

# Operator Qualifications Status & Updates

New England Pipeline Safety  
Representatives Seminar

October 21 2015

Dover, VT



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New Hampshire Public Utilities  
Commission

# OQ History



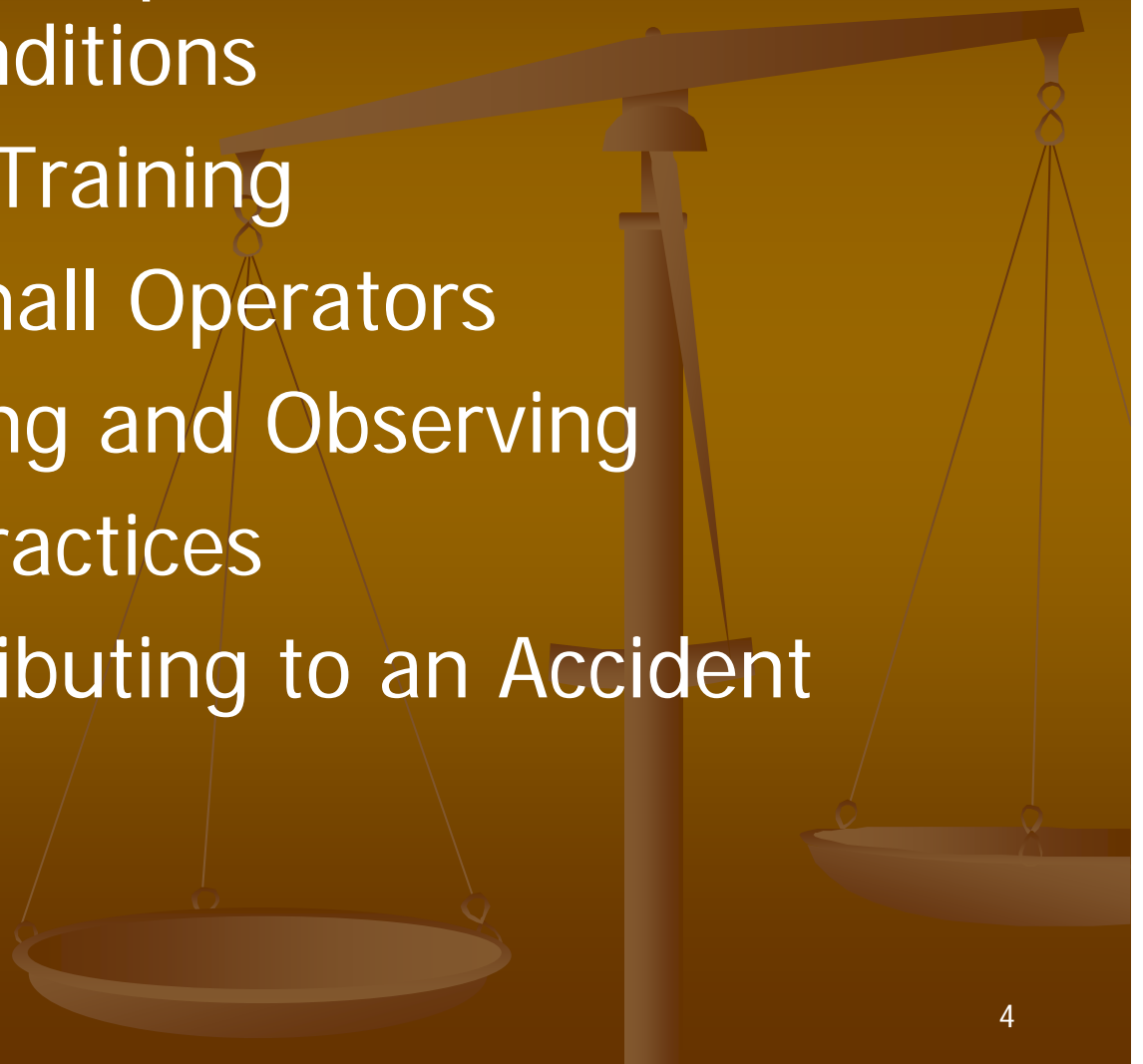
- 1999 PHMSA published Final Rule
  - Subpart N Qualification of Pipeline Personnel
  - 192.801, 192.803, 192.805, 192.807, 192.809
- 2002 NTSB characterizes OQ rule as “unsatisfactory”
- 2002 Congress includes in Pipeline Safety Reauthorization Act of 2002 [HR 3609]
- 2003 PHMSA identifies 13 areas considered “gaps” in the rules

