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Recommended Practice for Hazardous Liquid Pipeline Operator Qualification (OQ)

1 Scope

API Recommended Practice (RP) 1161 establishes a framework for developing and maintaining an operator qualification program for hazardous liquid pipeline personnel. This RP is applicable for all hazardous liquid pipelines, both onshore and offshore, subject to 49 *Code of Federal Regulations (CFR)* Part 195, Subpart G. Operators may choose to use all or part of this document as applicable to their operations.

For the purposes of this document, the word “pipeline” is used interchangeably with pipeline facility or pipeline system, as defined in 49 *CFR* § 195. This document pertains to all employees, contractors, subcontractors, or other entities who perform covered tasks on behalf of the Operator.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API 510, *Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration*

API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*

API Standard 1104, *Welding of Pipelines and Related Facilities*

API Recommended Practice 2350, *Overfill Protection for Storage Tanks in Petroleum Facilities*

ASME *Boiler and Pressure Vessel Code* ¹, Section IX: *Welding and Brazing Qualifications*

ASNT Recommended Practice SNT-TC-1A ², *Personnel Qualification and Certification in Nondestructive Testing*

U.S. DOT Title 49, *Code of Federal Regulations (CFR)* Part 195, *Transportation of Hazardous Liquids by Pipeline*

3 Terms, Definitions, Acronyms, and Abbreviations

3.1 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

NOTE When identical terms are defined within the task standard and in this section, the task standard definitions apply.

3.1.1

abnormal operating condition (AOC)

A condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

- indicate a condition exceeding design limits; or
- result in a hazard(s) to persons, property, or the environment.

NOTE As defined in 49 *CFR* § 195.503.

¹ ASME International, 2 Park Avenue, New York, NY 10016-5990, www.asme.org.

² American Society for Nondestructive Testing, PO Box 28518, 1711 Arlingate Lane, Columbus, OH 43228, www.asnt.org.

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3.1.2

accident

A failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported, resulting in any of the following.

- a) Explosion or fire not intentionally set by the operator.
- b) Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 m³) resulting from a pipeline maintenance activity if the release is:
 - 1) not otherwise reportable under this section,
 - 2) not one described in 49 *CFR* § 195.52(a)(4),
 - 3) confined to company property or pipeline right-of-way, and
 - 4) cleaned up promptly.
- c) Death of any person.
- d) Personal injury necessitating hospitalization.
- e) Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

NOTE As defined in 49 *CFR* § 195.50.

3.1.3

covered task

An activity, identified by the operator, that:

- (1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of this part; and
- (4) Affects the operation or integrity of the pipeline.

NOTE As defined in 49 *CFR* §195.501.

3.1.4

disqualification

The act of removing an individual's qualification to perform any or all covered tasks until completing the requirements for requalification.

3.1.5

risk and difficulty analysis

A tool to assist in determining a requalification interval or span-of-control ratio.

3.1.6

evaluation

A process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:

- a) written examination;
- b) oral examination;
- c) work performance history review (WPHR);
- d) observation during:
 - 1) performance on the job,
 - 2) on-the-job training (OJT), or

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3) simulations;

e) other forms of assessment.

NOTE As defined in 49 *CFR* § 195.503.

3.1.7

new construction

The act of building a pipeline facility or expanding an existing pipeline facility (as in looping a pipeline segment, which may also be done to meet increased load requirements or to enhance reliability of the system) in order to provide new service to a customer(s) or in order to meet increased demand.

NOTE As defined in the PHMSA Pipeline Glossary

3.1.8

IR drop

The voltage or potential difference as a result of current flow. From Ohm's Law, $V = IR$. When evaluating structure-to-soil measurements, IR drop is the voltage drop other than the drop across the structure-to-soil boundary.

3.1.9

operator qualification program (OQ program)

A written qualification program that meets or exceeds the requirements of 49 *CFR* §195.505.

3.1.10

qualification

The result of a process determined by the operator that includes successful completion of task-specific evaluation(s) with the associated AOCs, documentation, and meets the requirements of the OQ program.

3.1.11

qualified

An individual who has been evaluated and can:

- a) perform assigned covered tasks, and
- b) recognize and react to AOCs associated with those tasks.

3.1.12

remote evaluation

An evaluation that is conducted and controlled remotely by an evaluator who is not physically present.

3.1.13

Repair

Repair is the act of returning a damaged or defective item to restore its serviceability and safe operation. Pipeline repairs address defects or anomalies that reduce the strength of a pipe in a manner that restores that strength. Repairs can include replacing sections of pipeline.

3.1.14

span of control

The ratio of qualified to nonqualified individual(s) where the nonqualified individual(s) is directed and observed by a qualified individual while performing a covered task.

3.1.15

suspension

The temporary act of removing an individual's qualification to perform any or all covered tasks.

3.1.16

training

The learning, development, and improvement of new or existing knowledge and skills, not to include the evaluation or qualification of those knowledge and skills.

3.2 Acronyms and Abbreviations

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AC	alternating current
AO	abnormal operation
AOC	abnormal operating condition
CP	cathodic protection
CPM	computational pipeline monitoring
DC	direct current
DCF	density correction factor
DRA	drag reducing agent
HMI	human machine interface
HVL	highly volatile liquid
I/O	input/output
KSA	knowledge skills and abilities
MIL	1/1000 of an inch
MOP	maximum operating pressure
NDT	nondestructive testing
OJT	on-the-job training
O&M	operations and maintenance
OPD	overfill protective device
OQ	operator qualification
PCR	polarization cell replacement
PHMSA	Pipeline and Hazardous Materials Safety Administration
PLC	programmable logic controller
P/V	pressure/vacuum
RMU	remote monitoring unit
SCADA	Supervisory Control and Data Acquisition
SSD	solid state decoupling
VOM	volt-ohm meter
WPHR	work performance history review

4 Developing an OQ Program

4.1 Roles and Responsibilities

4.1.1 Operators should identify roles for the administration, management, and execution of the OQ program.

4.1.2 Operators should establish and assign responsibilities to each applicable OQ program role. The responsibilities should be communicated to affected individuals. Examples of responsibilities include:

- managing and overseeing the OQ program;
- identifying covered tasks;

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- assigning covered tasks to individuals;
- training, as appropriate;
- conducting and administering evaluations, per the operator's OQ program;
- verifying individuals' qualifications;
- managing contractors and other entities;
- documentation and recordkeeping.

4.2 Communication

The operator's OQ program should include mechanisms to facilitate effective communication when a communication barrier exists. Examples may include:

- interpreter for alternative languages or individual(s) with hearing loss;
- training materials or task steps in applicable formats;
- qualification methods in applicable formats.

4.3 Program Improvement

4.3.1 General

Operators should develop processes for periodic review and audit of their OQ program. Operators should incorporate program improvements based on the findings. The operator has the flexibility to structure the review and audit as formally or informally as deemed necessary but should document the results and identify and communicate any modifications.

4.3.2 OQ Program Review

The purpose of periodically reviewing the OQ program is to verify it meets current regulatory and operator requirements.

NOTE: Refer to Annex E for further information.

4.3.3 Internal Audit

The purpose of an internal audit is to verify the OQ program is being executed as written.

NOTE Refer to Annex E for further information.

4.3.4 Participation in an Industry Group

The operator may consider participating in an industry OQ group. These groups develop and update OQ guidance materials, share best practices, and interact with regulatory agencies.

5 Identification of Covered Tasks

5.1 General

The four criteria listed below are referred to hereafter as the Four-part Test.

The program shall identify, and document covered tasks. A covered task is an activity, identified by the operator, that:

- (1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of 49 *CFR* § 195; and
- (4) Affects the operation or integrity of the pipeline.

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NOTE Pipeline repair activities not explicitly identified in 49 *CFR* § 195, while performed in accordance with the requirements of 49 *CFR* § 195.422(a), may be considered by the operator as meeting the third component of the Four-part-test.

5.2 Identifying Covered Tasks

5.2.1 General

In developing the covered task list, operators are required by 49 *CFR* § 195 to include tasks meeting all elements of the Four-part test that are performed for the operator, regardless of who performs them. This includes employees, contractors, subcontractors, or other entities, such as other pipeline operators. Operators also have the flexibility to include additional tasks that do not meet all elements of the Four-part test.

The operator has flexibility to determine how to accomplish covered task identification. The operator should document the method and justification for selecting covered tasks.

5.2.2 Adoption of an Industry-developed Covered Task List

Industry and technical associations, OQ vendors, and others have developed covered task lists. When considering such a list, the operator should compare the covered task list to its operations and maintenance activities. The operator has the flexibility to combine or separate covered tasks as applicable to its operations. If gaps are identified the operator should apply the Four-part test to add or remove covered tasks as applicable.

NOTE Annex A presents covered tasks identified by API's Operator Qualification Workgroup.

5.2.3 Analysis of Operations and Maintenance Activities

An analysis of operations and maintenance activities should be used to determine which activities will be included in an operator's covered task list. Subject matter experts, regulatory compliance personnel, and others may be enlisted to assist in the identification and analysis. Examples of items to be considered include:

- 49 *CFR* § 195;
- state or local requirements;
- company requirements;
- operations, maintenance, and safety procedures;
- applicable Pipeline and Hazardous Materials Safety Administration (PHMSA) Advisory Bulletins.

It may be helpful to record each applicable activity on a master list and document applicability to each element of the Four-part test, adding justification notes as needed. This method of documentation produces a list of covered and noncovered tasks and may assist in regulatory and internal reviews.

5.3 Interpreting the Four-part Test

5.3.1 Part 1—Is the Task Performed on a Pipeline Facility?

Operators should review the regulatory definitions of pipeline and pipeline facility. Components, piping, and equipment that are physically connected to the pipeline or pipeline system (i.e., by wires, tubing, pipe, or by the pipeline right-of-way) are considered part of the pipeline facility. A component, piping, or equipment disconnected and physically removed from the pipeline or pipeline system is not considered part of the pipeline facility.

5.3.2 Part 2—Is the Task an Operations or Maintenance Task?

Operations tasks are those activities associated with monitoring and controlling the transportation of hazardous materials within a pipeline system. Maintenance tasks are those activities performed to maintain, restore, replace, or relocate active pipeline facilities.

5.3.3 Part 3—Is the Task Performed as a Requirement of 49 CFR Part 195?

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The operator should review all subparts of and/or 49 *CFR* § 195, including documents incorporated by reference, and state and local requirements to ensure completeness of all tasks. Operations and maintenance tasks are not limited to those tasks addressed in 49 *CFR* Part 195, Subpart F.

5.3.4 Part 4—Does the Task Affect the Operation or Integrity of the Pipeline?

Tasks that, if performed incorrectly, could adversely affect the operations or integrity of the pipeline during or after the performance of the task would meet the Part 4 requirement of the Four-part test.

5.4 Risk and Difficulty Analysis

If determining the span of control ratio and re-evaluation interval for each covered task, Operators should analyze the risk and difficulty associated with performing the Covered Task. Operators may use a tool similar to that found in Annex H.

6 Ensuring, Through Evaluation, That Individuals Performing Covered Tasks Are Qualified

6.1 General

Operators shall have a documented process for the evaluation of individuals to be qualified to perform covered tasks.

The terms qualification and evaluation are frequently used interchangeably throughout the industry; however, they are two distinct terms (see definitions).

