New York State Department of Public Service

Office of Electric, Gas, & Water

Pipeline Safety Section

OPERATOR QUALIFICATION WHITE PAPER

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Preface

Operator Qualification (OQ) is defined as a process where an individual is determined to be qualified by a natural gas or hazardous liquid pipeline operator through training and evaluation of that individual's knowledge, skills, and abilities (KSAs), to perform the covered tasks assigned, and to recognize and react appropriately to abnormal operating conditions while performing those tasks.[1] The origin of OQ can be traced back to a December 1982 Federal Department of Transportation (DOT) Inspector General (IG) recommendation that a licensing and certification requirement be adopted for natural gas distribution operations. DOT's intent was to reduce the risk of accidents on pipeline facilities attributable to human error. The Final Rule, published in the Federal Register (64 Fed. Reg. 46853) on August 27, 1999, was focused primarily on testing, with little emphasis on training. In subsequent years, as the OQ rule evolved, OQ programs have become inconsistent, lacking operator accountability for all individuals working on their system. Additionally, pipeline operators scaled back and/or eliminated their own training facilities and training programs and have replaced them with regionalized OQ "qualification."[2] In almost all cases, training programs offered today develop a fraction of the skills they offered immediately before implementation of the 1999 OQ rule and rarely focus on performance of covered tasks using specific operator procedures and equipment. Moreover, a recent review of specific covered tasks completed by both operator and contractor personnel in New York State has cast doubt on the efficacy of current OQ programs, thus, prompting a wholesale review of implementation of the OQ rule, including operator programs and practices.

[1] A complete list of acronyms used in this White Paper begins on page 5.

[2] Historically, these operator training facilities trained employees and contractors using company procedures, specifications, and equipment.

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Definitions

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.

Audit – A systematic and independent review to determine whether an OQ program complies with the requirements of Part 255.

Contractor – A company participating in the Program hired by a pipeline operator to perform covered tasks on behalf of the operator.

Covered Task (current definition) – 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 Part 255; and

(4) Affects the operation or integrity of the pipeline.

Covered Task (proposed definition) – An activity, identified by the operator, that:

(1) Is performed on a pipeline facility;

(2) Affects the operation or integrity of the pipeline.

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: written examination; oral examination; work performance history review; observation during

(1) performance on the job;

(2) on the job training;

(3) simulations or other forms of assessment.

Local Distribution Company (LDC) – An operator who provides natural gas to multiple customers through the use of a natural gas distribution system.

Mutual Aid – Pipeline operator personnel assistance (aid) provided to another pipeline operator in the performance of covered tasks.

Off-the-Shelf Program – Operator Qualifications Programs developed by third-party vendors intended to be flexible and applicable to multiple operators.

On-the-Job Training – Instruction at or near the work setting.

Operator – A person who engages in the transportation of natural gas or hazardous liquids.

Pipeline – All parts of those physical facilities through which gas is transported, including pipe, valves, and other appurtenances attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

Proctor – An individual selected to administer a written examination.

Qualified – An individual who has been trained and evaluated and can:

(1) perform assigned covered tasks; and

(2) recognize and react to abnormal operating conditions.

Span of Control – The maximum number of nonqualified individuals that a qualified individual can direct and observe performing a covered task.

Acronyms

ANPRM – Advance Notice of Proposed Rulemaking

AOC – Abnormal Operating Conditions

CFR – Code of Federal Regulations – number preceding Title (49 for Transportation), number following Part (191 and 192 for Natural Gas and 195 for Hazardous Liquids)

DMM – Document and Matter Management system

DOT – Department of Transportation

FR – Federal Register

IG – Inspector General

KSAs – Knowledge, Skills, and Abilities

LDC – Local Distribution Company (natural gas utility)