# 13 Gaps Identified

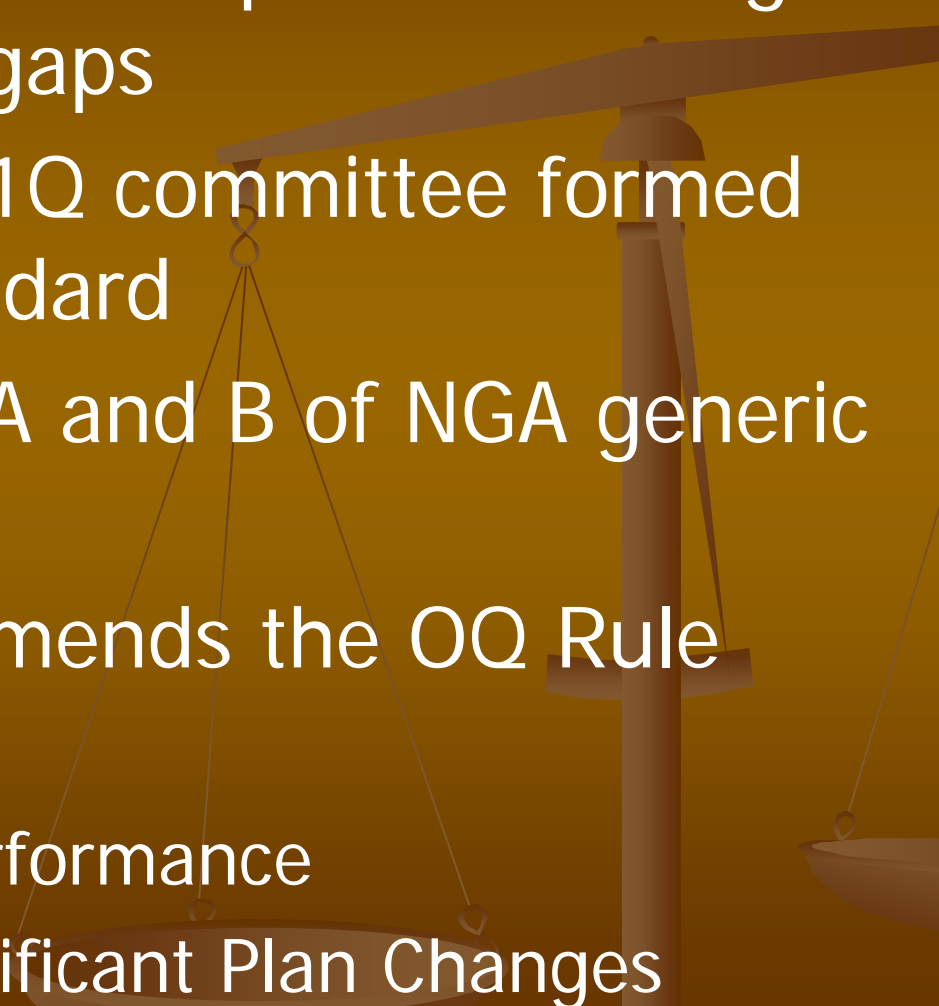
1. Scope of OQ Inspections
2. Lack of Identified Skills, Knowledge & Ability
3. Re Evaluation Intervals
4. Maintenance versus New Construction
5. Treatment of Emergency Response
6. Missing Excavation as Covered Task
7. Extent of Documentation

# 13 Gaps Identified

8. Generic vs Task Specific Abnormal Operating Conditions
9. Treatment of Training
10. Criteria for Small Operators
11. Use of Directing and Observing
12. Noteworthy Practices
13. Persons Contributing to an Accident



# OQ History

- 2003 PHMSA holds 4 public meetings to address these gaps
  - 2003 AMSE B31Q committee formed consensus standard
  - 2003 Revision A and B of NGA generic plan published
  - 2005 PHMSA amends the OQ Rule
    - Training
    - On the Job Performance
    - Reporting Significant Plan Changes
- 

2005 PHMSA  
FAQs

# OQ History

2005 PHMSA  
FAQs

- 2005 Revision C of NGA generic plan published
- 2006 ASME publishes 1<sup>st</sup> edition B31Q
  - PHMSA does incorporate into 192
- 2006 Revision D of NGA generic plan published
- 2007 Revision E of NGA generic plan published
- 2008 Revision F of NGA generic plan published

# OQ History



- 2010 Revision G of NGA generic plan published *Domains & Elements*
- 2010 ASME publishes 2nd edition B31Q
  - PHMSA still does incorporate into 192
- 2011 Revision H of NGA generic plan published
- 2013 Revision I of NGA generic plan published
- 2014 PHMSA updates enforcement guidance

# OO History

- 2014 ASME publishes 3rd edition B31Q
  - PHMSA still does incorporate into 192
- 2015 Revision J of NGA generic plan published *May 27, 2015*
- 2015 PHMSA publishes NPRM for OO

7/10/2015 comingled with:

Accident & Incident Notification  
Special Permit Renewal  
Pipeline Assessment Tools  
Post Accident D & A Testing  
In Service Welding  
Availability of Standards

Cost Recovery for Design Reviews  
Reversal of Flow or Change in Product  
Electronic Reporting D & A  
Publicly Available Information  
Editorial Amendments



# Covered Task 4 Part Test

- (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.

*Reference 192. 801 Scope*

# Covered Task 3 Part Test

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

*Reference NGA section 4.3*

# Coming Soon!!!!

## Covered Task 2 Part Test

- Any maintenance, construction or emergency response task that the operator identifies as:
  - (1) Affects the **operation** safety
  - (2) or integrity of the pipeline.

*Reference proposed OQ rule*

# NPRM 7/10/2015

- PHMSA is also proposing to expand the existing Operator Qualification (OQ) scope to cover new **construction** and **certain other currently uncovered tasks**, **require operators use trained and qualified individuals when performing new construction work**, and **add program effectiveness requirements** for operators to gauge the effectiveness of the OQ programs. PHMSA believes that requiring operators to use trained and qualified individuals would decrease human errors .