6.2 Establishing Criteria for Qualification Through Evaluation

6.2.1 Evaluation and Qualification Process

6.2.1.1 Covered Task

The operator should review the covered tasks to determine the appropriate evaluation method(s) and other qualification requirements. Items to be considered should include:

- The difficulty of performing the covered task;
- the importance or risk, and;
- the frequency.

Additionally, the operator should consider the level of knowledge and/or skill needed to perform the covered task, and any other factors as determined by the operator.

6.2.1.2 Individuals or Groups of Individuals

The operator has flexibility to determine the evaluation methods and other qualification requirements for all individuals who perform covered tasks. In certain circumstances an operator may establish provisions to accept qualifications from other entities' internal OQ programs.

6.2.2 Evaluation Methods

As stated in 49 *CFR* § 195.503, evaluation is the process, established and documented by the operator, to determine an individual's ability to perform a covered task.

Neither WPHR nor OJT can be used as the sole evaluation method for determining qualification. If either of these methods are used, they shall be used in conjunction with other allowable methods of evaluation.

6.2.2.1 Written Or Oral Examination

Written and oral examinations should consist of predetermined questions and should contain enough questions to adequately measure the knowledge required to perform a covered task. Consideration should be made for the role of a proctor and/or evaluator to ensure examinations are administered in a secure and controlled setting.

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6.2.2.2 Work Performance History Review (WPHR)

WPHR is a structured, documented review of an individual's task-related performance records. If an operator chooses to use WPHR as an evaluation method, the following steps should be completed and documented:

- a search of existing records for documentation of an individual's past satisfactory performance of a covered task(s);
- verification that the individual's work performance history contains no indications of substandard work or involvement in an accident caused by an error in performing a covered task.

6.2.2.3 Observation During Performance on the Job

Visual observation during performance on the job includes the evaluation of specific steps required to be performed when completing the task. Evaluators performing observations shall possess the knowledge required to ascertain an individual's ability to perform covered tasks and to substantiate an individual's ability to recognize and react appropriately to AOC that might occur while performing these activities. Observation during performance on the job cannot be used as a sole evaluation method and must be used in conjunction with another allowable evaluation method.

6.2.2.4 Observation During on-the-job Training (OJT)

Observation during the OJT process is a structured performance evaluation conducted at the conclusion of training on a covered task or while an individual is performing the actual work. Observation during on-the-job training should require an evaluator to observe all specific steps required to be performed when completing the task. This process should be well documented by an approved evaluator.

6.2.2.5 Observation During Simulation

Observation during simulation can be used as an evaluation method. Simulation should include a realistic performance of the covered task under controlled conditions. Simulation may include:

- scenario of a closed pipeline system, such as those used in control centers,
- off the right-of-way using a mock-up scenario to perform various covered tasks,
- demonstrating and communicating the performance of the covered task steps without physically affecting in-service equipment.

When performing an evaluation that simulates the covered task, the evaluation method must, as closely as possible, mimic the actual task steps. During simulation all requirements (AOC, safety, etc.) must be met. This process should be well documented by an approved evaluator.

6.2.2.6 Other Forms of Assessment

Other forms of assessment may include:

- A current professional certification or license through an industry recognized association with a formal evaluation process.
- Specialized equipment manufacturer or vendor certification including a formal evaluation process.

6.2.3 Evaluation Material

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Operators have the option of developing evaluation material or using material developed by third parties.

If developing evaluation material, operators should base evaluations on operations and maintenance procedures or other industry recognized documents. If using material developed by third parties, operators should align the content with the operator's practices.

Operators may periodically review and update evaluation material to ensure it meets current requirements.

6.2.4 Evaluation Process

6.2.4.1 General

6.2.4.1.1 Evaluation Process

The evaluation process is established and documented by the operator to determine an individual's ability to perform covered tasks and recognize and react to abnormal operating conditions (AOCs). The evaluation establishes that an individual is qualified to perform covered tasks.

6.2.4.1.2 Roles and Responsibilities

Operators should define evaluation process roles and responsibilities. Examples of these roles applicable to the evaluation process are as follows:

- a. An *evaluator* conducts performance evaluations.
- b. An *individual* is evaluated for initial qualification or requalification.
- c. A *proctor* administers written, oral, or online examinations.

6.2.4.1.3 Evaluator Selection

Evaluators determine if an individual meets task requirements during a performance evaluation. Operators should develop evaluator acceptance criteria. At a minimum, evaluators should:

- d. Understand safe work practices.
- e. Possess a high degree of integrity.
- f. Possess effective communication skills.
- g. Be trained to perform and document Operator Qualification performance evaluations.
- h. Be knowledgeable of covered tasks to be evaluated.
- i. Be able to recognize and react to AOCs that may occur during the evaluation.

Operators may decide evaluators are not required to be currently qualified to perform the covered tasks they will evaluate.

NOTE If the individual to be evaluated will perform a qualification/requalification on an active pipeline, 49 *CFR* §195 requires an individual, qualified in the task, to direct and observe the unqualified individual during task performance.

6.2.4.1.4 Proctor Selection

Operators should determine whether examination proctoring will be required. Proctors administer written, oral, or online examinations to ensure individuals complete examinations independently, without help from others, and without using unapproved resources. Proctoring increases the integrity and reliability of the examination process and associated qualification records. Proctors should:

- j. Possess a high degree of integrity.
- k. Possess effective communication skills.
- l. Know examination security procedures.
- m. Understand procedures for proctoring knowledge examinations.

Proctors are not required to be qualified in the covered tasks they will proctor.

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6.2.4.1.5 Examination/Evaluation Procedures

Operators should establish guidelines for:

- n. Verifying the identity of the individual to be evaluated.
- o. Ending an evaluation when an AOC or unsafe condition occurs.
- p. Pausing and resuming an evaluation when conditions warrant.
- q. Limiting the number of evaluation attempts.
- r. Taking necessary remedial actions after an unsuccessful evaluation attempt.
- s. Handling suspected cheating during an evaluation.

The area where the evaluation will take place should ensure:

- a. The environment is quiet, without distractions.
- b. No unauthorized reference materials are present.
- c. Equipment and tools necessary for task performance are ready for use.
- d. Safety equipment, including personal protective equipment (PPE), is available, inspected, and appropriate for the task being performed.
- e. Examination sheets, answer sheets, and performance evaluation checklists are secure.
- f. Proctor and individual system logins and records are secure.
- g. Individuals are aware of company procedures for examinations, such as no cell phone or unauthorized internet use during examinations and no talking with others.

6.2.4.1.6 Evaluation Content

Operators may either internally develop evaluation content or acquire content through equipment manufacturers, third-party vendors, or industry associations. Evaluation materials should be validated through a Subject Matter Expert review process or comparison with company procedures.

6.2.4.1.7 Evaluation Criteria

Operators should develop and document evaluation criteria for each covered task. Evaluation criteria may be developed internally, provided by third-party vendors, adopted from manufacturers, incorporated from an industry standard, or a combination of these.

Evaluation Safety

- a. During any evaluation, safety should be the primary consideration.
- b. Evaluators should ensure individuals are following all safety procedures and act in a safe manner before, during, and after the evaluation.
- c. Safety equipment, including personal protective equipment, should be used according to company policies and procedures.

Grading System

- a. For written, oral, or online examination, operators should determine the type of grading system to use and the rationale for their selection. Examples of grading systems include the following:
 - i. Pass or fail—where all questions must be answered correctly to pass the examination
 - ii. Criterion-based—uses a percentage score, (e.g., 80 percent minimum passing score)

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- iii. Criterion-based with critical questions—uses a percentage score (e.g., 80 percent minimum passing score) with critical questions established for information that is essential to safely perform the task.
- b. Operators should score performance evaluations as either pass or fail.
- c. Operators should not allow individuals to self-score.

Reference Materials

- a. During performance evaluations, individuals should be permitted to refer to company procedures, manufacturer instructions, or any other document they would normally be permitted to access when performing the task.
- b. During written, oral, or online examination, individuals should not be permitted to access reference materials.

Checklists

- a. For performance evaluations, a checklist that contains each step necessary to perform the task and copies of relevant work procedures may be used by the evaluator to aid in assessing whether all steps in the process were performed.

Evaluation Participants

- b. Operators should establish limits to the number of individuals assessed during proctored written, oral, or online examination to ensure the proctor can properly administer examination.
- c. Performance evaluations should be conducted with one evaluator assessing one individual at a time.

Knowledge, Skill, and Abilities (KSA)

Evaluations are conducted to determine whether the individual has the knowledge, skill, and abilities (KSAs) to perform the task and to recognize and react to AOCs that may occur during task performance.

- a. Knowledge includes the following:
 - i. The AOCs that may occur during the performance of the task (including the appropriate recognition of and reaction to the AOCs)
 - ii. Capable of communicating applicable procedures to safely perform the task
 - iii. Equipment or tool selection, use, testing, and calibration requirements
 - iv. The sequence of steps to perform the task
 - v. General knowledge of the task topic and related information, such as Code requirements
 - vi. Handling anticipated variables, that may occur (including weather, darkness, noise, etc.)
- b. Skills include the following:
 - i. Demonstration of the task
 - ii. Demonstration of the recognition and appropriate reaction to AOCs that may occur during task performance
- c. Physical abilities to consider:
 - i. Seeing
 - ii. Hearing

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- iii. Smelling
- iv. Walking
- v. Lifting, moving equipment and components (as necessary)
- vi. Operating necessary tools and equipment

6.2.4.1.8 Evaluation Methods

The selected evaluation methods should be appropriate for the assessment/examination. Operators may use a different evaluation method for an individual's initial qualification as opposed to an individual's subsequent qualification of a task. Individuals, currently qualified, are typically more experienced in the task during subsequent qualification.

The table below is a representation of evaluation methods and their applicability for various assessments and examinations.

- a. "X" is a suitable evaluation method for the assessment/examination.
- b. "O" is an evaluation method that may complement another evaluation method.
- c. Blank means the evaluation method is not suitable for the assessment/examination.

Table 1—Evaluation Methods

Evaluation Method	Assessment/Examination Of				
	<i>Knowledge</i>	<i>Skill</i>	<i>Abilities</i>	<i>AOC Recognition</i>	<i>AOC Reaction</i>
Written, Oral, or Online	X	O		X	O
Performance	O	X	X	X	X

6.2.4.1.9 Evaluations Conducted Via Technology

Historically, performance evaluations have been conducted in-person, through simulation or with an evaluator observing and assessing an individual on-site as the individual performs the task. Technology is now available to enable operators to conduct realistic evaluations through computer-generated applications, remote meeting technology or use of remote equipment such as underwater applications such as ROV and air applications such as drones.

Tasks that the operator has identified as more critical or more complex may not be suitable for evaluation via technology. For technology to be suitable for evaluations, it must allow the individual being evaluated to realistically perform each step in the task while the evaluator assesses their performance. Evaluation criteria for evaluations via technology should be the same as in-person or on-site evaluations. Operators should document their assessment and approval of any technology used to conduct evaluations.

Various methods include:

- a. Computer-Generated Applications
 - i. Virtual reality, augmented reality, and other applications digitally replicate task performance situations under safe and controlled conditions in a digital environment. The evaluator can observe and assess the actions of the individual being evaluated as they perform each task step.
- b. Evaluations Conducted Remotely

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- i. Operators may use video conferencing or other software in situations where the evaluator and individual being evaluated are not in the same location. The operator should determine which tasks are appropriate for a remote evaluation. For example, initial qualification may not be appropriate for remote evaluation. The operator should assess whether communication equipment is sufficient to permit effective remote evaluations.
- ii. If an evaluation is taking place on an active pipeline, and the individual being evaluated is not qualified in the task, the unqualified individual shall be directed and observed by a qualified individual, within close proximity.
- iii. If necessary, the evaluator should designate an on-site observer to continuously monitor the evaluation to ensure the integrity of the evaluation and the safety of the environment. The observer shall remain within close proximity until the evaluation is complete.

