



METHOD STATEMENT Demolishing and Installation of Piping Work

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METHOD STATEMENT Demolishing and Installation of Piping Work

CLIENT Representative Review

This document is afforded Review Status denoted below (tick applic.)

A**Reviewed****B****Reviewed with Comments**
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Document History

Revision	Date	Status	Revision Details	Originator	Review/Approved	Acceptance
Status code:						
D = draft				FI = for information		
FC = for construction				P = preliminary		
FA = for acceptance (external authorisation where required)						
Remarks: The status FA will be regarded as status FC when the documentation achieves acceptance by others.						

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1. Introduction

The aim of this method of statement is to describe demolition and installation of Stainless-Steel Pipe works defining the equipment and safe procedures which shall be undertaken by Prizm Energy to conduct operations utilizing Prizm Energy 's equipment.

2. Scope

The purpose of this method statement is to demonstrate demolition and installation of Stainless-Steel Piping works at Waad Al Shamal Power Station Project, Turaif, Kingdom of Saudi Arabia, in the following area, as per information furnished by GE, ...

Item No.1: Filtered Water / Desal Water / Raw Water and EDI lines

- All Lines need to be demolished / stored at GE warehouse,
- Installation of 1180 meter with Almost 3200 Inch Diameter Inch of Stainless-Steel lines with different sizes.

Item No 2: EDI Diffuser

- Removing 2 Inch Diffuser from the tanks/ cutting the tanks shell and replace the Nozzle by 4-inch Nozzle,
- Installation of 4 Inch Down comer inside the tanks X2,
- Fabrication of diffuser itself,
- general cleaning inside the tank.

Item No 3: MBR system

- Demolishing and installation of Stainless-Steel lines,
- Replacing and installing 70 Meter of Stainless-Steel lines with different diameters.

3. References

International Standard ISO 9001:2015: Quality management systems – Requirements.

Prizm Energy Quality Management Manual (PEGC-QMS-01).

ASME I Rules for Construction of Power Boilers.

ASME V Non-destructive Examination.

ASME IX Welding, Brazing, and Fusing Qualifications.

Project Applicable codes and **GE** recommendations.

4. Responsibility & Supervision

Only experienced manpower in designated areas of responsibility should be allowed; the Site Team will ensure the work is supervised safely, satisfactory and timely completion of the job in accordance with Quality Procedures and Best Practises and applicable Method Statement.

Sufficient manpower is required to be deployed and these will consist of but not limited to the following:

Sr.	Manpower Description	Quantity
1	Site Engineer.	1
2	QA/QC Engineer.	1
3	Safety Officer.	1
4	Foreman.	2
5	Riggers.	6
6	Pipe Fitter.	10
7	Helper.	20
8	Welder.	20

Responsibilities

- **Site Engineer:**

Assigning tasks of the replacement works according to the schedule.

Approving the systems lifting plans and methods of statements.

Macro-scale supervision of replacement works.

Receiving feedbacks of the efficiency of demolishing and installation works execution from site team.

Assuring that the material requests have been made prior material requisition.

Taking decisions related to the demolishing and installation process; either for improvements or to mitigate any negative points may have occurred meanwhile demolishing and installation process.

- **QA/QC Engineer**

Responsible for QA/QC documents of the complete project, including certificates, calibration, test results, inspection requests, and other important QA/QC documents.

Review the quality of all materials at the site, ensure compliance with all project specifications and quality.

Supervise the effective implementation of all test and inspection schedules, ensure adherence to all procedures.

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Monitor an efficient system, record all project activities, and analyze all processes to ensure all work meets quality requirements.
Develop a method statement for the activity including risk assessment and job safety environmental analysis and Inspection Test Plan and Checklist based on specifications of the project.
Coordinate with the GE's representative and Site In-charge for Inspection.

- **Safety Officer**

Ensuring that all erection personnel are aware of the safety procedures and associated risks with the erection works.
Ensuring that everyone at site especially erection area has full Personal Protection Equipment's (PPE).
Preparation of the lifting plan if required.
Reviewing the adequacy of the system lifting plan.
Supervising the erection works and ensuring that all the safety precautions are being applied.