*Reference proposed OQ rule*

# NTSB



- The NTSB issued the following safety recommendation to PHMSA on July 25, 2012, (P-12-8):
  - **Extend** operator qualification requirements in Title 49 Code of Federal Regulations Part 195 Subpart **G to all hazardous liquid and gas transmission control center staff involved in pipeline operational decisions.**

# PHMSA Response

- Although our existing Control Room Frequently Asked Questions (B.01, B.03 & B.05) (<http://primis.phmsa.dot.gov/crm/faqs.htm>) all touch on the topic of supervisors or others intervening in control room operations, there are no specific OQ program requirements. Therefore, PHMSA is proposing explicit **control room team training** requirement for all individuals who would be reasonably expected to interface with controllers during normal, abnormal or emergency situations in §§ 192.631(h) and 195.446(h).

# NPRM 7/10/2015

- PHMSA states:
  - Many O&M tasks (part 2 of the 4-part test) that an operator performs are not specifically called out in the regulation (part 3 of the 4-part test).

*Reference proposed OQ rule*

# NPRM 7/10/2015

- PHMSA states:

- Performance based tasks may include activities, such as those involved in making repairs (while repairs are called out as a requirement of the regulations, specific terminology such as mud plugging, pipefitting, installing Clockspring, etc. associated with making repairs is not). Making pipeline repairs in a safe manner involves myriad tasks that may vary from one job to another and from one operator to another.



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- PHMSA states:

- While the current performance based regulations provide flexibility for each operator to identify those particular repair tasks, the proposed rule to define covered tasks is clearer and helps to eliminate confusion over whether performance based tasks are “performed as a requirement of this part.”.

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# 8 Proposed Changes (#1)

1. Change the scope of the OQ rule in §§ 192.801 and 195.501 to revise the method of determining a “covered task.”

Changes from 4 part test to 2 part test

## 8 Proposed Changes (#2)

2. Update the “General” sections of §§ 192.809 and 195.509 to remove the implementation dates that no longer affect the implementation requirements for operators. In addition, after they are updated §§ 192.809 and 195.509 are renumbered as §§ 192.805 and 195.505.

## 8 Proposed Changes (#3)

3. Change the requirements in §§ 192.805 and 195.505 by adding new definitions, deleting an obsolete date for training requirements and clarify the need for training individuals performing covered tasks. Additionally, PHMSA is adding a new requirement for evaluators of individuals performing covered tasks, including training requirements for new construction tasks as the current OQ requirements do not include new construction tasks.

## 8 Proposed Changes (#4)

4. Add a “Program Effectiveness” requirement at §§ 192.807 and 195.507 to ensure that operators complete a review of the effectiveness of their OQ program. The review would include ensuring that procedures that were amended have been captured in the necessary portions of the OQ program.

## 8 Proposed Changes (#5)

5. Add record requirements in §§ 192.809 and 195.509 that are normally reviewed during the inspection of OQ programs and are necessary to provide a thorough overview of an OQ program. The additional records would include records that document evaluators' performance and program effectiveness.



## 8 Proposed Changes (#6)

6. Add a new paragraph (b)(5) to §§ 192.631 and 195.446 to require each operator to define the roles and responsibilities and qualifications of others who have the authority to direct or supersede the specific technical actions of **controllers**. PHMSA believes this change would reinforce that operators need to declare the roles, responsibilities, and qualifications of all others who, at times, could intervene in control room operations.

## 8 Proposed Changes #7

7. Add a new subparagraph in the “Qualification Program” sections as §§ 192.805(b)(7) and 195.505(b)(7) proposing requirements addressing **management of change and the communication of those changes**. This proposed section would ensure that **weaknesses of a program are found and corrections are made with notification to those affected**

## 8 Proposed Changes #8

8. Modify §§ 192.9 and 195.11 to require operators to establish and administer an OQ program covering personnel who perform work on Type A gas gathering lines in Class 2 locations, regulated Type B onshore gas gathering lines and regulated hazardous liquids gathering lines in rural locations

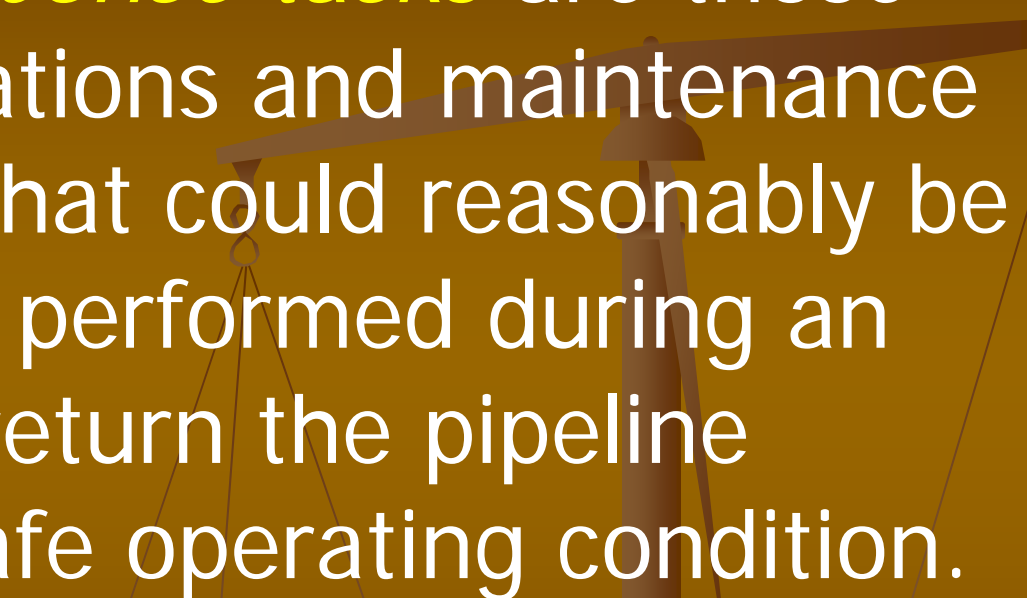
## 192.803 Definitions

*Adversely affects* means a negative impact on the safety or integrity of the pipeline facilities.