6.2.4.1.10 Documentation

Operators should maintain documentation of an individual's qualification, including the methods used to assess KSAs to perform a task. Qualification records shall include the following:

- a. Identification of qualified individual(s)
- b. Identification of the covered tasks the individual is qualified to perform
- c. Date(s) of current qualification
- d. Qualification method(s)

Operators shall maintain records supporting an individual's current qualification while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for five years.

6.2.5 Abnormal Operating Conditions (AOCs)

Identification of AOCs for covered tasks includes analyzing the covered task procedures for any potentially hazardous condition that could occur while the task is being performed. Upon identification, determine and document the AOC, the recognition and appropriate reaction. Operators should consider both general and task specific AOCs. General AOCs are generic in nature, but observable to individuals on-site, while task specific AOCs may be encountered while performing the covered task.

Further guidance on identifying AOCs is provided in Annex G.

An evaluation of the individual's ability to perform a covered task must include the ability to recognize and react to AOCs associated with the covered task. Operators have the flexibility to determine evaluation method(s). These methods include developing a standalone AOC evaluation and/or incorporating AOCs into task evaluation.

6.2.6 Type of Qualification

Operators should consider the type of qualification when determining evaluation methods. Requirements may differ between initial, subsequent, and post-suspension qualification.

6.3 Other Circumstances That Require Qualification Considerations

6.3.1 New Construction

New construction is not covered under the OQ regulations for pipeline safety. Operators should consider applicability when existing regulated assets may be affected by the new construction. Examples include:

- Line locating in the right-of-way of an existing asset.
- Observing excavation activities near a regulated asset.
- Cathodic protection system installation.

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- Building in an existing station or facility.
- Tying into an existing regulated asset.

New construction ends upon connection to an active pipeline. Thereafter, tasks performed are O&M activities requiring operator qualification, until the pipeline is officially abandoned.

6.3.2 Mergers and Acquisitions

An operator's OQ program should include provisions for mergers and acquisitions of regulated assets subject to 49 *CFR* §195 to ensure that individuals performing covered tasks are qualified.

A review should be conducted to identify compatibility with the operator's program and identify any processes that may need to be addressed. Items to consider:

- AOCs
- covered tasks, including span of control;
- reevaluation intervals;
- evaluation methods;
- contractor qualifications;
- current suspensions;
- past regulatory audit findings and corrective actions.

Following the review, the operator may accept all or part of the acquired asset's program or incorporate any new personnel and/or contractors. A plan should be established when transitioning personnel and/or contractors under the acquired asset's program to the operator's program.

Annex E provides program effectiveness guidance which may be used. Where possible, the operator should document actions taken.

6.3.3 Mutual Assistance

Operators may enter into mutual assistance agreements with other operators to help ensure that they have the resources necessary to complete covered tasks, particularly in times of emergency. Operators should ensure that individuals who perform covered tasks on the operator's pipeline are operator qualified.

7 Allowing individuals that are not qualified to perform a covered task

7.1 General

Operators may consider a mechanism to observe and direct performance of a covered task by nonqualified personnel.

7.2 Span of Control

An operator's program may allow nonqualified individuals to perform some covered tasks, providing they are directed and observed by a qualified individual. For a qualified individual to direct and observe a nonqualified individual, the qualified individual shall be in close proximity and within line of sight to the nonqualified individual so that the qualified individual may intervene if needed, assume control if the task is being performed incorrectly, and respond to an AOC if one should arise.

7.2.1 Span of Control Analysis

Span of control is determined by analyzing the importance (risk level) and difficulty of the task. Refer to Annex H.

Operators should determine whether the task is important (high risk) or less important (lower risk.) The task should also be rated as either very difficult, moderately difficult or not difficult to perform. These two

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determinations will guide operators to a span of control of 1:0 through 1:5 (ratio is qualified:nonqualified) for each task. Operators should further consider SME input in establishing each task's span of control. It is recommended operators not exceed spans of control greater than 1:5.

TASK ANALYSIS		TASK MANAGEMENT	
Step One - ASSESS RISK	Step Two - ASSESS DIFFICULTY	SPAN OF CONTROL	EVALUATION INTERVAL
High Risk	Very difficult	1:0	12 months
	Moderately difficult	1:1	24 months
	Not difficult	1:2	36 months
Moderate Risk	Very difficult	1:2	24 months
	Moderately difficult	1:3	36 months
	Not difficult	1:4	48 months
Low Risk	Very difficult	1:3	36 months
	Moderately difficult	1:4	48 months
	Not difficult	1:5	60 months

An operator should consider temporarily reducing span of control for a specific task when actual jobsite conditions (i.e. language barriers, weather conditions, excessive distraction) limit the qualified individual's ability to direct and observe nonqualified individuals.

Span of control only applies to individuals who are physically performing steps of a covered task. Span of control does not apply to individuals who are only performing ancillary functions (such as a welder's helper). A qualified individual can only direct and observe nonqualified individuals performing a single task at any given time.

7.3 Guidance on Emergency Response

Operator qualification requirements for emergency response are limited to existing covered tasks performed on the pipeline facility.

Individuals who act, or could be reasonably expected to act, on behalf of an operator during emergency situations, as an extension of the operator's workforce, shall be qualified under the operator's OQ program. Emergency responders, such as firefighters or police officers, need not be qualified by the operator to act on their own accord consistent with their job responsibility of protecting public safety. During the emergency phase, the operator's primary responsibilities are the protection of life, property, and the environment.

8 Individuals Who Contribute to an Accident

8.1 General

Operators should consider suspending and reviewing an individual's qualification if the individual's performance of a covered task(s) may have contributed to an accident.

8.2 Appropriate Action Following Individual's Involvement in an Accident

If the operator has determined that a covered task was being performed at the time an accident occurred, the operator should investigate to determine if the incorrect performance of a covered task was a causal factor to the accident. When making this determination, the operator should review:

- an individual's knowledge on how to perform a covered task,
- any change in an individual's skills or ability required to perform a covered task,
- any deficiency in the performance of a procedure,

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- any unidentified AOC's related to the particular covered task(s),
- unsatisfactory or unsafe performance of a covered task,
- if the task was performed by a nonqualified individual.

The operator shall determine and execute appropriate action(s) based on their review, which may include:

- suspension or disqualification from performing the covered task(s),
- additional training,
- a procedure(s) review and/or revision,
- evaluation and/or requalification,
- revision of the OQ program,
- other actions as warranted.

Operators should document the results of the review and evidence of suspension, disqualification, or requalification.

9 Potential Reasons for Disqualification

9.1 General

Operators shall review an individual's performance of covered tasks if there is reason to believe the individual is no longer qualified.

9.2 Determining if an Individual Should No Longer Be Qualified

Operators should develop a process to determine if an individual is no longer qualified to perform a covered task. Factors to consider:

- contributing to an accident while performing a covered task;
 - failure to properly perform a covered task;
 - failure to recognize or properly react to an AOC;
 - significant changes in company/regulatory task qualification requirements;
 - loss of motor skills, vision, or impairments;
 - concern expressed about an individual's ability to perform a covered task;
 - qualification period, as determined by company, has expired.

If an individual is determined to no longer be qualified, the operator should suspend the individual's qualification to perform the task, and consider additional actions, which may include:

- restricting performance of covered task (such as performing task under span of control);
- additional training;
- reevaluation;
- procedure review.

9.3 Suspension Process

Suspension of an individual's qualification(s) should be documented and upheld until the operator has determined if the suspension was warranted, retraining and/or evaluation has been completed, or it was determined that the individual's actions did not contribute to an accident. Upon the Operator's review the suspension could result in a reinstatement or a removal of the individual's task qualification(s).

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The suspension of an individual's qualification(s) should at a minimum apply to the specific covered task(s). The Operator should determine if the suspension of such qualifications will affect the individual's ability to perform other covered task(s).

10 Identifying Covered Tasks Reevaluation Intervals

10.1 General

Operators shall establish a re-evaluation interval for each covered task.

10.2 Developing Reevaluation Intervals

When developing reevaluation intervals, the operator has the option of using industry associations' (or other entities) recommended intervals as guidance or developing operator-specific intervals. If an operator chooses to adopt industry-developed intervals, they should review each interval to verify alignment to the operator's OQ program. Some covered tasks, such as welding or nondestructive testing (NDT), have regulatory requirements that may affect reevaluation intervals.

When developing or revising intervals, the operator should document the rationale used to determine the intervals and may use a similar process as described in Annex H.

11 Communicating Changes

11.1 General

The operator shall establish a process for communicating changes that affect the performance of covered tasks.

11.2 Developing Processes to Communicate Changes That Affect Covered Tasks

Changes that affect the performance of covered tasks may include the following:

- task modification;
- revisions to policies, procedures, or standards;
- changes to tools, equipment, or technology.

Other changes that may require communication:

- task addition or deletion;
- modification of reevaluation intervals;
- revision to span of control;
- modification, addition or deletion of evaluation methods, materials, and criteria;
- revisions or additions to identified AOCs.

Changes to covered tasks may necessitate additional evaluation to maintain qualification.

12 Training

12.1 General

The operator shall provide training, as appropriate, to ensure that individuals performing covered tasks have the necessary knowledge and skills required for qualification to perform the tasks in a manner that ensures the safe operation of the pipeline facilities.

12.2 Providing Training

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Training on specific covered tasks and/or based on the individual's need for training may be appropriate in the following circumstances:

- initial and/or requalification;
- following a suspension;
- per an accident investigation or a near miss;
- addition of a covered task;
- revisions to policies and procedures;
- changes to tools, equipment, or technology;
- after a failed examination /evaluation;
- or as determined by the operator.

The operator may choose the mechanism by which training will be delivered. The delivery method must be fit for purpose and meet operator requirements. Training delivery methods can include:

- OJT;
- instructor-led training;
- computer-based training;
- certification programs;
- table-top/simulation;
- self-study;
- Other methods as determined by the operator.

13 Regulatory Notification of Significant Changes

13.1 General

Operators shall identify significant modifications made to the Operators approved Qualification program and submit the changes to PHMSA and appropriate state regulatory agencies.

13.2 Guidance on Determining a Significant Change

Operators shall determine what changes are considered significant to the OQ program. At a minimum the following should be considered significant:

- increasing evaluation intervals
 - increasing span of control ratios
 - eliminating Covered Tasks
 - evaluation method changes
 - wholesale changes made to the operator's OQ program (e.g. consolidation of programs following a merger, acquisition, or divestiture; changes to roles and responsibilities)
- Submission of OQ Program Revisions

13.3 Guidance on Transmitting OQ Program Revisions

The operator should submit the complete OQ program to the PHMSA Administrator or participating state agencies, accompanied by a revision log and the effective date of change(s). Revisions should be made allowing the changes to be readily identified. Employee-specific information (i.e., social security numbers) and examination material do not need to be sent.

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Each notification to PHMSA should include the following:

- operator identification number(s) [OPID(s)], operator name(s), headquarters (HQ) address;
- name of individual submitting notification;
- date/email/phone number;
- commodity (gas/liquid/both);
- PHMSA region(s) where pipeline(s) operates;
- names of respective facilities or pipeline systems where changes apply.

