



INDUSTRIAL CITIES
Mesaieed • Ras Laffan

DEVELOPMENT PLANNING & ENGINEERING
Development Engineering Section


**Guidelines for Submitting
Hydrostatic Test Packages to QP-DC**

QGL-CE-007

Guidelines for submitting Hydrostatic test packages to QP-DC


QGL-CE-007

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1. OBJECTIVE

The objective of this document is to establish and maintain documented Guidelines to all End-Users/Contractors for preparing hydrostatic test packages for submission to QP-DC for review and approval.

2. SCOPE

This guideline covers the general requirements for preparing hydrostatic test packages by End-Users/Contractors for submission to QP-DC. All End-Users, before testing any pipeline or facility in any of the RLIC/MIC common areas, are required to submit all necessary technical details of the proposed testing to QP-DC for Review and Approval. In this context the 'common area'/ 'off-plot area' is defined as any area that is outside the battery limits of End-User's plant.


The submission shall be done in accordance with the procedures given in the "Guidelines for End User Technical Submissions to QP-DC", QGL-CE-002 Rev.2.

End-Users/Contractors shall ensure submission of the test package and method statement well in advance of hydro static testing operations to allow QP-DC involved discipline engineers to review the package and discuss it with the relevant End-User/Contractor, if necessary. QP-DC approval for pressure testing activities carried out at the off-plot areas by End-Users/Contractors is mandatory for proper coordination and safety of equipment and personnel. The approval letter from QP-DC is necessary for End-User/Contractor to initiate the CPW.

Any changes to the approved test packages shall be subject to prior approval of QP-DC.

3. RELATED DOCUMENTS

- **QGL-CE-002-** Guidelines for End-User Technical Submissions to QP-DC
- **QPR-RHT-REG-001** - Health, Safety and Environment Regulations
- **QP-PHL-S-001-** QP Corporate Philosophy for Fire & Safety
- **QP-SPC-L-011** – QP Corporate Technical Specification for Hydrostatic Testing of New Pipelines
- **QP-SPC-L-012** – QP Corporate Technical Specification for Pre-Commissioning and Commissioning

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It is incumbent on the End-Users/Contractors to confirm that the latest revision of the Document/Regulation/Guidelines/Drawing is employed.

4. DEFINITIONS and ABBREVIATIONS

This section contains definitions/acronyms which must be clearly understood by the End-Users/Contractors.

Definition	Description
Approval	Agreement to proceed with specified activities.
Approve	To accept as satisfactory, permit or officially agree
Contractor	A party engaged by End User to perform works / or services under a contract
End User	A Company or firm that uses services, facilities and occupies QP-DC land for the purpose of manufacturing a product or providing a service to QP-DC or other tenants within QP-DC.
Guideline	Similar to a procedure but less prescriptive in nature. Contains general instructions/guidance to carry out a series of actions.
Shall	A mandatory action
Should	A preferred course of action or activity

Abbreviation	Definition
QP-DC	QP Directorate – Industrial Cities
RLIC	Ras Laffan Industrial City
MIC	Mesaieed Industrial City
e-CPW	Electronic Consolidated Permit to Work.
MSDS	Material Safety Data Sheet
HSE	Health, Safety and Environment
TIW	Treated Industrial Water

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5. TEST PACKAGE PREPARATION

End-User/Contractor shall prepare a pressure test diagram, a mark-up of the Piping & Instrument Diagrams (P&IDs)/Process Flow Diagrams(PFDs) showing the extent of the pipe work to be included in the test.

The End-User/Contractor shall prepare test package which shall contain, as a minimum, the following information. End-Users/Contractors shall review all such test packages before submitting it to QP-DC for review and approval.