*Direct and observe* means the process where a qualified individual personally observes the work activities of an individual not qualified to perform a single covered task, and is able to take immediate corrective action when necessary.

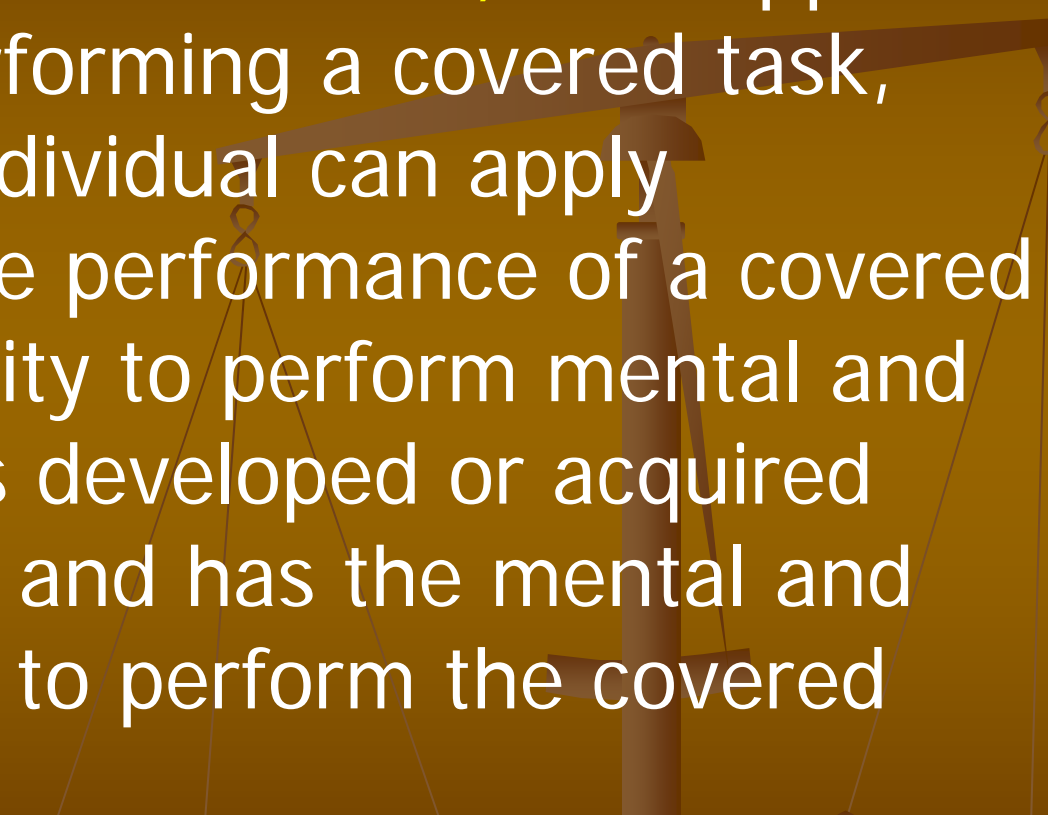
## 192.803 Definitions

*Emergency response tasks* are those identified operations and maintenance covered tasks that could reasonably be expected to be performed during an emergency to return the pipeline facilities to a safe operating condition.



## 192.803 Definitions

*Knowledge, skills and abilities*, as it applies to individuals performing a covered task, means that an individual can apply information to the performance of a covered task, has the ability to perform mental and physical activities developed or acquired through training, and has the mental and physical capacity to perform the covered task.



# 192.803 Definitions

- *Qualified* as it applies to an individual performing a covered task, means that an individual has been evaluated and can:
  - (1) Perform assigned covered tasks;
  - (2) Recognize and react to abnormal operating conditions that may be encountered while performing a particular covered task;
  - (3) Demonstrate technical knowledge required to perform the covered task, such as: equipment selection, maintenance of equipment, calibration and proper operation of equipment, including variations that may be encountered in the covered task performance due to equipment and environmental differences;