14 Recordkeeping

The operator shall maintain records that demonstrate compliance with 49 *CFR* § 195.507. Qualification records shall include:

- identification of qualified individual(s),
- identification of the covered task(s) the individual is qualified to perform,
- date(s) of current qualification,
- qualification method(s).

Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task(s). Records of prior qualification and records of individuals no longer performing covered task(s) shall be retained for a period of 5 years.

14.1 Developing Recordkeeping Criteria

Operators should develop and document a process to verify individuals performing covered tasks have valid qualifications. Validation methods can include hard copy records, electronic records or ID cards. Different methods may be used to validate qualification for employees, contractors, subcontractors, or other individuals.

The operator should consider maintaining additional records to demonstrate compliance with the program. While this list of records is not required by regulation, many are integral to the OQ program:

- documented history of OQ program and all program revisions, including covered task changes;
- communication of the OQ program;
- evaluation criteria;
- reevaluation records for cause;
- feedback from field personnel, accident investigations, near miss programs, or other sources that could enhance the OQ program, such as AOCs, evaluations, and training;
- results of program review and/or auditing;
- history file of checklist used for performance verifications and written/oral exams;
- justification for selection of evaluators;
- revision log.

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Recommended Practice for Hazardous Liquid Pipeline Operator Qualification (OQ)

1 Scope

~~The purpose of this recommended practice~~ API Recommended Practice (RP) is to provide guidance ~~1161 establishes a framework~~ for developing and maintaining an operator qualification (OQ) program. ~~for hazardous liquid pipeline personnel. This document is comprised of the RP along with normative and nonmandatory, informative annexes.~~

~~This RP is applicable for all hazardous liquid pipelines, both onshore and offshore, subject to 49 Code of Federal Regulations (CFR) Part 192 and/or Part 195. References to 49 CFR Part 192 are applicable to gas transmission only tasks, and references to 49 CFR Part 195 are applicable to liquid only tasks. 195, Subpart G. Operators may choose to use all, or part, or none of this document as applicable to their operations.~~

~~Operators should be aware that the OQ regulation is applicable only to United States Department of Transportation (DOT) jurisdictional pipelines. For~~ For the purposes of this document, the word "pipeline" is used interchangeably with pipeline, pipeline facility, or pipeline system, and any and all jurisdictional pipeline components as defined in 49 CFR Part 192 and Part 195.

~~Annexes F and G have been added to this edition to address management of change and abnormal operating conditions~~ § 195. This document pertains to all employees, contractors, subcontractors, or other entities who perform covered tasks on behalf of the Operator.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API 510, *Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration*

API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*

API Standard 1104, *Welding of Pipelines and Related Facilities*

API Recommended Practice 2350, *Overfill Protection for Storage Tanks in Petroleum Facilities*

ASME Boiler and Pressure Vessel Code ¹, Section IX: *Welding and Brazing Qualifications*

ASNT Recommended Practice SNT-TC-1A ², *Personnel Qualification and Certification in Nondestructive Testing*

U.S. DOT Title 49, *Code of Federal Regulations (CFR) Part 192* ³, ~~Transportation of Natural and Other Gas by Pipeline~~

~~U.S. DOT Title 49, Code of Federal Regulations (CFR) Part 195, Transportation of Hazardous Liquids by Pipeline~~

¹ ASME International, 2 Park Avenue, New York, NY 10016-5990, www.asme.org.

² American Society for Nondestructive Testing, PO Box 28518, 1711 Arlingate Lane, Columbus, OH 43228, www.asnt.org.

³ ~~Department of Transportation. The Code of Federal Regulations is available from the U.S. Government Printing Office, Washington, DC 20402, www.gpo.gov/fdsys.~~

23 Terms, Definitions, Acronyms, and Abbreviations

2.13.1 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

NOTE When identical terms are defined within the task standard and in this section, the task standard definitions apply.

3.1.1

abnormal operating condition (AOC)

AOC

A condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

- indicate a condition exceeding design limits; or
- result in a hazard(s) to persons, property, or the environment.

NOTE As defined in 49 CFR § 195.503 ~~and 49 CFR § 192.803.~~

3.1.2

accident

A failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported, resulting in any of the following.

- a) Explosion or fire not intentionally set by the operator.
- b) Release of 5 ~~gal~~gallons (19 ~~L~~liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 ~~bbbl~~barrels (0.8 m³) resulting from a pipeline maintenance activity if the release is:
 - 1) not otherwise reportable under this section,
 - 2) not one described in 49 CFR § 195.52(a)(4),
 - 3) confined to company property or pipeline right-of-way, and
 - 4) cleaned up promptly.
- c) Death of any person.
- d) Personal injury necessitating hospitalization.
- e) Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

NOTE As defined in 49 CFR § 195.50.

3.1.3

complexity

~~An analysis type that includes a review of the knowledge and skill components of a task.~~

~~NOTE Factors that may be used to determine complexity minimally include:~~

- ~~— level of knowledge required,~~
- ~~— amount of independent judgment required,~~
- ~~— advanced skills that are necessary,~~
- ~~— technical training or certifications that are required,~~

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~~— required training or certification needed by regulation.~~

3.1.4

covered task

Defined as follows:

- ~~— is a discrete An activity performed by an individual or group of individuals,~~
- ~~— has a beginning and an ending point,~~
- ~~— has two or more steps,~~
- ~~— can be observed and measured,~~

is₁ identified by the company, operator, that:

- meets all four(1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of this part; and
- (4) Affects the operation or integrity of the conditions of the “Four-part Test.”pipeline.

NOTE As defined in 49 CFR §195.501 ~~and 49 CFR § 192.801.~~

3.1.53.1.4

disqualificationcriticality

~~An analysis type that includes a review of the potential adverse impacts that could result from improper performance of a task.~~

NOTE 1 ~~Criticality can be determined as a factor of the likelihood and consequences of improper performance.~~

NOTE 2 ~~Consequences that may be used to determine criticality minimally include:~~

- ~~— exceeding design limits,~~
- ~~— personal injury,~~
- ~~— release of a product,~~
- ~~— ignition source.~~

The act of removing an individual's qualification to perform any or all covered tasks until completing the requirements for requalification.

3.1.5

risk and difficulty analysis

A tool to assist in determining a requalification interval or span-of-control ratio.

3.1.6

evaluation

A process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:

- a) written examination;
- b) oral examination;
- c) work performance history review (WPHR);

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- d) observation during:
 - 1) performance on the job,
 - 2) on-the-job training (OJT), or
 - 3) simulations;
- e) other forms of assessment.

NOTE As defined in 49 CFR § 195.503 ~~and 49 CFR § 192.803.~~

3.1.7

new construction ~~incident~~

~~Any of the following events.~~

- ~~1) An event that involves a release of gas from a pipeline, gas from an underground natural gas storage facility, liquefied natural gas (LNG), liquefied petroleum gas, refrigerant gas, or gas from an LNG facility and that results in one or more of the following consequences:
 - ~~i) a death or personal injury necessitating in-patient hospitalization;~~
 - ~~ii) estimated property damage of \$50,000 or more, including loss to the operator and others, or both, but excluding cost of gas lost; or~~
 - ~~iii) unintentional estimated gas loss of 3 MMcf or more.~~~~
- ~~2) An event that results in an emergency shutdown of an LNG facility or an underground natural gas storage facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.~~
- ~~3) An event that is significant in the judgment of the operator, even though it did not meet the criteria of Item 1) or Item 2) of this definition.~~

The act of building a pipeline facility or expanding an existing pipeline facility (as in looping a pipeline segment, which may also be done to meet increased load requirements or to enhance reliability of the system) in order to provide new service to a customer(s) or in order to meet increased demand.

NOTE As defined in 49 CFR § 191.3 Definitions, the PHMSA Pipeline Glossary

3.1.8

IR drop

The voltage or potential difference as a result of current flow. From Ohm's Law, $V = IR$. When evaluating structure-to-soil measurements, IR drop is the voltage drop other than the drop across the structure-to-soil boundary.

~~3.1.8~~ 3.1.9

operator qualification program (OQ program)

OQA written qualification program

~~Operators of natural gas and hazardous liquid pipelines to develop a program to ensure that personnel who are performing meets or exceeds the operations and maintenance tasks on a pipeline are qualified to do so requirements of 49 CFR § 195.505.~~

3.1.9

practicality

~~An analysis type that includes a review of typical situational factors inherent in the performance of a task.~~

~~NOTE Factors that may be used to determine practicality may include:~~

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~~— number of individuals required to perform a task,~~

~~— number of individuals that can reasonably fit in a job performance area,~~

~~— number of individuals that can be directly observed at one time,~~

~~— location where the task is performed,~~

~~— coordination with other individuals or groups.~~

3.1.10

qualification

The result of a process determined by the operator that includes successful completion of task-specific evaluation(s) with the associated ~~abnormal operating conditions (AOCs)~~_{7.1} documentation, and ~~any other~~meets the requirements ~~as documented in~~of the OQ program.

3.1.11

qualified

An individual who has been evaluated and can:

- a) perform assigned covered tasks, and
- b) recognize and react to AOCs associated with those tasks.

3.1.12

remote evaluation

An evaluation that is conducted and controlled remotely by an evaluator ~~where the evaluator who~~ is not physically present.

3.1.13

Repair

Repair is the act of returning a damaged or defective item to restore its serviceability and safe operation. Pipeline repairs address defects or anomalies that reduce the strength of a pipe in a manner that restores that strength. Repairs can include replacing sections of pipeline.

3.1.13.1.14

span of control

The ratio of ~~nonqualified to~~ qualified ~~individuals to nonqualified individual(s)~~ where the nonqualified individual ~~may be(s) is~~ directed and observed by a qualified individual ~~when~~while performing a covered task.

3.1.15

suspension~~, with the consideration to complexity of the~~

The temporary act of removing an individual's qualification to perform any or all covered task and the operational conditions when performing the covered task~~tasks.~~

3.1.143.1.16

training

Act of facilitating the~~The~~ learning, development, and improvement of new ~~and~~or existing knowledge and skills ~~and,~~ not to include the evaluation or qualification of those knowledge and skills. _

2.23.2 Acronyms and Abbreviations

AC	alternating current
AO	abnormal operation
AOC	abnormal operating condition
CP	cathodic protection

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CPM	computational pipeline monitoring
DC	direct current
DCF	density correction factor
DRA	drag reducing agent
HMI	human machine interface
HQ	headquarters
HVL	highly volatile liquid
HVLP	high-volume low-pressure
I/O	input/output
KCl	potassium chloride
KSKSA	knowledge and skills and abilities
LNG	liquefied natural gas
MIL	1/1000 in. of an inch
MOP	maximum operating pressure (liquid)
NDT	nondestructive testing
OJT	on-the-job training
O&M	operations and maintenance
OPD	overfill protective device
OPID	operator identification number
OPS	Office of Pipeline Safety
OQ	operator qualification
PCR	polarization cell replacement
PHMSA	Pipeline and Hazardous Materials Safety Administration
PLC	programmable logic controller
PVP/V	pressure/vacuum
RMU	remote monitoring unit
RTD	resistance thermal device
SCADA	Supervisory Control and Data Acquisition
SRC	safety-related condition
SSD	solid state decoupling
VOM	volt-ohm meter
WPHR	work performance history review

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34 Guidance for **Developing an OQ Program**

3.14.1 Roles and Responsibilities

4.1.1 Operators should ~~define~~identify roles and responsibilities for the administration, management, and ~~consistent implementation~~execution of the OQ program. Clear

4.1.2 Operators should establish and assign responsibilities to each applicable OQ program role. The responsibilities ~~for implementing the elements of the OQ program~~ should be established and communicated to affected individuals. ~~Responsibilities associated with~~Examples of responsibilities include:

- managing and overseeing the OQ program may include but are not limited to the following:
 - central management and oversight of the OQ program;
 - training, as appropriate;
 - conducting and administering evaluations;
 - recordkeeping;
- identifying covered tasks;
- assigning covered tasks to individuals;
- training, as appropriate;
- conducting and administering evaluations, per the operator's OQ program;
- verifying individuals' qualifications;
- managing contractors and other entities;
- documentation and recordkeeping.