NAPSR - National Association of Pipeline Safety Representatives

NGA – Northeast Gas Association

NPRM – Notice of Proposed Rulemaking

NTSB – National Transportation Safety Board

NY – New York

NYCRR – State of New York Codes Rules and Regulations

NYSDPS – New York State Department of Public Service

OQ – Operator Qualification

PHMSA – Pipeline and Hazardous Materials Safety Administration

RSPA – Research and Special Programs Administration

U.S.C. – United States Code

Introduction

The need for this White Paper arose out of a series of recent events and New York Department of Public Service Staff (DPS or Staff) findings of substandard operator performance of covered tasks, defined in 16 NYCRR 255.3(9). Workers were not properly qualified, were evaluated using only written tests (some of which were severely compromised, as described below), or whose work on covered tasks actually increased the risk and probability of accidents and incidents.[3] The recent incident in the Merrimack Valley of Massachusetts is a pertinent example. The incident resulted in an over-pressurization of the low-pressure distribution system, one fatality, at least 21 injuries requiring medical attention, and significant property damage to over 130 structures. The cause appears to be, in part, improper qualification of operator workers, highlighting the need for renewed vigor with respect to the proper qualification of employees and contractors.[4] Therefore, it is imperative to address overall OQ program standards - specifically, "off the shelf" OQ programs that have focused almost exclusively on knowledge-based written evaluations, with little or no assessment of individual skills and ability. For instance, today's standardized programs include virtually no focus on actual equipment or procedures used within each individual operator's pipeline system(s).[5]

[3] As such, this White Paper is made part of the administrative record in Cases 14-G-0212 - Proceeding on Motion of the Commission to Investigate the Practices of Qualifying Persons to Perform Plastic Fusions on Natural Gas Facilities and Case 17-G-0318 - In the Matter of an Investigation into Local Distribution Company Use of Northeast Gas Association Operator Qualification Program.

[4] National Transportation Safety Board (NTSB) Preliminary Report Pipeline: Over-pressure of a Columbia Gas of Massachusetts Low-pressure Natural Gas Distribution System - PLD18MR003 (https://www.ntsb.gov/investigations/AccidentReports/Reports/PLD18MR003-preliminary-report.pdf); National Transportation Safety Board (NTSB) Safety Recommendation Report: Natural Gas Distribution System Project Development and Review (Urgent) - PSR 1802 (https://www.ntsb.gov/investigations/AccidentReports/Reports/PSR1802.pdf)

[5] "Off-the-shelf" testing programs are those developed by third parties for use across the board for all LDCs and contractors, which offer no testing for procedures or equipment specific to the LDC for whom workers will complete covered tasks. The "off-the-shelf" OQ program LDCs use primarily is one offered by the Northeast Gas Association (NGA).

By employing "off-the-shelf" programs with little modification to prepare workers for each operator's individual system, New York State operators have essentially transferred the responsibility for qualifying individuals such as contractor personnel working on their systems to a third-party vendor using that vendor's generic program. The OQ rule does not transfer regulatory accountability nor the responsibility for ensuring safe operation of the pipeline system to contractor personnel; likewise, no operator's OQ program should transfer these responsibilities to unaccountable third-party OQ program-providers. In all cases, it is the responsibility of the operator, not the contractor or third-party vendor, to verify the qualifications of all individuals performing covered tasks on their system.

This inadequate operator oversight and lack of accountability over OQ processes and practices have led to multiple allegations of cheating on written examinations by contractors attempting to become qualified under an "off-the-shelf" program used by New York operators.[6] With respect to two contracting companies, these allegations were confirmed and required a complete overhaul of all written examinations used for the qualification process. As a result, the qualifications of both the individuals alleged to have had access to compromised tests and, later, those of anyone deemed "qualified" by having taken the standardized written examinations in question were invalidated.

Furthermore, post-construction verification excavations performed by multiple operators on both distribution and transmission facilities revealed numerous deficiencies that called into question the competency of both the persons completing the covered tasks and the inspectors overseeing these projects, as well as the overall operator oversight and management of the

[6] The allegations centered around the near complete compromise of written tests used for the evaluation of persons performing covered tasks.

projects. These "re-digs" on distribution lines identified multiple plastic fuses where qualified employees either failed to recognize a visually unacceptable plastic fuse or allowed the visually unacceptable fuses to be installed and energized.[7] Other re-digs conducted on transmission lines identified workmanship issues such as unrepaired damage to other nearby underground utility facilities and multiple clearance issues with other underground structures/facilities. While the OQ rule does not specifically include "construction tasks," NGA's program, which is used by most New York operators, does define plastic fusion (traditionally treated as a construction task) as a "covered task," whether or not a fusion is made during construction or operations and maintenance activities. Therefore, just as industry practice recognizes plastic fusions must meet the requirements of "covered tasks," the Department should consider subjecting fusions to OQ requirements.