# 192.803 Definitions

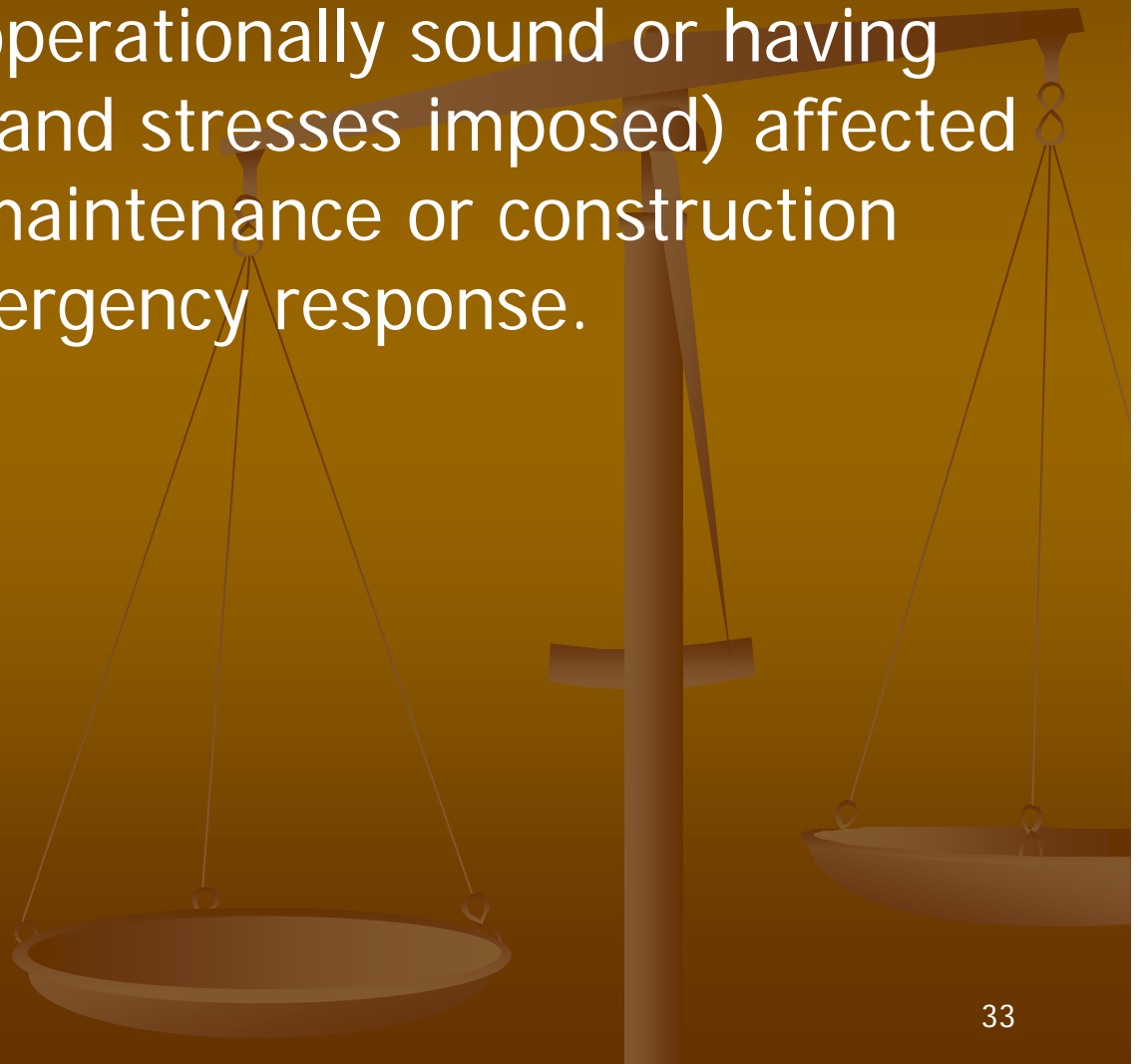
## Qualified definition continued

- (4) Demonstrate the technical skills required to perform the covered task, for example:
  - (i) Variations required in the covered task performance due to equipment and/or new operations differences or changes;
  - (ii) Variations required in covered task performance due to conditions or context differences (*e.g.*, hot work versus work on evacuated pipeline); and
- (5) Meet the physical abilities required to perform the specific covered task (*e.g.*, color vision or hearing).



# 192.803 Definitions

*Safety or integrity* means the reliable condition of a pipeline facility (operationally sound or having the ability to withstand stresses imposed) affected by any operation, maintenance or construction task, and/or an emergency response.

