

UNDERSTANDING DOT/PSM OPERATOR QUALIFICATION PROGRAM

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Overview

The Operator Qualification (OQ) rule has greatly impacted pipeline operations for all major pipeline system operators. For Panhandle Energy, the efforts to satisfy all segments of the rule have required a significant investment in money and manpower, with many changes to most aspects of field operations.

Several key efforts are worthy of further explanation concerning the company's approach to the rule. The first effort by the company dealt with writing a general OQ compliance procedure that outlined how the company would comply with all aspects of the OQ rule. Next was the task of establishing Panhandle's interpretation of a "Covered Task List," which is guided in the rule by the four part criteria listed in Subpart N 192.801 (b) (1), (2), (3) and (4). Since the rule also applies to contractors performing OQ tasks on the system, we determined that it would be best to use an "Industry Standard" task list numbering system (developed by Veriforce, an OQ contractor qualification firm, and multiple pipeline operating groups) to reduce confusion in the task identification for the field.

OQ Task Development

Since 1970, Panhandle has had a comprehensive Employee Qualification Program (EQP) in place. This existing program was used as a source to begin the task-specific OQ rewrite process. Once the covered task list was identified and task numbers assigned, three groups of subject matter experts (SME) met to further refine and develop the following:

- Task, knowledge and skill requirements
- Knowledge sources
- Evaluation criteria
- Evaluation guidelines
- Task-specific abnormal operating conditions and abnormal operations for each of the covered tasks

The SME groups also used a DIF analysis process (Difficulty, Importance, and Frequency) to determine a re-evaluation frequency for each covered task. Based on the results of the DIF analysis, all OQ trades fall into either a 4 or 5 year re-evaluation frequency for the company. The SME groups also determined which covered tasks were available to be performed by contractors and which were only available to company employees. Each task was also evaluated to determine the need for either a technical or non-technical evaluator for both the primary evaluation and re-evaluation process.

Employee Qualification Records

Once the task list was established and the task details documented, the company's Enterprise Asset Management (EAM) system was configured to play a major role in the daunting task of documenting each employee's qualification details, re-evaluation dates, and all of the company's OQ work shown as completed by OQ-qualified tradespersons. All company EQP and OQ records are contained in an electronic database tied to the EAM system. The program used to manage the employee qualification portion is called Trade Timer (a third party bolt on to EAM). Trade Timer is designed to track and maintain employee qualification and training records, determine and document when OQ re-evaluations are needed, and detail the primary evaluation and re-evaluation processes that occur for each employee (qualification history).

Currently, the Trade Timer database has over 48,900 EQP individual qualification records and 8100 OQ individual qualification records for the 540 company employees working in the field. Having these employee qualifications available electronically in the EAM system is crucial for documenting that OQ-qualified tradespersons are conducting all of the OQ work in the field and permanently documenting these qualifications for later audit review.

EAM System Role

The EAM system schedules and documents most aspects of the company's compliance work. The company's compliance SME team configured EAM to address the requirements of the company's Standard Operating Procedures (SOP), which include the Department of Transportation (DOT), OQ, company, and other state and local code requirements. The EAM system is set up with Preventative Maintenance (PM) jobs that reflect the performance requirements applied to company assets as documented in the SOPs. These PM jobs reside in EAM, each containing a master list of all tasks and activities that Panhandle requires to be completed on its assets (testing, inspection, and maintenance). The tasks and activities are specifically set up to capture statistics to document what was found and how the device was left so that future audits can determine how we operate the pipeline's assets.

Each asset, referred to as an entity, requiring work is set up in EAM through an intricate hierarchy and numbering scheme. The hierarchy uniquely identifies the entity, its location, general details (manufacturer, model, serial no., year installed, etc.), and the tradesperson and supervisor responsible for the work performed on the entity.

When specific PM jobs are linked to entities within EAM, a time and date schedule is incorporated that will ensure the work is completed within the mandated timeframe. Specific SOP procedures are also available in EAM when the work is identified to help determine exactly what must be done if more detail is needed. Sixty days before an entity is to be tested, inspected, and maintained, the EAM system converts the PM job into a work order (WO) that is delivered to the tradesperson's computer desktop that is responsible for the entity. From a dateline perspective, the EAM system tracks the WO grace period timeline and advises the proper resources when an out-of-compliance date is approaching.