4.2 Communication

The operator's OQ program should include mechanisms to facilitate effective communication when a communication barrier exists. Examples may include:

- interpreter for alternative languages or individual(s) with hearing loss;
- training materials or task steps in applicable formats;
- qualification methods in applicable formats.

3.24.3 Program Improvement

3.2.14.3.1 General

Operators should develop processes for periodic review and audit of their OQ program. Operators should incorporate program improvements based on the findings. The operator has the flexibility to structure the review and audit as formally or informally as deemed necessary but should document the results and identify and communicate any modifications.

3.2.24.3.2 OQ Program Review

The purpose of periodically reviewing the OQ program is to verify it meets current regulatory and operator requirements.

NOTE: Refer to Annex E for further information.

3.2.34.3.3 Internal Audit

The purpose of an internal audit is to verify the OQ program is being executed as written.

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NOTE Refer to Annex E for further information.

3.2.44.3.4 Participation in an Industry Group

The operator may consider participating in an industry OQ group. These groups develop and update OQ guidance materials, share best practices, and interact with regulatory agencies.

45 Identification of Covered Tasks

4.15.1 General

The four criteria listed below are referred to hereafter as the Four-part Test.

The program shall identify₁ and document covered tasks. A covered task is an activity₁ identified by the operator₁ that:

is(1) Is performed on a pipeline facility,~~and;~~

is(2) Is an operations or maintenance task,~~and;~~

is(3) Is performed as a requirement of 49 CFR ~~Part 192 and/or Part~~ § 195;₂ and

affects(4) Affects the ~~operations~~operation or integrity of the pipeline.

~~The four criteria listed above are referred to hereafter as the Four-part Test.~~

Guidance on NOTE Pipeline repair activities not explicitly identified in 49 CFR § 195, while performed in accordance with the requirements of 49 CFR § 195.422(a), may be considered by the operator as meeting the third component of the Four-part-test.

4.25.2 Identifying Covered Tasks

4.2.15.2.1 General

In developing the covered task list, ~~the operator shall consider~~operators are required by 49 CFR § 195 to include tasks meeting all elements of the Four-part test that are performed onfor the pipeline–~~facility~~operator, regardless of who performs them ~~(. This includes~~ employees, contractors, subcontractors, or other entities₁ such as other pipeline operators ~~or those with access to . Operators also have the operator's equipment). For example, if an operator contracts out pipeline repair activities, those activities shall be considered in the identification of covered~~flexibility to include additional tasks.– that do not meet all elements of the Four-part test.

The operator has flexibility to determine how to accomplish covered task identification. The operator should document the method and justification for selecting covered tasks. ~~Options for establishing a covered task list may include but are not limited to the following two methods.~~

4.2.25.2.2 Adoption of an Industry-developed Covered Task List

Industry and technical associations, ~~qualification product providers~~OQ vendors, and others have developed covered task lists ~~through subject matter expert consensus. The Covered Task List developed by API (in conjunction with the Operator Qualification Workgroup under the Pipeline Committee) is attached to this document as Annex A. The . When considering such a list, the~~ operator should ~~take additional steps if adopting such a list and at a minimum should~~ compare the covered task list to its operations and maintenance activities ~~to ensure completeness.~~ The operator has the flexibility to combine or separate covered tasks as suitableapplicable to its operations ~~and if . If~~ gaps are identified the operator should apply the Four-part ~~Test~~test to add or ~~delete~~remove covered tasks as applicable.

NOTE Annex A presents covered tasks identified by API's Operator Qualification Workgroup.

4.2.35.2.3 Analysis of Operations and Maintenance Activities

An analysis of operations and maintenance activities mayshould be used ~~in the process of determining to determine~~ which activities shouldwill be included in an operator's covered task list. ~~Items to be considered~~

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when conducting activity Subject matter experts, regulatory compliance personnel, and others may be enlisted to assist in the identification and analysis may. Examples of items to be considered include but are not limited to the following:

- 49 CFR Part 192 and/or Part 195;
- state or local requirements;
- company requirements;
- operations, maintenance, and safety procedures;
- ~~industry-developed covered task list(s);~~
- applicable Pipeline and Hazardous Materials Safety Administration (PHMSA) Advisory Bulletins.

It may be helpful to record each applicable activity on a master list and document ~~the answers~~ applicability to each element of the Four-part ~~Test question~~ test, adding justification notes as needed. This method of documentation produces a list of covered and noncovered tasks and may assist in regulatory and internal reviews. ~~Subject matter experts, regulatory compliance personnel, and others may be enlisted to assist in the identification and analysis of activities. Operators have the flexibility to include additional tasks that do not meet the Four-part Test.~~

4.35.3 Guidance on Interpreting the Four-part Test

4.3.45.3.1 Part 1—Is the Task Performed on a Pipeline Facility?

Operators should review the regulatory definitions of pipeline and pipeline facility. Components, piping, and equipment that are physically connected to the pipeline or pipeline system (i.e., by wires, tubing, pipe, or by the pipeline right-of-way) ~~or that are connected by signals through the air~~ are considered part of the pipeline facility.

A component, piping, or equipment disconnected and physically removed from the pipeline or pipeline system is not considered part of the pipeline facility. A component that is disconnected, but not physically removed from the pipeline facility, would meet the Part 1 requirement of the Four-part Test.

4.3.25.3.2 Part 2—Is the Task an Operations or Maintenance Task?

Operations tasks ~~may be defined as are~~ those activities associated with monitoring and controlling the transportation of hazardous materials within a pipeline system. Maintenance tasks ~~may be defined as are~~ those activities performed to maintain, restore, replace, or relocate existing active pipeline facilities.

4.3.35.3.3 Part 3—Is the Task Performed as a Requirement of 49 CFR Part 192 and/or Part 195?

The operator should review all subparts of and/or 49 CFR ~~Part 192 and/or Part~~ 195, including documents incorporated by reference, and state and local requirements to ensure completeness of all tasks. Operations and maintenance tasks are not limited to those tasks addressed in 49 CFR Part ~~192, Subparts L and M and/or 49 CFR Part~~ 195, Subpart F.

4.3.45.3.4 Part 4—Does the Task Affect the Operation or Integrity of the Pipeline?

Tasks that, if performed incorrectly, could adversely affect the operations or integrity of the pipeline during or after the performance of the task would meet the Part 4 requirement of the Four-part ~~Test~~ test.

5.4 Element 2: Ensure Risk and Difficulty Analysis

If determining the span of control ratio and re-evaluation interval for each covered task, Operators should analyze the risk and difficulty associated with performing the Covered Task. Operators may use a tool similar to that found in Annex H.

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56 Ensuring, Through Evaluation, That Individuals Performing Covered Tasks Are Qualified

5.16.1 General

Operators shall have a documented process for the evaluation of individuals to be qualified to perform covered tasks.

The terms qualification and evaluation are frequently used interchangeably throughout the industry; however, they are two distinct terms. (see definitions).

5.26.2 Establishing Criteria for Qualification Through Evaluation

~~Qualification is the result of a process determined by the operator that includes successful completion of task-specific evaluation(s) with the associated AOCs, documentation, and any other requirements as documented in the OQ program. An evaluation is a step in the qualification process that determines an individual's knowledge, skill, and ability.~~

1.1.16.2.1 Evaluation and Qualification Process

1.1.1.1 General

~~The operator encounters several decision points when developing a qualification process. At a minimum, consideration should be given to the covered task, the individual or groups of individuals to be qualified, and the type of qualification. The resulting qualification process(es) should be documented.~~

5.2.1.16.2.1.1 Covered Task

The operator should review the covered tasks to determine the appropriate evaluation method(s) and other qualification requirements. Items to be considered may should include ~~but are not limited to the following:~~

- ~~— scope and complexity~~The difficulty of performing the covered task;
 - ~~— the importance or risk, and;~~
 - ~~— the frequency.~~
- ~~— Additionally, the operator should consider the~~ level of knowledge and/or skill needed to perform the covered task,
- and any other factors as determined by the operator.

5.2.1.26.2.1.2 Individuals or Groups of Individuals

The operator has flexibility to determine the evaluation methods and other qualification requirements for all individuals who perform covered tasks ~~and may utilize the same evaluation methods and other qualification requirements for all groups of individuals (employees, contractors, subcontractors, or other entities such as other pipeline operators or those with access to the operator's equipment) or may establish different requirements for different groups. The operator may establish provisions in its OQ program. In certain circumstances an operator may establish provisions~~ to accept qualifications from other entities' internal OQ programs.

1.1.1 Type of Qualification

~~Types of qualification should be considered when determining evaluation methods and other qualification requirements. Requirements may differ by type of qualification (e.g. initial qualifications, current qualifications prior to an expiration date, qualifications that have exceeded an expiration date, or qualifications that may require additional actions as described in Element 4 and Element 5).~~

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1.1.2 Evaluations

~~As stated in the regulation, evaluation is the process, established and documented by the operator, to determine an individual's ability to perform a covered task through application of any of the following:~~

- ~~— written examination;~~
- ~~— oral examination;~~
- ~~— WPHR;~~
- ~~— observation during:~~
 - ~~— performance on the job,~~
 - ~~— OJT,~~
 - ~~— simulation;~~
- ~~— other forms of evaluation.~~

~~Neither WPHR nor observation of performance on the job can be used as the sole evaluation method for determining qualification. These methods shall be used in conjunction with other allowable methods of evaluation.~~

5.2.16.2.2 Evaluation Methods

As stated in 49 CFR § 195.503, evaluation is the process, established and documented by the operator, to determine an individual's ability to perform a covered task.

Neither WPHR nor OJT can be used as the sole evaluation method for determining qualification. If either of these methods are used, they shall be used in conjunction with other allowable methods of evaluation.

6.2.2.1 Written Or Oral Examination

Written and oral examinations should consist of ~~standard~~, predetermined questions and ~~shall~~should contain enough questions to adequately measure the knowledge required to perform a covered task. ~~A written examination is a knowledge test on paper or electronic format, whereas oral examination is a verbal knowledge test.~~ Consideration should be made for the role of a proctor and/or evaluator to ensure ~~tests~~examinations are administered in a secure and controlled setting.