- **Site Team**

Ensuring that the area is ready for erection (alignment, positioning, suitability, etc...).
Execution of lifting process according to the system lifting plan.
Execution of Erection steps according to the method statement given by the Site Engineer.

5. Equipment's List

Sr.	Equipment Description	Quantity
1	Truck with Hi-up	1
2	Welding plants.380V.	20
3	Lifting gear including Beam Clamps, Pull Lifts, Chain Blocks, Skates, Tirfors, Toe Jacks, Shackles, Slings.	6 Set
4	Grinders 220 V.	12
5	Telescopic fork lift.	1
6	Mobile elevating work platforms (MEWP)	1
7	Nitrogen & Argon Gas Bottles	44
8	Fire extinguishers	20
9	Fire blankets.	30
10	Hand tools	25
11	Hand Drill 220 V	4
10	Magnetic Drill	2

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6. Working Hours

The job is carried out during the Power Station shutdown.

The duration of the job is 30 Working Days.

The job is carried out in 2 working Shift, each shift is 12 hours approved by the GE's representative.

No work will be permitted outside these hours.

7. Description of works

Project Preliminaries

All Personnel will have attended the mandatory Site Inductions prior to commencement of any works. All relevant personnel will be briefed on the contents of this method statement and associated risk assessments including any environmental concerns.

Sequence of works

This document outlines the safe method of work and procedures to be followed during the demolishing and installation of Machinal Stainless Steel Piping works.

General:

The labour, equipment, lifting tools, hydraulic jacks etc..., should be mobilized, job site investigation, material inspection, preparation of work plan, and raise report for client in case any discrepancies or material shortage is found, on 30 Days' notice period before starting the job and/or shutdown.

1. Designate specific lay-down area. This area must be maintained in a tidy and safe manner and will be subject to random inspections during the course of the project.
2. Working area must be maintained in a tidy and safe manner.
3. All GE Safety & Environment policy, rules and regulation shall be followed at work site during the execution of the work.
4. Permit To Work should be obtained prior to commencement of task.

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5. Hot Work Permit should be obtained each day or as decided by Site regulation.
6. Barriers to be put in place around working area.
7. All the persons should wear the uniform, safety shoes and helmet while at work.
8. Job will be executed in the following areas on two stages as per following sequence ...
 - EDI Diffuser tanks, MBR system and Filtered Water system in parallel ... then
 - Desal Water system, Raw Water system and EDI lines.

Demolition of Old Piping Lines

1. Temporary Cone/warning tape will be constructed and area around the pipeline to be demolished will be barricaded properly.
2. Precautionary signs/warning notices will be erected and maintained to control access in the area during demolishing process.
3. Demolition works will be carried out by using Grinders and other associated machinery/equipment.
4. Old piping lines shall be cut, broken up, lowered and transferred to GE yard by a sequence of stages.
5. Broken materials resulting in demolition to be cleared and removed before carrying out the next step of demolition.
6. Site engineers shall be responsible for supervision and control of the work in the assessment of the risk involved and in the method demolition to be used.
7. A separate request for inspection and information to be raised depicting the interference of the existing services.
8. Remove rubbish, debris, and surplus material regularly and keep the site clean and tidy.

Transport of new fabricated piping from workshop to Designated Areas

1. A certified telescopic operator will transport the pre-fabricated pipe-work sections or supports from the lay-down area.
2. Riggers to attach pipe-works or supports to tele porter.
3. PEC banks man will accompany the tele porter operator through the site to the location of the lift, adhering to the site speed limit.
4. Weather conditions to be checked and lift will only take place when weather conditions permit.