The absence of practical evaluations in today's qualification process has become a glaring deficiency in most OQ plans used by New York Local Distribution Companies (LDCs). This absence has compounded the impact of the compromised tests and subsequent worker disqualifications. The LDCs have relied solely on these written tests to qualify their workforce in the past. As a result, this reliance severely worsened the effect of the compromised tests, in effect casting doubt over the qualifications not only of those involved in the recent scandals, but of the entire gas industry workforce at large.

In responding to the issues noted during the investigation of the cheating allegations and subsequent review of work completed by personnel believed to have had access to the compromised tests, it became evident that the intent of the OQ rule is not currently being met by

[7] Specifically, NYSDPS Staff have been overseeing National Grid USA (National Grid) re-digs of the Queens Transmission Pipeline and all projects Grid completed by Network Infrastructure, Inc. (Network) and Consolidated Edison Company of N.Y., Inc. (Con Edison) re-digs of nine other contractors.

the operators. In addition, the failure of the federal DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) to adopt regulatory changes to the operator qualification requirements proposed in 2015, which would have addressed these and other OQ program deficiencies, further illustrates the need for state action.[8] Accordingly, New York should take steps to ensure that the qualifications of pipeline personnel working within the state include adequate training and effective evaluation using specific operator procedures and equipment. Staff supports PHMSA's proposed changes, which reflected the clear need for a more prescriptive OQ rule and requirements for annual evaluation of overall OQ program effectiveness. The cheating scandal and subsequent quality issues discovered during Staff's follow-up investigation made it apparent that New York State cannot wait for federal action to address the deficiencies of the current OQ rule. New York must act on its responsibility to ensure the provision of safe and adequate gas service by making changes to existing OQ programs.

To begin to address these deficiencies, Staff held an Operator Qualification technical conference in October 2017, at which Staff presented its findings of OQ audits along with proposed operator qualification best practices that Staff believes should be incorporated into effective OQ programs. Industry representatives and third-party providers also made presentations on OQ, including its history and implementation, and enhancements being made to the current standardized program widely used by LDCs. While it is important that operators evaluate the best practices presented and either adopt each or provide reasonable justification for excluding them, the intent of this White Paper is to provide a blueprint for operators to reclaim full responsibility and ownership of the OQ process. Doing so will ensure that any work

[8] Notice of Proposed Rulemaking, Pipeline Safety Operator Qualification Rule, 80 Fed. Reg. 39916 (proposed June 10, 2015).

completed on NY gas systems, whether considered 'engineering,' 'construction,' 'operations,' or 'maintenance,' is completed by properly trained personnel who have been evaluated in a rigorous process that proves their competence to complete covered tasks. The over-arching goal of the proposed OQ improvements herein is to increase the likelihood that New York's natural gas pipelines will continue to operate safely.[9]

Each worker's actions affect the construction, operation, and integrity of the pipeline, and could include or result in an abnormal operating condition (AOC). The need for workers to recognize and react to potential AOCs while performing those tasks cannot be overstated; they can only do so if they have been adequately trained and evaluated to show they possess the required knowledge, skills, and abilities (KSAs) to perform covered tasks in a manner that maintains the safe and reliable operation of the pipeline. OQ, therefore, must be a four-part process where basic *knowledge* is (1) presented and (2) evaluated by either the operator or a third-party, (3) followed by specific training for *skills* and *abilities*, (4) followed by the evaluation (by the operator) of the performance of each covered task to establish qualification(s) to perform specific covered tasks for the operator.[10]

Background

The first reference to "operator qualifications" in the Federal Register was in 1987, in the Advance Notice of Proposed Rulemaking (ANPRM), published on March 23, 1987 (52 Fed.

[9] The best practices shared with operators at the October 2017 conference are presented in Appendix B of this document. These have been modified based upon the open discussion that occurred during the technical conference between Staff and those present and in response to the Merrimack Valley incident.