6.2.2.2 Work Performance History Review (WPHR)

WPHR is a structured, documented review of an individual's task-related performance records. ~~WPHR was originally established to aid operators in transitioning their employees past work experience to meet regulatory requirements.~~ If an operator chooses to use WPHR as an evaluation method, the following steps should be completed and documented ~~at a minimum~~:

- ~~—~~ a search of existing records for documentation of an individual's past satisfactory performance of a covered task(s);
- ~~—~~ verification that the individual's work performance history contains no indications of substandard work or involvement in an accident caused by an error in performing a covered task; ~~and,~~
- ~~— verification that the individual has successfully performed the covered task on a regular basis.~~

6.2.2.3 Observation During Performance on the Job

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Visual observation during performance on the job is a casual, unstructured observation.

includes the evaluation of specific steps required to be performed when completing the task. Evaluators performing observations shall possess the knowledge required to ascertain an individual's ability to perform covered tasks and to substantiate an individual's ability to recognize and react appropriately to AOC that might occur while performing these activities. Observation during performance on the job cannot be used as a sole evaluation method and must be used in conjunction with another allowable evaluation method.

6.2.2.4 Observation During on-the-job Training (OJT)

Observation during the OJT process is a structured performance evaluation conducted at the conclusion of training on a covered task. (See other forms of evaluation.) or while an individual is performing the actual work. Observation during on-the-job training should require an evaluator to observe all specific steps required to be performed when completing the task. This process should be well documented by an approved evaluator.

6.2.2.5 Observation During Simulation

Observation during simulation can be anyused as an evaluation method. Simulation should include a realistic performance of several evaluation methods described as follows the covered task under controlled conditions. Simulation may include:

- simulated scenario of a closed pipeline system, such as those used in control centers,
- off the right-of-way using a mock-up scenario to perform various covered tasks,
- demonstrating and communicating the intended performance of the covered task steps without physically touching the affecting in-service equipment.

Other forms of evaluation are as follows.

- Performance evaluations are formal, structured observations to measure skills and knowledge. An individual independently performs a covered task in a real-time or simulated environment while an evaluator assesses his/her skills based on a set of predetermined and documented criteria (such as a checklist).
- Professional certifications [e.g. National Association of Corrosion Engineers (NACE), American Society for Nondestructive Testing, (ASNT), API, American National Standards Institute (ANSI)] that include evaluation.

When performing an evaluation that simulates the covered task, the evaluation method must, as closely as possible, mimic the actual task steps. During simulation all requirements (AOC, safety, etc.) must be met. This process should be well documented by an approved evaluator.

6.2.2.6 Other Forms of Assessment

Other forms of assessment may include:

- A current professional certification or license through an industry recognized association with a formal evaluation process.
- Specialized equipment manufacturer or vendor certification including a formal evaluation process.

5.2.26.2.3 Evaluation Material

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~~Evaluations should assess an individual's knowledge and skills necessary to perform a task. An operator has the option to develop internal Operators have the option of developing evaluation materials material or utilize using material developed by third-party organizations. parties.~~

If developing ~~internal~~ evaluation material, ~~the operator may operators should~~ base evaluations on operations and maintenance procedures. ~~or other industry recognized documents.~~ If using ~~third-party vendors, material developed by third parties,~~ operators should align the content with ~~the operator is responsible for assessing the vendors' processes and materials to ensure that all requirements are met operator's practices.~~

~~The operator should consider Operators may~~ periodically ~~reviewing review~~ and ~~updating~~ ~~evaluations update~~ evaluation material to ensure ~~they meet it meets current~~ requirements.

5.2.36.2.4 Evaluation Process

5.2.3.16.2.4.1 General

6.2.4.1.1 Evaluation Process

The evaluation process is established and documented by the operator to determine an ~~individual's indi-~~ ~~vidual's~~ ability to perform ~~a covered task. This tasks and recognize and react to abnormal operating conditions (AOCs). The~~ evaluation establishes that an individual is qualified to perform covered tasks.

~~Qualified means that an individual has been evaluated and can:~~

~~a) perform assigned covered tasks and~~

~~a) recognize and react to AOCs.~~

6.2.4.1.2 Roles and Responsibilities

~~Operators should develop the acceptance criteria for evaluations.~~

~~Operators should track and maintain an individual's qualification records, including the methods used to verify an individual's knowledge, skills, and ability to perform a task.~~

~~The define~~ evaluation process should include, at a minimum, the following.

~~— Grading system:~~

~~— identify grading system(s); examples of grading systems include, but are not limited to:~~

~~— pass/fail—no number or alphabetic grade given;~~

~~— criterion-based scale—graded on a scale, for example, an 80 % score;~~

~~— operators should be prepared to provide justification for the grading method(s) applied.~~

~~— Number roles and responsibilities. Examples of allowable attempts.~~

~~— Consequences of failure.~~

~~— Process for communicating evaluation results.~~

~~— Minimum requirements for testing:~~

~~— ensure that environment is conducive for testing;~~

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- ~~— ensure all operator testing requirements are met,~~
- ~~— maintain control of test materials,~~
- ~~— establish requirements for proctors,~~
- ~~— establish requirements for evaluators.~~
- ~~— Rules~~these roles applicable to ensure test integrity:
 - ~~— fair and consistent administration,~~
 - ~~— security of test questions and answer banks.~~
- ~~— Rules for ensuring the integrity of evaluations performed remotely~~

~~Evaluators should have the technical knowledge and skills for the task they are evaluating and the ability to recognize and respond to AOCs.~~

~~Evaluators should have training to ensure that they understand the evaluation process and their role in the process.~~ are as follows:

- ~~a. The operator may also consider if the~~An evaluator needs to maintain the~~conducts performance evaluations.~~
- ~~b. An individual is evaluated for initial qualification for each~~or requalification.
- ~~c. A proctor administers written, oral, or online examinations.~~

6.2.4.1.3 Evaluator Selection

~~Evaluators determine if an individual meets task that they are able to evaluate. This is especially important if the requirements during a performance evaluation is performed on an active system. Operators should develop evaluator acceptance criteria. At a minimum, evaluators should:~~

- ~~d. Understand safe work practices.~~
- ~~e. Possess a high degree of integrity.~~
- ~~f. Possess effective communication skills.~~

~~Be trained to perform and there are no other qualified individuals available to direct and observe task performance.~~

- ~~a.g. Evaluation document Operator Qualification performance evaluations.~~
- ~~b.h.~~ Be knowledgeable of covered tasks to be evaluated.
- ~~c.i.~~ Be able to recognize and react to AOCs that may occur during the evaluation.

Operators may decide evaluators are not required to be currently qualified to perform the covered tasks they will evaluate.

NOTE If the individual to be evaluated will perform a qualification/requalification on an active pipeline, 49 CFR §195 requires an individual, qualified in the task, to direct and observe the unqualified individual during task performance.

5.2.3.1.16.2.4.1.4 Proctor Selection

Operators should determine whether examination proctoring will be required. Proctors administer written, oral, or online examinations to ensure individuals complete examinations independently, without help

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from others, and without using unapproved resources. Proctoring increases the integrity and reliability of the examination process and associated qualification records. Proctors should:

- ~~d~~.j. Possess a high degree of integrity.
- ~~e~~.k. Possess effective communication skills.
- ~~f~~.l. Know examination security procedures.
- ~~g~~.m. Understand procedures for proctoring knowledge examinations.

Proctors are not required to be qualified in the covered tasks they will proctor.

5.2.3.1.26.2.4.1.5 Examination/Evaluation Procedures

Operators should establish guidelines for:

- ~~h~~.n. Verifying the identity of the individual to be evaluated.
- ~~i~~.o. Ending an evaluation when an AOC or unsafe condition occurs.
- ~~j~~.p. Pausing and resuming an evaluation when conditions warrant.
- ~~k~~.q. Limiting the number of evaluation attempts.
- ~~l~~.r. Taking necessary remedial actions after an unsuccessful evaluation attempt.
- ~~m~~.s. Handling suspected cheating during an evaluation.

The area where the evaluation will take place should ensure:

- a. The environment is quiet, without distractions.
- b. No unauthorized reference materials are present.
- c. Equipment and tools necessary for task performance are ready for use.
- d. Safety equipment, including personal protective equipment (PPE), is available, inspected, and appropriate for the task being performed.
- e. Examination sheets, answer sheets, and performance evaluation checklists are secure.
- f. Proctor and individual system logins and records are secure.
- g. Individuals are aware of company procedures for examinations, such as no cell phone or unauthorized internet use during examinations and no talking with others.

5.2.3.1.36.2.4.1.6 Evaluation Content

Operators may either internally develop evaluation content or acquire content through equipment manufacturers, third-party vendors, or industry associations. Evaluation materials should be validated through a Subject Matter Expert review process or comparison with company procedures.

5.2.3.1.46.2.4.1.7 Evaluation Criteria

Operators should develop and document evaluation criteria for each covered task. Evaluation criteria may be developed internally, provided by third-party vendors, adopted from manufacturers, incorporated from an industry standard, or a combination of these.

Evaluation Safety

- a. During any evaluation, safety should be the primary consideration.
- b. Evaluators should ensure individuals are following all safety procedures and act in a safe manner before, during, and after the evaluation.

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- c. Safety equipment, including personal protective equipment, should be used according to company policies and procedures.

Grading System

- a. For written, oral, or online examination, operators should determine the type of grading system to use and the rationale for their selection. Examples of grading systems include the following:
 - i. Pass or fail—where all questions must be answered correctly to pass the examination
 - ii. Criterion-based—uses a percentage score, (e.g., 80 percent minimum passing score)
 - iii. Criterion-based with critical questions—uses a percentage score (e.g., 80 percent minimum passing score) with critical questions established for information that is essential to safely perform the task.
- b. Operators should score performance evaluations as either pass or fail.
- c. Operators should not allow individuals to self-score.

Reference Materials

- a. During performance evaluations, individuals should be permitted to refer to company procedures, manufacturer instructions, or any other document they would normally be permitted to access when performing the task.
- b. During written, oral, or online examination, individuals should not be permitted to access reference materials.

Checklists

- a. For performance evaluations, a checklist that contains each step necessary to perform the task and copies of relevant work procedures may be used by the evaluator to aid in assessing whether all steps in the process were performed.

Evaluation Participants

- b. Operators should establish limits to the number of individuals assessed during proctored written, oral, or online examination to ensure the proctor can properly administer examination.
- c. Performance evaluations should be conducted with one evaluator assessing one individual at a time.

Knowledge, Skill, and Abilities (KSA)

Evaluations are conducted to determine whether the individual has the knowledge, skill, and abilities (KSAs) to perform the task and to recognize and react to AOCs that may occur during task performance.

- a. Knowledge includes the following:
 - i. The AOCs that may occur during the performance of the task (including the appropriate recognition of and reaction to the AOCs)
 - ii. Capable of communicating applicable procedures to safely perform the task
 - iii. Equipment or tool selection, use, testing, and calibration requirements
 - iv. The sequence of steps to perform the task
 - v. General knowledge of the task topic and related information, such as Code requirements

- vi. Handling anticipated variables, that may occur (including weather, darkness, noise, etc.)
- b. Skills include the following:
 - i. Demonstration of the task
 - ii. Demonstration of the recognition and appropriate reaction to AOCs that may occur during task performance
- c. Physical abilities to consider:
 - i. Seeing
 - ii. Hearing
 - iii. Smelling
 - iv. Walking
 - v. Lifting, moving equipment and components (as necessary)
 - vi. Operating necessary tools and equipment

5.2.3.1.56.2.4.1.8 Evaluation Methods

The selected evaluation methods should be appropriate for the assessment/examination. Operators may use a different evaluation method for an individual's initial qualification as opposed to an individual's subsequent qualification of a task. Individuals, currently qualified, are typically more experienced in the task during subsequent qualification.

The table below is a representation of evaluation methods and their applicability for various assessments and examinations.

