitoring and control through in-process inspection and testing, including provisions for positive identification of the item prior to installation or use, placement of hold points until required inspections and tests have been completed, and identification and control of non-conformities.
- Assurance through documented evidence that final inspection and testing has been performed and that the material, equipment, or facility is in conformance with specified drawings, specifications or procedures, as applicable to the situation.
- Assurance that no material, equipment, or facility is dispatched / delivered or commissioned until all activities specified in the approved procedures have been satisfactorily completed and the associated data and documentation is available and approved.
- Establishment and maintenance of records which give evidence that the material, equipment, or facility has passed inspection and / or testing with defined acceptance criteria.

8.4 Receiving and Distribution

Materials and equipment are requisitioned / procured by project personnel in accordance with the project procurement plan.

Materials and equipment are received, inspected and distributed in accordance with the purchase order and schedule requirements. Storage receiving and issued Reports will be used to monitor and track the project material and equipment

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8.5 Qualification / Certification Training

Training, related to qualification or certification activities, as required by applicable Quality Assurance programs, will be conducted in accordance with procedures of the QA/QC department.

8.6 Welding

All welding will be performed in accordance to European standard with the TÜV Nord System reviewed, inspected and approved Welding procedures and also monitored, checked by TÜV Nord Systems according to the TÜV Nord System approved pipe classes, Ultrasonic and X-Ray test plans and piping documentation.

8.7 Non-destructive Examination

Non-destructive examination (NDE) will be conducted in accordance with the required European and international standards and the German TÜV requirements.

9 HEALTH, SAFETY, ENVIRONMENT AND SECURITY

PSE Health, Safety and Environment (HSE) Management will be in full compliance with the HSE Guidelines and Requirements with the PSE Integrated Management System. It summarizes the HSE responsibilities and procedures for the project activities and gives guidelines for its implementation, in accordance with the Scope of Work defined in the contract. It covers all work and activities and applies to all PSE employees, in accordance with the Scope of Work defined in the Contract.

The HSE Management System for the project execution is based on:

- SCC ** Safety Certificate Contractors"
- ISO 14001: 2004 Environmental Management Systems
- OHSAS 18001: 2000 Occupational Health and Safety Management Systems

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SCC** stands for the unrestricted certification of "Safety Certificate Contractors". It is developed for companies working as subcontractors in the petrochemical industry and combines interests of (working) safety and health.

The activities which form part of the Project HSE Management system will include, without being limited to, the following:

- Assessment of project hazards and associated risks together with the definition of precautions.
- Definition of the legislative requirements for the project

If there are and HSE requirement and standards given by the client, PSE HSE management will check them and will in-cooperate them into the project related HSE procedure.

10 QUALITY MANAGEMENT

PSE Project Quality Management System is based on the PSE Integrated Management System has a documentation structure that has been designed to fulfil all management and technical integrity requirements of the Services with respect to Quality, Health, Safety and Environment.

The PSE Project Quality Management System has been designed to meet the requirements of ISO 9001:2008 standard.

The Project Quality Management System includes quality-related planning and Project Quality Management System Procedures.

The Project Quality Management System Procedures shall be developed in accordance with project specific requirements. Procedures shall be submitted to the Client for approval.

The Project Quality Management System ensures that non-conformities are reported and that corrective actions and preventive actions (when necessary) are initiated and followed up in a controlled manner

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and the causes for the non-conformities are eliminated and recurrence prevented. The application of this procedure includes all non-conformities detected as result of:

- internal audits
- external audits
- inspection activity
- material control
- drawings

11 DESIGN CONTROL

Design control will be conducted through various checks and design reviews during engineering and design stages of the project. The purpose of design control is to validate design data in order to meet the overall client's requirements. Design checks and reviews are useful to avoid design shortcomings, inconsistencies and discrepancies. For accelerating the design work and to ensure a proper design, a design control plan is used as a project management tool. Defined roles and responsibilities for all of the design activities ensure that all items are in compliance with the project requirements.

12 CHANGE CONTROL PROCEDURE

Basically the Change Control Procedure is meant to ensure that all actual changes to the Project (Scope, Schedule, and Budget) are based on informed management decisions and have a clear business justification.

A suitable change control procedure has to be established between PSE and the client to ensure transparency concerning the changes and the related costs caused by changes desired by the client which are not subject of the existing contract. The procedure will demonstrate the respective cost

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evaluation for the concerning changes so that the client will be able to comprehend the arising costs at any time.

13 PLANNING AND MANAGEMENT OF COSTS

Planning and Management of the overall Project Time Schedule and Budget is depending on finally selected technical concept and therefore cannot be displayed at this stage of the PEP. This exercise will be resumed later.

14 INFORMATION MANAGEMENT

14.1 Document Management

PSE uses an electronic document management system (EDMS) based on a MS-Excel sheets. The key functions of the EDMS are:

- revision management,
- store the documents in electronic format to allow authorized parties (access control by category or type based on allocated access rights) to view them from their PC,
- prepare Project final engineering documentation,
- tracking comments (from IDC, clients, or other),
- tracking and monitoring the status documents by means of plan / forecast dates for predefined milestones (issue for IDC, Issue for approval, issue for inquiry, issue for construction, etc.)
- management of vendor/supplier/subcontractor documents.

Usually the EDMS is used only in Projects where a large number of documents is produced, like EPC projects or detailed engineering projects.

Access to documents can be given via web-viewer or direct access to dedicated volumes on the server as per allocated access right to Client staff if required. Client will be able to access all documents that will be assigned to them in accordance with the contractual requirements.

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14.2 Correspondence

All project correspondence will be stored and archived in the EDMS or in a dedicated directory under the project filing system (Concept and Pre-Feasibility). A numbering system for correspondence will be defined after contract award.

Project correspondence is basically via email. PSE will implement a project mailbox with dedicated email address. All incoming and outgoing project related emails should go through this mailbox. Beside storage in the EDMS/filing system, the emails will be stored also in the project mailbox.

Outgoing letters/faxes will be scanned and send as an email attachment and in parallel by mail/telefax. Incoming letters/faxes will be scanned and archived in the EDMS/filing system. The originals of all letters/faxes will be also filed in paper.

A project communication procedure will be prepared and issued after contract award to define and describes in detail the workflows, procedures, correspondence numbering, etc.


15 HUMAN RESOURCES

During all phases a dedicated Project Manager will be responsible to deliver results out of the project steps in scheduled time and high quality.

To be able to accomplish the above mentioned tasks, the Project Manager will be supported by a highly skilled and experienced project team consisting of the lead and discipline engineers, schedulers, cost estimators etc.

The team members have strong background in Oil and Gas Projects with reputable clients. The location of the team will be in the PSE Offices in Germany.

Design review and other technical meetings will be held in PSE offices in Germany.

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16 MILESTONES

After contract award a kick-off-meeting is organised and PSE will immediately start to work on the project in order to match the time schedule and to avoid any delay.

Detailed information and milestones will be shown in the "Project Execution Schedule" which will be adapted after contract award and will be updated constantly to the actual status of the project taking into account the agreed fixed milestones.