[10] The OQ rule allows contractors to 'qualify' individuals performing covered tasks. However, the operator needs to review a contractor's program and be sure that it meets (or exceeds) the operator's OQ plan, including the performance of covered tasks using the operator's specific procedures and equipment. This review must be documented. This process, as well as additional Key Elements of a "Model" Plan, are presented in Appendix A of this document.

Reg. 9189). The notice invited public comment on "the qualification program regarding the qualification of personnel who design, construct, operate, or maintain gas or hazardous liquid pipelines." The ANPRM cited a December 1982 recommendation by the DOT Inspector General that the Research and Special Programs Administration (RSPA) of the DOT should require licensing or certification of natural gas distribution operators. This was in response to state safety inspectors indicating that operators of small municipal and privately-owned gas distributors were frequently unaware of the federal safety standards and lacked the knowledge to implement them. Likewise, the 1987 ANPRM pointed to four separate bodies: the United States House of Representatives' Committee on Energy and Commerce, the Minnesota Commission on Pipeline Safety, the National Association of Pipeline Safety Representatives (NAPSR), and the National Transportation Safety Board (NTSB), all of which made similar recommendations between 1986 and 1987.[11] The NTSB and NAPSR recommended a rulemaking approach versus a federal license or certification approach.[12] Specifically, the NTSB recommended "that operators of pipelines develop and conduct selection, training, and testing programs to annually qualify employees for correctly carrying out each assigned responsibility which is necessary for

[11] The National Association of Pipeline Safety Representatives (NAPSR) is the national association representing State pipeline safety personnel in the contiguous United States as well as the District of Columbia and Puerto Rico. Through a unique partnership with the U.S. Department of Transportation, NAPSR members have oversight responsibilities for the safe and reliable transportation of natural gas and hazardous liquids through pipelines.

[12] The NTSB made its recommendation in a report on two 1987 gas pipeline accidents in Kentucky (NTSB-Par-87-1).

complying with 49 CFR Part 192 and 195."[13] NAPSR's stated expectation was that qualification be attained by "test, experience, and training."[14]

Further action on operator qualification languished until a January 17, 1992 natural gas explosion in Chicago killed four people, injured four people, and damaged 14 houses and three commercial buildings. The accident resulted from incorrect operation of a bypass valve by workers during annual maintenance of a pressure regulator station. This action over-pressurized end users' appliances and filled their houses and buildings with natural gas. The overpressure condition lasted about 45 minutes until instructions were received from headquarters and the gas supply was shut off. When the workers recognized the over-pressurization had occurred, they did not know (*i.e.*, adequate training had not been provided) on how to react to this abnormal operating condition (AOC). Additionally, the NTSB found that the on-site supervisor also had no training on the extent of his authority in such an emergency.

Therefore, the 1992 Pipeline Safety Act mandated that DOT require "all individuals responsible for the operation and maintenance of pipeline facilities be tested for qualifications and certified to perform such functions," that the certification may, "as the Secretary (of DOT) considers appropriate, be performed by the operator," and that DOT "address the ability to recognize and appropriately react to abnormal operating conditions which may indicate a dangerous situation or condition exceeding design limits."[15] Acting on that mandate, RSPA issued a NPRM on August 5, 1994 (59 Fed. Reg. 39506) on Qualification of Pipeline Personnel.[16] The notice proposed "qualification standards for personnel who perform, or directly

[13] 52 Fed. Reg. 9189, at 9190 (March 23, 1987).

[14] Id.

[15] Pub. L. No. 102-508; October 24, 1992.

[16] The RSPA was reorganized into the PHMSA.

supervise those persons performing, regulated operation, maintenance, and emergency response functions."[17] The intended effect was "to improve pipeline safety by requiring operators to assure the competency of pipeline personnel through training, testing, and periodic refresher training."[18] However, a final rule was not published until 1999.

Between 1994 and 1998, DOT commenced a Negotiated Rulemaking between DOT and relevant stakeholders. The resulting NPRM was issued on October 27, 1998 (63 Fed. Reg. 57269), and the Final Rule issued on August 27, 1999. The final rule required "pipeline operators to develop a written qualification program for individuals performing covered tasks on pipeline facilities." Its intent was "to ensure a qualified workforce and to reduce the probability and consequence of incidents caused by human error."[19] The final rule required a written program to be in place by April 27, 2001, and the qualification of individuals completing covered tasks to be completed by October 28, 2002. The final rule did not, however, require or even refer to training. It referred only to observation during "on the job training," which was allowed as a sole means of evaluation.