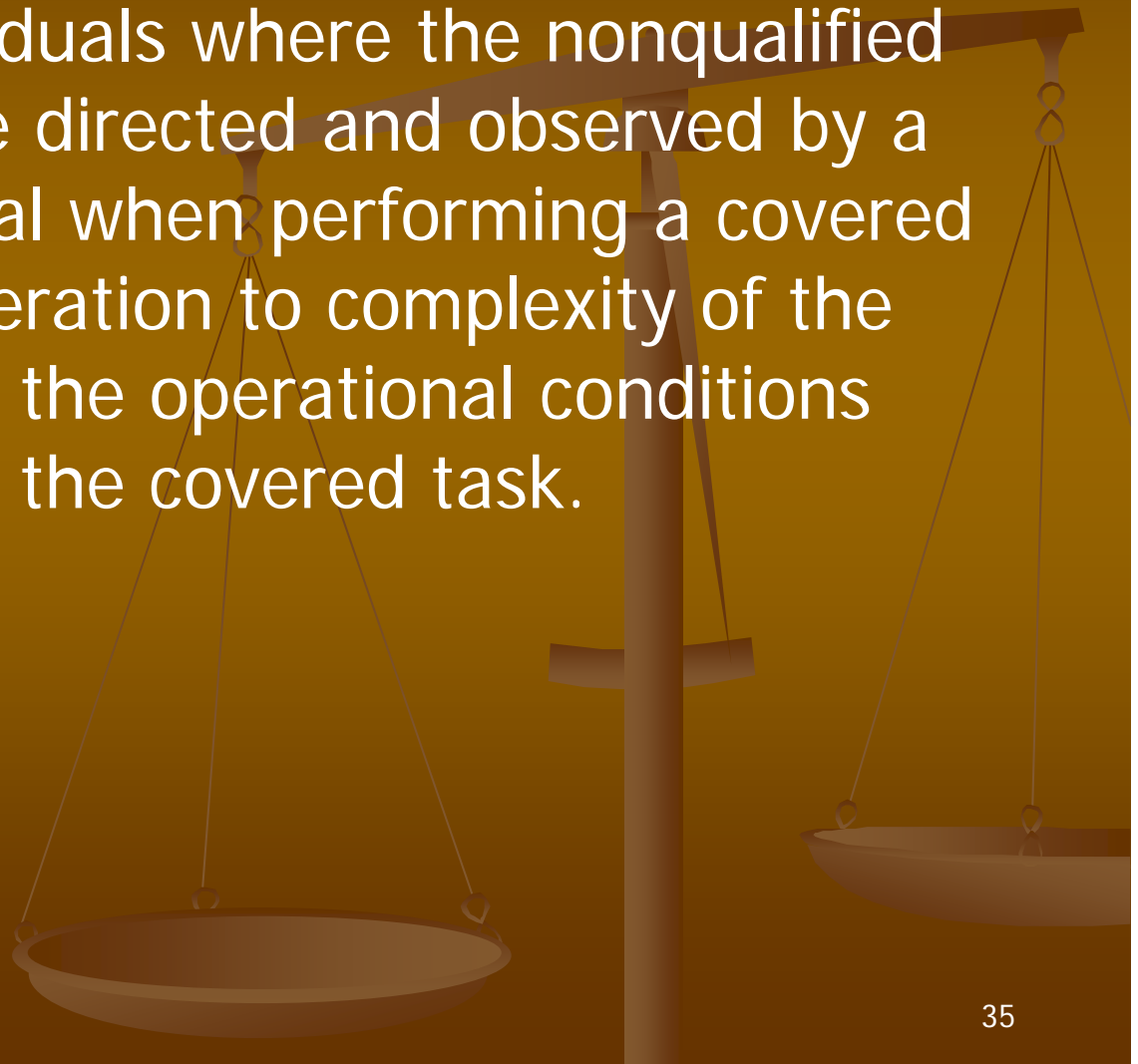


# 192.803 Definitions

- *Significant changes* means the following as it relates to operator qualification:
  - (1) Wholesale changes to the program;
  - (2) Change in evaluation methods (*i.e.* performance and written to written only);
  - (3) Increases in evaluation intervals (*i.e.* from 1 to 5 years); or
  - (4) Removal of covered tasks (not including combining covered tasks).

# 192.803 Definitions

- *Span of control* means the ratio of nonqualified to qualified individuals where the nonqualified individual may be directed and observed by a qualified individual when performing a covered task, with consideration to complexity of the covered task and the operational conditions when performing the covered task.



# 192.805 Qualification Program

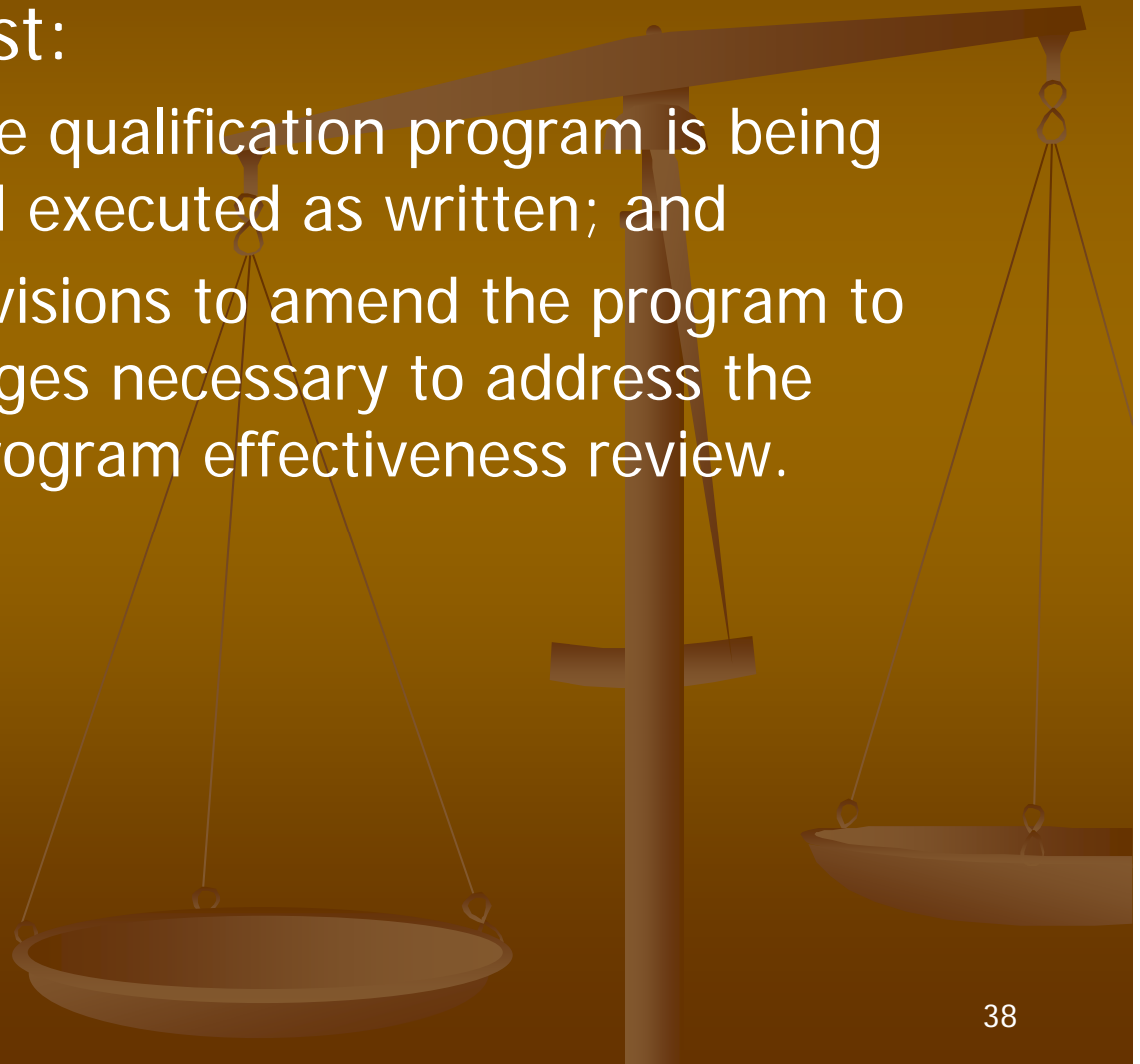
- Formerly listed 9 elements (a) through (i)
- Expanded into 12 elements and added wording to the current ones.
  - Complete the qualification of each individual performing a covered task prior to the individual performing the covered task
  - Provide supplemental training for the individual when procedures and specifications are changed for the covered task
  - Establish the requirements to be an Evaluator, including the necessary training; and
  - Develop and implement a process to measure the program's effectiveness in accordance with § 192.805