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5. Providing all is in order and PEC and the tele porter operator are completely satisfied with conditions, the tele porter will manoeuvre into position as directed by the rigger and prepare for the lift.
6. When the tele porter and PEC rigger and PEC supervisor are satisfied the lift will begin.
7. The lift will be controlled by a designated PEC banks man, the banks man will control the lift by hand signals and will keep in constant visual contact with the tele porter operator during the lift.
8. The tele porter operator will lift the pipe-work or supports to its designated area onto the loading bay where applicable and placed onto the buggy.
9. Pipe-work sections or supports will be transported on the buggy to the work areas as required.

Installation of new pipe works:

1. Pipe-work to be lifted off buggy and into work position.
2. Lifting to be carried out manually or with the aid of chain blocks.
3. Good lifting methods to be used and lifting to be coordinated at all times, where possible mechanical lifting aids to be used.
4. PEC will hang beam clamps from the existing steel over the pipe-work complete with shackles and chain blocks to lift pipe-work or supports to its designated position.
5. PEC to access the steel using an MEWP or Boom Lift.
6. When working at height a Boom lift or Scaffold will be used.
7. PEC only to operate MEWP or Boom lift with:
 - Trained operators.
 - Valid weekly permit to be kept in the cab.
 - Harness complete with lanyard to be worn and tied off at all times.
 - Barriers to be in place for the MEWP or Boom lift.
8. Recognized scaffolding company with approved scaffolders to erect all PEC scaffolds.
9. PEC only to access scaffold when it is barricaded off with warning signs posted up and the scaffold is tagged safe.
10. PEC to drill for support attachment.
11. PEC Supports to be lifted into place manually or with the aid of chain blocks.
12. Supports to be bolted into position. PEC to use hand tools for this application.

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13. PEC to ensure before any hot work commences the following are in place for each work area:

- PEC to have hot work permit
- PEC to have trained fire watch personnel in place
- PEC to have fire extinguisher in place
- PEC to have fire blanket in place
- PEC to have fire screens in place
- Full + additional PPE to be worn
- PEC certified tradesmen to carry out task
- All PEC operatives to have received manual handling training.

14. PEC to designate a weld bench area at the designated areas for each level and this will be agreed between PEC and GE.

15. All the above hot work conditions will be in place for these areas and will be barricaded off.

16. Field dimension shall be taken at the operative's discretion and by use of the scaffold for areas at height.

17. PEC to grind pipe-work prior to tacking using grinders. Visors to be worn.

18. Pipe-work to be lifted into place manually or with the aid of chain blocks.

19. PEC to tack & weld spools together in position.

20. Spools to be bolted into position. PEC to use hand tools for this application.

21. All electrical equipment's to be PAT tested and tagged.

22. PEC operatives involved in the task to read and sign the method statement.

23. PEC to complete TRA (Threat and Risk Assessment) and ensure all personnel read and sign.

24. Housekeeping to be maintained during the task.

25. Barriers in place around each task area.

26. Good lead management to be used. Leads to be kept off the floor.

For some specific tasks, please refer to the specific Method of Statement.

8. Quality Control

All requirements, which mentioned in attached inspection and test plan (ITP) should be followed.

9. General Safety Requirement

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These General Safety requirements should be read in conjunction with the Project Health & Safety Plan.

- All plant and equipment are fit for the purpose and maintained in good, working condition.
- All personal use appropriate personal protective equipment at all times including hardhats, safety footwear, High visibility clothing, gloves, eye protection hearing protection and any additional PPE that may be required following a task specific risk assessment.
- Loading or unloading of materials/equipment is carried out in a safe manner where all non-relevant personnel are kept well away.
- Strict controls are put in place to protect workers from loads or objects falling from lifting.

10. Environmental

Prizm Energy is an environmentally responsible company; in order to manage the environmental performance of our business and to minimize environmental impact, we have implemented an Environmental Management System to meet the requirements of ISO14001: 2015.

Prizm Energy has implemented and maintains an Environmental Management System as a means of providing a structured process for the achievement of continual environmental improvement.

Accordingly, we will work in accordance with the Safety, Health and GE environmental policy of hazardous waste disposal with regard to waste material handling, storage and disposal.

11. Attachment

- Mobilization Plan.
- ITP.
- Risk Assessment.