PHMSA's March 2005 amendments to the OQ rule stated that as of December 17, 2004: (1) written qualification programs must "provide training, as appropriate, to ensure that individuals performing covered tasks have the necessary knowledge and skills;" (2) operators must submit notification to PHMSA or a state agency participating under 49 U.S.C. Chapter 601 "if the operator significantly modifies the program;" (3) OQ Programs must be made readily

[17] 59 Fed. Reg. 39506 (August 3, 1994).

[18] Id.

[19] 64 Fed. Reg 46853 (August 27, 1999).

available for review; and (4) on-the-job performance would no longer be allowed as the sole method of observation.[20]

No further changes were made or proposed to operator qualification requirements in Part 192 (Subpart N) or Part 195 (Subpart G) until the 2015 NPRM was issued on July 10, 2015 (80 Fed. Reg. 39916). This still-pending, proposed rulemaking sought to address the gaps between the current OQ rule and actual OQ practice by adding new requirements to the existing rule, including the requirement of OQ for new construction and an OQ program effectiveness review. PHMSA also proposed OQ requirements for control room operations and gathering lines in Class 2 locations (Type A gas), onshore (regulated Type B gas), and rural locations (regulated hazardous liquids) in response to a July 25, 2015 NTSB recommendation for control centers and the March 15, 2006 (71 Fed. Reg. 13289) Final Rule on gathering lines.[21]

PHMSA justified the 2015 proposed changes by explaining that the existing rule is "not prescriptive and the resulting flexibility built into the [1999] performance-based rule makes it difficult to measure operator's compliance." The 2015 proposed rule, PHMSA stated, is "clearer and helps to eliminate confusion."[22] Increased emphasis on KSA training, program evaluation, and recordkeeping are noticeably expanded upon in the proposed rule versus the existing rule.

Staff agrees with many of the changes in the 2015 NPRM, including the requirement that OQ apply to construction tasks. Additionally, Staff welcomed the proposed rule because it noted multiple instances of incomplete operator compliance with pipeline safety requirements, many of which could be traced back to lapsed OQ qualification, insufficient oversight of the contractor

[20] 70 Fed. Reg. 10332 (March 3, 2005), at 10334 and 10335.

[21] 80 Fed. Reg. at 39925.

[22] 80 Fed. Reg. at 39919.

workforce, and a general outsourcing of operator responsibility, ownership, and control of the OQ requirements to third-party vendors. When, in 2017, PHMSA delayed the Final Rule on the more stringent 2015 NPRM requirements, it became clear that New York State could no longer continue to wait for federal action to fix the OQ problems that exist systemwide. Moreover, the construction problems recently discovered through re-dig programs following the qualification test breaches, makes the need for improved OQ policies imperative.

To begin to address these shortcomings, the NYSDPS hosted a technical conference in Saratoga Springs, New York, on October 4-5, 2017, focused on Operator Qualifications. Staff gave presentations detailing the results of OQ program audits of NY operators, concerns Staff had observed with NY operators relying primarily on knowledge-based testing for determining the qualifications of personnel to perform covered tasks, and Staff's proposed best practices to enhance OQ in New York. These best practices can be found on the NYSDPS website and are outlined in Appendix B of this document.[23] At this technical conference, industry experts discussed the history of OQ (beginning with the January 1992 incident), security considerations for maintaining the integrity of written OQ testing, and effective training and evaluation methods required to ensure regulatory compliance. Open discussions through question and answer sessions following each presentation provided an exchange of ideas between regulatory and industry representatives; they focused primarily on expectations and concerns regarding OQ compliance. Staff concluded that significant changes needed to be made to Operator Qualification Programs to ensure the continued safe operation and maintenance of the State's natural gas and hazardous liquid pipelines by individuals who demonstrate both the knowledge and competence to perform covered tasks to minimize incidents due to human error.