## 192.807 **Program Effectiveness** formerly Record Keeping

- (a) **General.** The qualification program must include a written process to measure the program's effectiveness. An effective program minimizes human error caused by an individual's lack of knowledge, skills and abilities (KSAs) to perform covered tasks. An operator must conduct the program effectiveness review once each calendar year not to exceed 15 months.

# 192.807 Program Effectiveness formerly Record Keeping

- (b) *Process*. The process to measure program effectiveness must:
  - (1) Evaluate if the qualification program is being implemented and executed as written; and
  - (2) Establish provisions to amend the program to include any changes necessary to address the findings of the program effectiveness review.



## 192.807 **Program Effectiveness** formerly Record Keeping

- (c) **Measures**. The operator must develop program measures to determine the effectiveness of the qualification program. The operator must, at a minimum, include and use the following measures to evaluate the effectiveness of the program.
  - (1) Number of occurrences caused by any individual whose performance of a covered task(s) adversely affected the safety or integrity of the pipeline due to any of the following deficiencies:

**There are at least 13 deficiencies**

## 192.807 Program Effectiveness formerly Record Keeping

- (i) Evaluation was not conducted properly;
- (ii) KSAs for the specific covered task(s) were not adequately determined;
- (iii) Training was not adequate for the specific covered task(s);
- (iv) Change made to a covered task or the KSAs was not adequately evaluated for necessary changes to training or evaluation;
- (v) Change to a covered task(s) or the KSAs was not adequately communicated;
- (vi) Individual failed to recognize an abnormal operating condition, whether it is task specific or non-task specific, which occurs anywhere on the system;



## 192.807 Program Effectiveness formerly Record Keeping

- (vii) Individual failed to take the appropriate action following the recognition of an abnormal operating condition (task specific or non-task specific) that occurs anywhere on the system;
- (viii) Individual was not qualified;
- (ix) Nonqualified individual was not being directed and observed by a qualified individual;
- (x) Individual did not follow approved procedures and/or use approved equipment;
- (xi) Span of control was not followed;
- (xii) Evaluator or training did not follow program or meet requirements; or
- (xiii) The qualified individual supervised more than one covered task at the time

# 192.809 Record Keeping (former 192.807)

- Each operator must maintain records that demonstrate compliance with this subpart.
- (a) *Individual qualification records.* Individual qualification records must include:
  - (1) Identification of qualified individual(s),
  - (2) Identification of the covered tasks the individual is qualified to perform;
  - (3) Date(s) of current qualification;
  - (4) Qualification method(s);
  - (5) Evaluation to recognize and react to an abnormal operating condition, whether it is task-specific or non-task specific, which occurs anywhere on the system;