- a. "X" is a suitable evaluation method for the assessment/examination.
- b. "O" is an evaluation method that may complement another evaluation method.
- c. Blank means the evaluation method is not suitable for the assessment/examination.

Table 1—Evaluation Methods

Evaluation Method	Assessment/Examination Of				
	<i>Knowledge</i>	<i>Skill</i>	<i>Abilities</i>	<i>AOC Recognition</i>	<i>AOC Reaction</i>
Written, Oral, or Online	X	O		X	O
Performance	O	X	X	X	X

5.2.3.1.66.2.4.1.9 Evaluations Conducted Via Technology

Historically, performance evaluations have been conducted in-person, through simulation or with an evaluator observing and assessing an individual on-site as the individual performs the task. Technology is now available to enable operators to conduct realistic evaluations through computer-generated applications, remote meeting technology or use of remote equipment such as underwater applications such as ROV and air applications such as drones.

Tasks that the operator has identified as more critical or more complex may not be suitable for evaluation via technology. For technology to be suitable for evaluations, it must allow the individual being evaluated to realistically perform each step in the task while the evaluator assesses their performance. Evaluation

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criteria for evaluations via technology should be the same as in-person or on-site evaluations. Operators should document their assessment and approval of any technology used to conduct evaluations.

Various methods include:

- a. Computer-Generated Applications
 - i. Virtual reality, augmented reality, and other applications digitally replicate task performance situations under safe and controlled conditions in a digital environment. The evaluator can observe and assess the actions of the individual being evaluated as they perform each task step.
- b. Evaluations Conducted Remotely
 - i. Operators may use video conferencing or other software in situations where the evaluator and individual being evaluated are not in the same location. The operator should determine which tasks are appropriate for a remote evaluation. For example, initial qualification may not be appropriate for remote evaluation. The operator should assess whether communication equipment is sufficient to permit effective remote evaluations.
 - ii. If an evaluation is taking place on an active pipeline, and the individual being evaluated is not qualified in the task, the unqualified individual shall be directed and observed by a qualified individual, within close proximity.
 - iii. If necessary, the evaluator should designate an on-site observer to continuously monitor the evaluation to ensure the integrity of the evaluation and the safety of the environment. The observer shall remain within close proximity until the evaluation is complete.

~~—Documentation qualification method(s).~~

6.2.4.1.10 Records supporting an individual's

Operators should maintain documentation of an individual's qualification, including the methods used to assess KSAs to perform a task. Qualification records shall include the following:

- a. Identification of qualified individual(s)
- b. Identification of the covered tasks the individual is qualified to perform
- c. Date(s) of current qualification ~~shall be maintained~~
- d. Qualification method(s)

Operators shall maintain records supporting an individual's current qualification while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for five years.

5.2.46.2.5 Abnormal Operating Conditions (AOCs)

Identification of AOCs for covered tasks includes analyzing the covered task procedures for any potentially hazardous condition that could occur while the task is being performed. Upon identification ~~of these steps~~, determine and document the AOC ~~and~~ the recognition and appropriate ~~corrective response~~ ~~reaction~~. Operators should consider both general and task specific AOCs. General AOCs are generic in nature, but observable to individuals on-site, while task specific AOCs may be encountered while performing the covered task. ~~Further guidance on identifying AOCs is provided in Annex G.~~

Further guidance on identifying AOCs is provided in Annex G.

An evaluation of the individual's ability to perform a covered task must include the ability to recognize and react to AOCs associated with the covered task. Operators have the flexibility to determine evaluation method(s). These methods include developing a standalone AOC evaluation and/or incorporating AOCs into task evaluation.

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6.2.6 Type of Qualification

Operators should consider the type of qualification when determining evaluation methods. Requirements may differ between initial, subsequent, and post-suspension qualification.

5.36.3 Other Circumstances That Require Qualification Considerations

5.3.16.3.1 New Construction

The operator's New construction is not covered under the OQ program regulations for pipeline safety. Operators should address how OQ regulation applies to consider applicability when existing regulated assets may be affected by the new construction. As defined by PHMSA, Examples include:

- Line locating in the right-~~new construction~~ is the act of building a pipeline facility or expanding way of an existing pipeline facility (as in looping a pipeline segment, which may also be construction to meet increased load requirements or to enhance reliability of the system) to provide new service to a customer(s) or in order to meet increased demand. asset.
- Observing excavation activities near a regulated asset.
- Cathodic protection system installation.
- Building in an existing station or facility.
- Tying into an existing regulated asset.

New construction ends ~~when the pipeline facility is being commissioned or during the act of connecting upon connection~~ to an active pipeline (the tie-in). Thereafter, tasks performed are O&M activities requiring operator qualification, until the pipeline is officially abandoned.

5.3.26.3.2 Mergers and Acquisitions

An operator's OQ program should include provisions for mergers and acquisitions of regulated assets subject to 49 *CFR* Part 192 and/or Part §195 to ensure that qualified individuals perform covered tasks. It is important to note that the availability and timing of receipt of the information to the operator may vary for each merger or acquisition. Upon transfer of ownership of the newly acquired asset, steps should be taken to ensure that OQ performing covered tasks are being performed by qualified personnel.

When acquiring a new asset, the operator has several options, which may include but are not limited to the following:

- accept all or part of the acquired asset's program (conduct review);
- temporarily accept all or part of the acquired asset's program during the transition period (conduct review);
- incorporate any new personnel/contractors from the acquired company into the operator's program.

A review of the asset's OQ program should be conducted if the asset's qualifications and/or any part of their program is to be used. The purpose of the review is to identify compatibility with the operator's program and identify any improved processes that may need to be addressed. Additional review items to be considered may include but are not limited to terms to consider:

- AOCs
- covered tasks;
 - , including span of control;
 - reevaluation intervals;
 - evaluation methods;

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- ~~— contractor qualifications;~~
- ~~— AOC modifications current suspensions;~~
- ~~— past regulatory audit findings and corrective actions.~~
- ~~— Following the review, the operator may be necessary due to differences in product transported, technology, accept all or equipment, among other factors.~~

~~At the review's conclusion, a part of the acquired asset's program or incorporate any new personnel and/or contractors. A plan may should be established to transition the when transitioning personnel and/or contractors under the acquired asset's program to the operator's program. Consideration may be given for incorporating any improved processes identified during the review.~~

~~If Annex E provides program effectiveness guidance which may be used. Where possible, the operator incorporates the new personnel/contractors into their own OQ program, an asset review for product transported, technology, or equipment should be reviewed and incorporated into program as applicable.~~

~~The operator should document the process and OQ program actions taken during the merger or acquisition. An example of an OQ program merger and acquisition review guidance document that may be utilized during a merger or acquisition is included in Annex E.~~

1.1.4 — Comingling of Operations

6.3.3 Comingling of operations is operational responsibilities by more than one operator of a pipeline system [i.e. cathodic protection (CP), valve operations, relief tank]. **Mutual Assistance**

~~Operators should determine demarcation line of responsibility.~~

~~The agreed operations between the companies should be documented and on file may enter into mutual assistance agreements with both parties. When other operators to help ensure that they have comingling of operations, each operator should establish a mechanism for ensuring qualifications. This may include providing OQ records when requested or be present when the resources necessary to complete covered tasks are being performed, particularly in times of emergency. Operators should ensure that individuals who perform covered tasks on the operator's pipeline are operator qualified.~~

67 Element 3: Allow Individuals That Are Not Qualified Pursuant to the Regulation to Perform a Covered Task if Directed and Observed by an Individual That Is Qualified **Allowing individuals that are not qualified to perform a covered task**

6.17.1 General

Operators may consider a mechanism to observe and direct performance of a covered task by nonqualified personnel.

6.27.2 Span of Control

An operator's program may allow nonqualified individuals to perform some covered tasks, providing they are directed and observed by a qualified individual. For a qualified individual to direct and observe a nonqualified individual, the qualified individual shall be in close proximity and within line of sight to the nonqualified individual so that the qualified individual may intervene if needed, assume control if the task is being performed incorrectly, and respond to an AOC if one should arise.

7.2.1 Span of Control Analysis

Span of control is determined by analyzing the importance (risk level) and difficulty of the task. Refer to Annex H.

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Operators that choose to use should determine whether the task is important (high risk) or less important (lower risk.) The task should also be rated as either very difficult, moderately difficult or not difficult to perform. These two determinations will guide operators to a span of control shall determine the span of control for each task. The number of nonqualified individuals that may perform a task under the direction of a qualified individual (span of control) should be determined based on criteria. The following criteria may be considered: task's practicality, complexity, and criticality. Typical industry spans of control range from 1:0 through 1:5 (ratio is qualified:nonqualified) for each task. Operators should further consider SME input in establishing each task's span of control. It is recommended operators not exceed spans above of control greater than 1:5.

TASK ANALYSIS		TASK MANAGEMENT	
Step One - ASSESS RISK	Step Two - ASSESS DIFFICULTY	SPAN OF CONTROL	EVALUATION INTERVAL
High Risk	Very difficult	1:0	12 months
	Moderately difficult	1:1	24 months
	Not difficult	1:2	36 months
Moderate Risk	Very difficult	1:2	24 months
	Moderately difficult	1:3	36 months
	Not difficult	1:4	48 months
Low Risk	Very difficult	1:3	36 months
	Moderately difficult	1:4	48 months
	Not difficult	1:5	60 months

An operator ~~may~~should consider temporarily reducing span of control for a specific task when actual jobsite conditions (i.e. language barriers, weather conditions, excessive distraction) limit the qualified individual's ability to direct and observe nonqualified individuals.

~~— If an operator sets the span of control for tasks at 1:0, then the operator may consider including a provision in its program to allow a nonqualified individual to perform covered tasks during OJT providing that a qualified individual is present for the training and is in close proximity and within line of sight in order to intervene, assume control, or respond to an AOC.~~

~~— Span of control only applies to individuals who are physically performing steps of a covered task. Span of control does not apply to individuals who are only performing ancillary functions (such as a welder's helper) in support of the completion of a covered task.~~

). A qualified individual can only direct and observe nonqualified individuals performing a single task at any given time.

~~In addition, the program should state that the qualified individual shall be in close proximity and within line of sight to the nonqualified individual so that he/she can intervene or assume control if the task is being performed incorrectly and can respond to an AOC if one should arise.~~

6.37.3 Guidance on Emergency Response

An Operator qualification requirements for emergency is considered a fire, explosion, or release of hazardous liquid/gas occurring near or directly involving a response are limited to existing covered tasks performed on the pipeline facility caused by accidental failure and/or natural disasters. The

Individuals who act, or could be reasonably expected to act, on behalf of an operator during emergency phase extends until the source has been secured, the threat of harm to the environment and/or situations, as an extension of the operator's workforce, shall be qualified under the operator's OQ program. Emergency responders, such as firefighters or police officers, need not be qualified by the operator to act

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on their own accord consistent with their job responsibility of protecting public has been removed, and the safety of all responders is achieved. Once, During the emergency phase ends, OQs shall thereafter be required for all individuals performing covered tasks, the operator's primary responsibilities are the protection of life, property, and the environment.

~~2—Element 4: Evaluate an Individual if the Operator Has Reason to Believe That the Individual's Performance of a Covered Task Contributed to an Accident/Incident as Defined in the Regulation~~

78 Individuals Who Contribute to an Accident

7.18.1 General

Operators should consider suspending and reviewing an individual's qualification if the individual's performance of a covered task(s) may have contributed to an accident.