[23] http://www3.dps.ny.gov/W/PSCWeb.nsf/All/63E593A3C6D579E1852580A7006B286C?OpenDocument

PHMSA's current OQ Final Rule, effective October 26, 1999 (64 Fed. Reg. 46853), is vastly different than the rule PHMSA proposed in 1994 (59 Fed. Reg. 39506). The rule proposed in 1994 was prescriptive – focusing on training and testing to ensure that pipeline personnel possess the necessary knowledge and skills to competently perform regulated functions on gas pipelines. The 1994 rule was proposed in direct response to an NTSB recommendation for the development of selection, training, and testing programs to annually qualify employees for safety-sensitive responsibilities. Further, at the time, advisory committees and state pipeline safety inspectors had identified a particular need to improve the knowledge and skills of small gas distribution systems serving fewer than 10,000 customers. The ANPRM for the 1994 proposed rule also acknowledged the notable difference between the technical competency of operator personnel at small distribution systems and operator personnel of the large distribution and transmission systems.

Unfortunately, what started in 1994 as a prescriptive rule centered on qualification by testing, experience, *and* training became a "performance based" final rule in 1999. The performance-based rule centered on a written qualification program with proficiency determined by *either* written examination, oral examination, work performance history review, performance on the job, on the job training, or simulation (if work performance history was considered, it required a second form of evaluation).

The call for qualification of pipeline personnel originated out of a perceived lack of qualified personnel at small municipal and private gas distribution operators. Therefore, while the prescriptive 1994 regulations, as proposed, included improvements for small operators which had little, if any, training or testing in place to develop qualified personnel, the large operators, which had more robust training and testing programs in place, argued during the negotiated

rulemaking process that the performance-based regulations would be sufficient (*i.e.*, that what for large operators would be watered down OQ "improvements," would be enough). In Staff's observation, the intent of the more prescriptive OQ proposal begun in 1994 was lost by 1999, resulting in less effective OQ improvements for the large operators.

The Final 1999 OQ rules continued to highlight the need for more support for smaller operators, however, and regional gas associations began to fill that need. The Northeast Gas Association (NGA), established on January 1, 2003, from its predecessors, The New England Gas Association and the New York Gas Group, attempted to fill the gap when they developed a comprehensive OQ Program. While NGA's concept was well-intentioned (because one clearinghouse could share the competency and structure of operations and maintenance, training, testing, and qualification of the larger operators with the smaller operators), the larger operators began to also rely on the less robust training and qualification process offered by the program.

Discussion

The current OQ problems stem from the fact that each operator is unique, and variables such as operating territory characteristics, system configuration, vintage, type of equipment used, operations and maintenance procedure manuals, and other procedures and standards must be addressed in every OQ Program. Further, although the legacy NGA OQ program, to some extent, allows for modifications (taking into account individual operator considerations), the NGA-administered written evaluations are less flexible and do not allow the omission of questions that do not apply to individual operators. Furthermore, NGA's overall OQ program (the third-party OQ program most operators use) does not allow the methods or procedures used by individual operators to be easily included. Conversely, specific questions that an individual operator deems important (and not included in the existing covered task question set) cannot

easily be incorporated into the existing testing scheme. Therefore, as Staff audits of individual operators using the NGA program show, little to no modification of the operators' OQ programs themselves nor the written evaluations required by each program resulting in operator qualifications remains in the most common "off-the-shelf" format. By not modifying "off-the-shelf" OQ programs to fit each operator's system, the operators themselves effectively outsourced all responsibility for their OQ programs. It well may be that the NGA intended, and even expected, each company to make the NGA OQ program "their own;" however, this has not occurred.

Outsourcing of OQ from a perspective of safety, integrity management, and regulatory compliance became and remains problematic. The operator ultimately is responsible for compliance, not any third-party vendor or any contractor. While contractual clauses may shift civil and financial liabilities to the contractor (thereby attempting to protect ratepayers), the regulatory liability associated with the requirement that covered tasks only be performed by properly operator qualified personnel remains with the operator.