5.1 Minimum information to be included in Test Packages

- 5.1.1 A colour marked-up P&ID defining the pipeline segments for the hydro test.
- 5.1.2 A colour marked-up plot plan showing the location of pipelines proposed for hydro test. It should be depicted on relevant QP-DC corridor drawing so that the exact location, battery limits and interfacing with other pipelines in the corridors will be easily identified.
- 5.1.3 Please add volume of stored energy calculations, exclusion zone considerations in a clear plot plan identifying the adjacent assets/facilities, access control requirements, safety signage etc.
- 5.1.4 Approved Line designation table containing all the lines included in the hydro test.
- 5.1.5 Test medium to be used (potable water, TIW etc.)
- 5.1.6 Details of any additives/chemicals added in the test medium and the concentration. Submit MSDS of the chemical added.
- 5.1.7 Source of test medium (QP-DC, Kahramaa etc.) and mode of sourcing the test medium with details (temporary pipeline, trucks etc.)
- 5.1.8 Estimated quantity of test medium required.
- 5.1.9 Whether testing is done in full length or in segments and parallel filling of segments/system or re-use of water is envisaged. QP-DC recommends re-using the hydro test water for various test segments to conserve water.
- 5.1.10 Test procedure, test pressure, holding time, schedule and duration of test (Pressure test chart). The basis for test pressures shall be as per the requirements of applicable international codes.

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- 5.1.11 Procedure for detection, reporting and repair of leaks.
- 5.1.12 Emergency plan for dealing with potential failures/leaks.
- 5.1.13 Procedure for depressurization and water disposal or transfer/re-use.
- 5.1.14 List and location of all equipment used for testing purposes.
- 5.1.15 Location and type of pressure relief protection devices.
- 5.1.16 Location of high point vents, low point drains, isolation blinds and temporary pipe supports.
- 5.1.17 Location of discharge of hydro tested water and quality of the hydro tested water.
- 5.1.18 End-User's certificate stating that all required Non-Destructive Tests (NDT) have been completed and cleared for hydro testing.
- 5.1.19 Concurrence from asset owners who are affected during the test
- 5.1.20 Job Safety Analysis


5.2 Criteria for disposing hydro tested water into QP-DC facilities.

If the hydro tested water is to be discharged into QP-DC storm water drains, approval is required from QP-DC Environment dept. for the quality of disposed water and from QP-DC Operations dept. for the disposal methodology. A separate CPW shall be submitted for disposing the hydro tested water into QP-DC storm water drains.

The site visit/survey shall be carried out by the End-User/Contractor to identify the storm water drains and the route of the flow of water and shall follow the QP-DC regulations to utilize the same.

5.2.1 Quality of the hydro tested water for disposal

- 5.2.1.1 Quality of discharge water shall comply with QP-DC Environment Regulations.
- 5.2.1.2 First sample of the hydro tested water shall be tested at QP-DC Laboratory before it is discharged. (If required by QP-DC)

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5.2.1.3 If it is to be discharged to any other QP-DC facilities such as bunded areas (evaporation ponds) prior approval shall be obtained. For preparation of bunds, top soil in the area shall not be used.

5.2.2 Hydro tested water disposal methodology

5.2.2.1 The storm water drains proposed for discharge shall be marked on a storm water drawing and submitted to QP-DC along with a Method Statement for review and comments.

5.2.2.2 The storm water drains to be used shall be made suitable for the proper flow of water to avoid any ponding and the dewatering shall be closely monitored.

5.2.2.3 If settlement tanks are proposed for the disposal of hydro tested water, location and details of the settlement tank shall be submitted.

5.2.2.4 After the completion of usage the storm water drains shall be cleared of any silt/soil, debris and clearance shall be obtained from QP-DC Operations dept.

6. RESPONSIBILITIES

6.1 End-Users

6.1.1 The preparation, review and submission of pressure test packages as per QP-DC guidelines.

6.1.2 Apply for CPW after receiving Approval for the test package from QP-DC.

6.1.3 Perform hydro test, dewatering and disposal of hydro tested water as per approved procedures and QP-DC requirements.

6.1.4 Remove all temporary facilities, testing equipment and re-instatement of the affected areas to the original condition.

6.1.5 Adhere to these guidelines and any other stipulations which may be imposed by a regulation, guideline or procedure from time to time by QP-DC.

6.2 QP-DC

6.2.1 Review test packages and issue Approval Letter/ comments for hydro test packages submitted by End-Users/Contractors.

6.2.2 Perform site inspections prior to and during hydro test.

6.2.3 Update information included in this document.

6.2.4 Provide upon written request, up-to-date documents and drawings as referred to in Section 3.0.