7.28.2 Appropriate Action Following Individual's Involvement in an Accident

If the operator has determined that a covered task was being performed at the time an accident occurred, the operator should investigate to determine if the incorrect performance of a covered task was a causal factor to the accident. When making this determination, the operator should review:

- an individual's knowledge on how to perform a covered task,
- any change in an individual's skills or ability required to perform a covered task,
- any deficiency in the performance of a procedure,
- any unidentified AOC's related to the particular covered task(s),
- unsatisfactory or unsafe performance of a covered task,
- if the task was performed by a nonqualified individual.

The operator shall determine and execute appropriate action(s) based on their review, which may include:

- suspension or disqualification from performing the covered task(s),
- additional training,
- a procedure(s) review and/or revision,
- evaluation and/or requalification,
- revision of the OQ program,
- other actions as warranted.

Operators should document the results of the review and evidence of suspension, disqualification, or requalification.

89 Potential Reasons for Disqualification

8.19.1 General

Operators shall review an individual's performance of covered tasks if there is reason to believe the individual ~~shouldis~~ no longer ~~be~~ qualified.

8.29.2 ~~Guidance on~~ Determining if an Individual Should No Longer Be Qualified

Operators should develop a process to determine if ~~and when~~ an individual is no longer qualified to perform a covered task. ~~Reasons an individual may no longer be qualified, other than an accident or incident as defined by 49 CFR Part 192 and/or Part 195, may include~~ Factors to consider:

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— contributing to an accident while performing a covered task;

- failure to properly perform a covered task;
- failure to recognize or properly react to an AOC;

— extended leave;

— prolonged period of nonperformance of a covered task;

- significant changes in company/regulatory task qualification requirements;
- loss of motor skills, vision, or impairments;

The operator has the flexibility to establish a policy that applies to all affected individuals or may choose to determine qualification on an individual basis, or a combination of both. It may be helpful to consider the following.

— If covered tasks were performed improperly, does the individual lack knowledge, skill, or ability?

— If extended leave was involved, consider the following.

- Did the reason for leave effect the concern expressed about an individual's ability to perform a covered task?

— Have procedures changed during a leave of absence?

— Have qualifications expired during a leave of absence?

— How much experience does the qualification period, as determined by company, has expired.

— If an individual have at performing the covered tasks?

— How much time elapsed since the last performance of the covered tasks?

— Are there other contributing factors to consider?

If the individual is determined to no longer be qualified, the operator may should suspend the individual's qualification to perform the task, and consider additional actions, which may include:

- restrict/restricting performance of covered task (such as performing task under span of control);
- additional training;
- reevaluation;

— procedure review;

- no action required.

8.39.3 Suspension Process

If an individual fails to demonstrate proficiency, the operator has reason to believe an individual is no longer able to satisfactorily perform a covered task, or the individual's actions may have contributed to an incident or accident (see 8.2), then upon knowledge of inadequate performance, the operator shall immediately suspend the individual's qualification for the specific covered task.

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~~Suspension of an individual's qualification(s) should be documented and upheld until the operator has determined if the suspension was warranted, retraining and/or evaluation has been completed, or it was determined that the individual's actions did not contribute to an accident. Upon the Operator's review the suspension could result in a reinstatement or a removal of the individual's task qualification(s).~~

The suspension of an individual's ~~qualifications shall~~ qualification(s) should at a minimum apply to the specific covered task(s). ~~Suspension of~~ The Operator should determine if the suspension of such qualifications ~~may not will~~ affect the individual's ability to perform other covered task(s).

~~The suspension shall be documented and continue until the operator has determined the successful completion of the necessary retraining and/or evaluation process or it was determined that the individual's actions did not contribute to an incident or accident.~~

~~An operator may have a separate suspension process for contractors.~~

810 ~~Element 6: Identify Those~~ **Identifying Covered Tasks** and the **Reevaluation Intervals** ~~at Which Evaluation of the Individual's Qualifications Is Needed~~

8.410.1 **General**

Operators shall establish a re-evaluation interval for each covered task.

8.510.2 **Developing Reevaluation Intervals**

When developing reevaluation intervals, the operator has the option of ~~utilizing~~ using industry associations' (or other entities) recommended intervals as guidance or developing operator-specific intervals. ~~A reevaluation interval of 36 months is the recognized industry standard for most covered tasks.~~ If an operator chooses to adopt ~~an industry-developed interval, the operator~~ intervals, they should review ~~the~~ each interval to ~~ensure that~~ verify alignment to the operator's OQ ~~program's requirements are met~~ program. Some covered tasks, such as welding or nondestructive testing (NDT), have regulatory requirements that may affect reevaluation intervals.

When developing ~~intervals internally~~ or revising intervals, the operator should document the rationale used to determine the intervals and may ~~consider the following:~~ use a similar process as described in Annex H.

11 **Communicating Changes**

8.611.1 **General**

The operator shall establish a process for communicating changes that affect the performance of covered tasks.

8.711.2 ~~Guidance on~~ **Developing Processes to Communicate Changes That Affect Covered Tasks**

~~The operator should have processes in place for communicating the change to the affected individuals.~~

~~Examples of changes~~ Changes that affect the performance of covered tasks may include the following:

- ~~— task modification;~~
- ~~— revisions to policies, procedures, or standards;~~
- ~~— changes to tools, equipment, or technology.~~

Other changes that may require communication:

- ~~— task addition or deletion;~~
- ~~— revisions or additions to identified AOCs;~~

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— ~~policies, procedures, and standards;~~

— ~~tools, equipment, or technology;~~

— ~~modification of reevaluation intervals;~~

— ~~revision to span of control;~~

— ~~modification, addition or deletion of~~ evaluation methods, materials, and criteria;—

— ~~suspension and revisions or additions to identified AOCs.~~

— ~~Changes~~ **disqualification** processes;

— ~~reevaluation intervals;~~

— ~~span of control.~~

Significant ~~changes~~ to covered tasks may necessitate additional evaluation to maintain qualification.

12 Training

8.812.1 General

The operator ~~should address the role of~~ **shall provide** training ~~in the qualification of individuals.~~

3.1 Guidance on Providing Training, as Appropriate

There may be circumstances that require training ~~appropriate~~, to ensure that individuals **performing covered tasks** have the **necessary** knowledge and skills required for qualification **to perform the tasks in a manner that ensures the safe operation of the pipeline facilities.**

12.2 Providing Training. Operators may provide training

Training on specific covered tasks and/or based on the individual's need for training.—

Examples of when training may be appropriate ~~include~~ **in the following circumstances:**

- initial ~~qualification and/or requalification;~~
- ~~following a~~ suspension;
- per ~~incident an~~ accident investigation **or a near miss**;
- addition of a covered task;
- revisions to policies and procedures;
- changes to tools, equipment, or technology;
- ~~after a~~ failed **examination** /evaluation;—
- **or as determined by the operator.**

The operator may choose the mechanism by which training will be delivered. The delivery method must be fit for purpose and meet operator requirements. Training delivery methods ~~may can~~ include:

- OJT;—
- instructor-led training;—
- computer-based training;—

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- certification programs;
- table-top/simulation;
- self-study;
- Other methods as determined by the operator.

13 Regulatory Notification of Significant Changes

8.913.1 General

4 Element 9: Notify the Administrator or a State Agency if the Operator Significantly Modifies the Program After the Administrator or State Agency Has Verified That It Complies with Regulation

4.1 General

Operators ~~are required to~~ shall identify significant modifications ~~that would require notification and submission made to the Operators approved Qualification program and submit the changes~~ to PHMSA and appropriate state regulatory agencies.—

8.1013.2 Guidance on Determining a Significant Change

Operators ~~should~~ shall determine what changes ~~would be considered significant to the OQ program. At a minimum the following should be considered significant to the OQ program. Examples of changes that may be considered significant include:~~

- ~~modifications to covered task list;~~
 - ~~modifications to~~ increasing evaluation ~~process;~~ intervals
- ~~modifications to qualification process;~~
 - ~~revisions to~~ increasing span of control; ratios
 - eliminating Covered Tasks
 - evaluation method changes
 - wholesale changes made to the operator's OQ program (e.g. consolidation of programs following a merger, acquisition, or divestiture; changes to roles and responsibilities; ~~or other changes the operator deems significant~~).

8.1113.3 Guidance on Transmitting OQ Program Revisions

Notifications to PHMSA may be submitted by electronic mail to ~~InformationResourcesManager@dot.gov,~~ or by mail to ATTN: Information Resources Manager DOT/PHMSA/OPS, East Building, 2nd Floor, E22-321, New Jersey Avenue SE, Washington, DC 20590. The operator should submit the complete OQ program to the PHMSA Administrator or participating state agencies, accompanied by a revision/change log and the effective date of change(s). ~~The OQ program Revisions should be written such that changed areas of the program can made allowing the changes to~~ be readily identified. Employee-specific information (i.e., social security numbers) and ~~testing examination~~ material do not need to be sent.

Each notification to PHMSA should include the following:

- operator identification number(s) [OPID(s)], operator name(s), headquarters (HQ) address;
- name of individual submitting notification;
- ~~data~~ date/email/phone number;

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- ~~— commodity (gas/liquid/both);~~
- ~~— PHMSA region(s) where pipeline(s) operates;~~
- ~~— names of respective facilities or pipeline systems where changes apply.~~

~~NOTE—Operators subject to pipeline safety regulations by state agencies are required to send OQ notifications directly to each affected state agency.~~

814 Recordkeeping

~~In addition to Elements 1 through 9, 49 CFR § 192.807 and 49 CFR § 195.507 require that the~~The operator shall maintain the following records for all individuals performing covered tasks that demonstrate compliance with 49 CFR § 195.507. Qualification records shall include:

- ~~— identification of qualified individual(s),~~
- ~~— identification of the covered task(s) the individual is qualified to perform,~~
- ~~— date(s) of current qualification date, ,~~
- ~~— qualification method(s).~~

Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task(s). Records of prior qualification and records of individuals no longer performing covered task(s) shall be retained for a period of 5 years. ~~It is important to note that this 5-year period begins on the last date the qualification was valid.~~

8.1214.1 Guidance on Developing Recordkeeping Criteria

Operators ~~may consider developing~~should develop and ~~documenting~~document a process that ensures ~~that to verify~~ individuals performing covered tasks have valid qualifications. ~~Examples of validation~~Validation methods ~~may can~~ include ~~but are not limited to:~~

- ~~— hard copy records,~~
- ~~— electronic records,~~
- ~~— or ID cards.~~

~~Qualification records may be maintained by the operator or a third party. It is important to note that different~~ Different methods may be used to validate qualification for employees, contractors, subcontractors, or other ~~entities~~ individuals.

The operator ~~may~~should consider maintaining additional records to demonstrate compliance with the program. While this list of records is not required by regulation, many are integral to the OQ program:

- ~~— documented history of OQ program and all program revisions, including covered task changes;~~
- ~~— communication of the OQ program;~~
- ~~— management of change, including the notification of applicable contractors;~~
- ~~— evaluation criteria;~~
- ~~— span of control;~~
- ~~— applicable training;~~
- ~~— reevaluation records for cause;~~

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- feedback from field personnel, accident ~~and incident~~ investigations, near miss programs, or other sources that could enhance the OQ program, such as AOCs, evaluations, and training;
- results of program review and/or auditing;
- history file of checklist used for performance verifications and written/oral exams;
- justification for selection of evaluators;
- revision log.

DRAFT