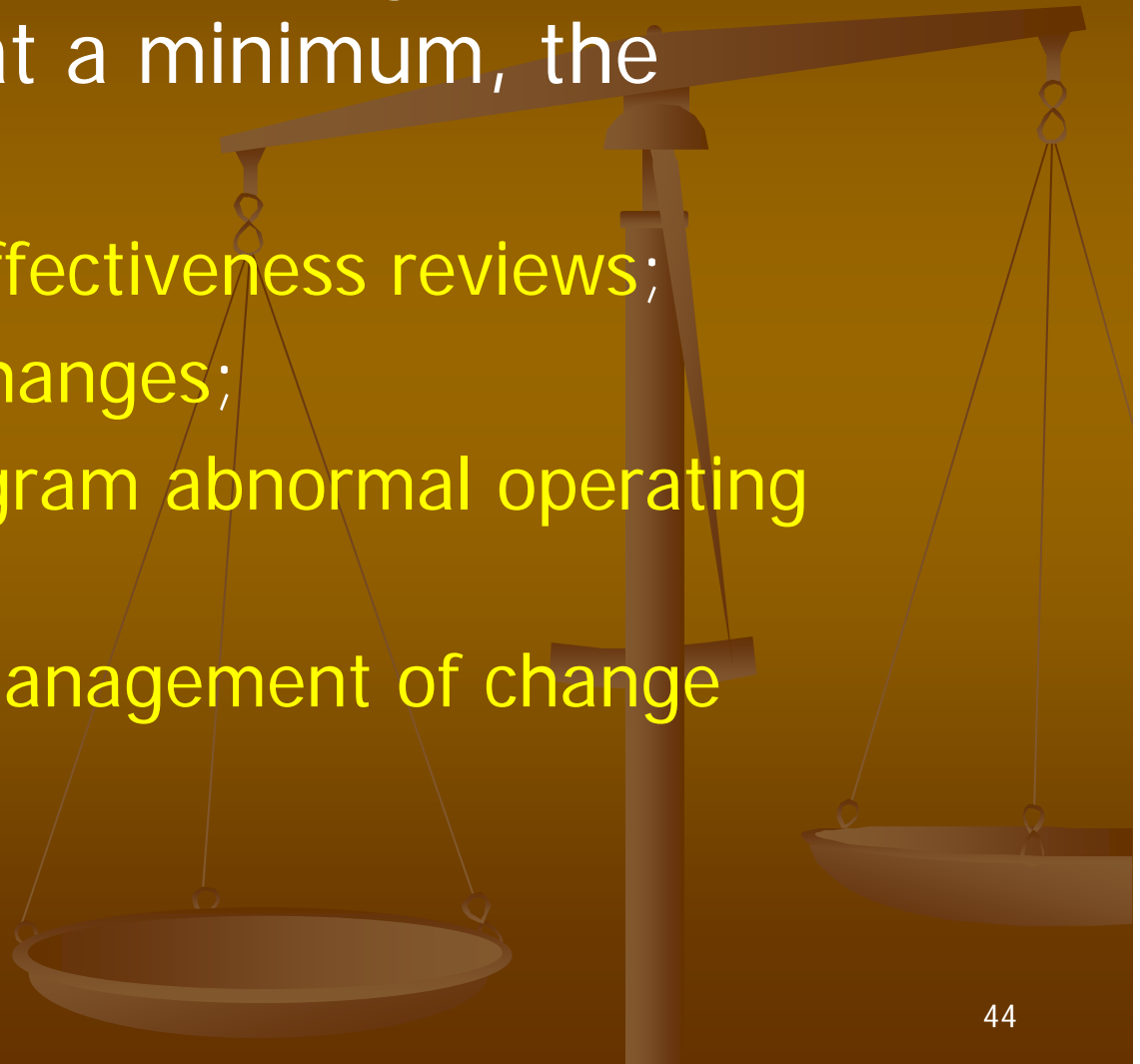
# 192.809 Record Keeping (former 192.807)

- (6) Name of evaluator and date of evaluation; and
- (7) Training required to support an individual's qualification or requalification.



## 192.809 Record Keeping (former 192.807)

- (b) *Program records*. Program records must include, at a minimum, the following:
  - (1) Program effectiveness reviews;
  - (2) Program changes;
  - (3) List of program abnormal operating conditions;
  - (4) Program management of change notifications;



# 192.809 Record Keeping (former 192.807)

- (5) Covered task list to include all task specific and non-task specific covered tasks;
- (6) Span of control ratios for each covered task;
- (7) Reevaluation intervals for each covered task;
- (8) Evaluations method(s) for each covered task; and
- (9) Criteria and training for evaluators.

# 192.809 Record Keeping (former 192.807)

- (c) *Retention period*—
  - (1) *Individual qualification records.* An operator must maintain records of qualified individuals who performed covered tasks. Records supporting an individual's current qualification must be retained while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks must be retained for a period of five years.
  - (2) *Program records.* An operator must maintain records required by paragraph (b) of this section for a period of five years.

# Issues Found among Regulators

- Questions regarding the Integrity of the Evaluation/Proctoring Procedures used by Contractors
- Central Database indicated Qualified when only 1 part of the evaluation was completed (written or performance)
- Construction Pigging not Listed as Covered Task
- Inline Inspection not Listed as Covered Task

## Issues Found among Regulators

- **FAQ 2.13 Should operators implement measures to ensure that the procedures on which qualification is based are consistent with the actual practices implemented in the field?** A major purpose of the operator qualification rule is to eliminate job performance errors that might affect the integrity of pipeline systems. Such errors can be inadvertent (e.g., **forgetting a step in implementation of a procedure**) or systemic. Elimination of systemic errors is as important as eliminating inadvertent ones. Therefore, **operators should incorporate into their qualification program provisions for ensuring that practices in the field are the same as those documented in the operator's O&M Plan**