PM Job Work Types – DOT, OQ

Work types are set up for the PM jobs that address the extra requirements that need to be completed by a tradesperson who is OQ qualified. The specific OQ trade(s) that are needed to complete the specific tasks and activities on the work order are brought with the WO and identified to the responsible person. The responsible person assigns a tradesperson - often themselves - to the WO and the EAM system then checks to confirm that the tradesperson is, in fact, OQ qualified for the work. If EAM determines that the tradesperson is not qualified, then the system will alert the tradesperson that the OQ assignment cannot be made to the WO. Another qualified tradesperson must be selected and assigned to the work (supervisors may need to get involved in re-assigning the work).

Trade Timer is constantly updated as current training, evaluations, and re-evaluations are applied to tradespersons in the field. Reports are used to determine which OQ tasks require re-evaluation, and it is the responsibility of the tradespersons and their supervisors to keep OQ task qualifications current.

When the OQ-qualified tradesperson completes the work, then the tradesperson completes the activities, statistics and a time card is also completed. The EAM system automatically closes the WO and determines the next trigger date and timeframe for the subsequent inspection. The closed WO is maintained in the system at the entity level, and a work history begins as completed WOs accumulate over time. A compliance WO report may then be printed, documenting the entity name and number, parents and location, details, schedule, completion, out-of-compliance dates, activity results, statistics, comments, time spent, and materials used as well as the OQ rule requirement to capture the responsible OQ tradesperson. As long as the entity is in service, the PM program will

continue to generate WOs dedicated to capture the required tests and inspections as determined by the SOPs. The work history within EAM will continue to systematically capture most of the OQ documentation necessary for the OQ rule.

Any unplanned or unscheduled work that occurs, but is not in the system as a WO (entity in-service malfunction or failure), will require the tradesperson to use one of many unplanned templates that are set up to identify the OQ requirement(s) for documentation purposes. The unplanned WO will document that OQ work occurring between routine inspections is also completed by OQ-qualified tradespersons.

Contractors and OQ

Veriforce is a third-party service provider that Panhandle uses to provide and maintain the OQ qualification records of all the contractors that perform OQ work on the system. Veriforce-qualified contractors are loaded and updated in EAM and are assigned to OQ WOs in the same way as company employees; therefore, the contractors are documented in the same manner as the employees. The assignment of a contractor to perform OQ work is only available on the trades that the company has determined can be completed by a contractor.

OQ Incident Reviews

Incident reviews concerning OQ task performance are an integral part of the OQ program. It is crucial to verify, whenever an incident occurs, that the performance of the covered task did or did not contribute to the incident. If the tradesperson is found to have performed the task incorrectly, then a decision must be made about disqualification, re-training and re-qualification. The criteria contained in the task must also be reviewed to confirm that the proper technical skill and knowledge requirements are contained and administered properly for the covered task. Trade Timer will document any company action taken regarding OQ qualifications.

Multiple reports contained in EAM are available to all levels of the organization for purposes of all aspects of Compliance, OQ, and SOP work, as well as employee qualifications and audits. A side benefit of the EAM system is the unique ability to query the database to determine the accuracy of the records that have been entered into the system. For instance, a DOT OQ work order must have an OQ-qualified tradesperson assigned. This can be verified in a Data Integrity (DI) query in a matter of minutes, and the WOs that do not comply can be reported to the appropriate parties for correction. Performance audits are no longer subject to only occur at the records locations, as the system allows for audits from any location that has access.

Summary

Compliance with the OQ rule is a major undertaking for all pipeline operators, requiring a significant investment in time and materials. On the Panhandle Energy system, EAM plays a crucial role in easing the burden on the field employees concerning the administration of the OQ rule. The ability of the EAM system to identify the specific OQ trade requirements to the tradesperson and to determine if the tradesperson is OQ qualified makes the process much easier to deal with and prevents OQ requirements from falling through the cracks. Closed work orders provide a complete record of all OQ work that has occurred on the system. The electronic database that we use, setup to reflect the company's SOPs, is a step in the right direction to ensure that qualified tradespersons are completing all work in a uniform and timely manner throughout the company.