The 1999 OQ rule's broadly-stated requirements have allowed the OQ process to become little more than a test-taking vehicle. It often consists of only written examinations that rarely, if ever, change. However, a process focused on assuring competence through training and evaluation is necessary to protect public safety. The purpose of an OQ program is to determine whether someone possesses the "knowledge, skills, *and* abilities" to perform a covered task; therefore, to be "qualified" must mean that someone has shown they can perform assigned covered tasks, can recognize and react to abnormal operating conditions (AOCs) associated with

that task, and has the physical ability to perform the task. The skills required to complete few, if any, covered tasks can be confirmed by written evaluations alone.[24]

The components of an "abnormal operating condition" (AOC) are vastly different than being able to recognize and react to an AOC in the moment. Very few, if any, "off the shelf" OQ programs used in New York adequately address or assess AOCs at a task-specific level. In fact, Staff has observed that virtually none of these programs require that workers show how a task-specific AOC should be addressed properly. Further, with today's standardized written testing alone, a person seeking to be qualified can answer multiple questions on AOCs incorrectly and still become qualified, as long as they achieve a minimum test score. This fundamental gap in AOC proficiency is a frequent cause of gas incidents. Allowing operators to be "qualified" without hands-on experience with and evaluation of AOCs fails to ensure the safety of the gas system.

The current investigations of plastic fusion practices "qualified" through off-the-shelf OQ programs highlight the need for an increased focus on knowledge *and* training, as well as skills and abilities, as opposed to solely knowledge-based written testing. Just as vital is the operator-documented verification of the training and competence of personnel to properly complete the covered tasks they've been hired to perform.

New York State Specific Concerns

The existing evaluation protocols in New York State do not directly test for operator-specific practices, such as each operator's operations and maintenance procedures or the specific equipment in each operator's system or used by the operator to conduct surveys/inspections. Control over the OQ program and testing most operators use is held by the third-party vendors,

[24] Definition of "Qualified" in 49 CFR Part 192.803 and 16 NYCRR Part 255.3, *emphasis added*.

thereby giving operators minimal control over questions that appear in written examinations for covered tasks.

Qualification for welding steel in pipelines, the joining of materials other than welding (*e.g.*, plastic fusions), and corrosion control requirements predated the OQ rule and brought rigor (and specificity) for qualified personnel performing specific tasks on the pipeline to other tasks affecting pipeline operation and integrity. The joining requirements in 16 NYCRR Part 255, specifically for plastic pipe, detail that rigor. First, the procedure to join plastic pipe must be qualified (*i.e.*, the procedure to be used must be shown to repeatedly produce fuses that are sound). Then an individual must be qualified to make fuses using that qualified procedure. In this example, qualification is only earned by both training and/or experience in the use of the qualified procedure, and through the demonstration of one's performance using that qualified procedure. This is followed by the examination of a specimen joint (a practical exam) that must pass both visual inspection and at least one of multiple, approved, destructive and/or nondestructive testing methods.[25] Furthermore, most operators in New York have defined plastic fusion as a "covered task," which requires the qualification process of all individuals performing plastic fusion also to comply with the operators' OQ program.[26]

Despite this obvious requirement, a large number of individuals working for operators in New York State continue to be found to have performed joining of polyethylene pipe (plastic fusion) without proper qualifications.[27] Thus, these operators are out of compliance with the regulation's requirements. Because plastic fusion has been incorporated into operator OQ

[25] 16 NYCRR §255.285.

[26] 16 NYCRR §255.604 requires an operator to 'have and follow' a written qualification plan.

[27] That is, the qualifications of individuals did not comply with 16 NYCRR §255.285 or 16 NYCRR §255.604 (or both).

programs - and qualification was obtained by the simple act of passing a written examination - practical evaluations clearly defined and required by 16 NYCRR §255.285 have been overlooked (or the practical evaluation took place, but the test required by the OQ program did not).

In New York, operators regularly hire contractor personnel under the assumption that they are qualified solely because they have completed the knowledge-based written examination. Operators, however, investigate very little, if at all, to ensure that the contractors on-site possess the skills and abilities to complete the covered tasks for which they are hired to properly perform. The current operator trend of "on-boarding" contractors, NYSDPS Staff has observed, consists of a loosely-defined training program that is insufficient in providing contractor personnel the same training as operator personnel, which focuses on operator procedures, specifications, and equipment. Staff has found that this process includes little to no verification that the contractor has appropriate experience, is familiar with the operator's procedures or equipment, whether they have had, or need, additional training, or whether they actually can complete the covered task(s) properly. In most cases, contractors hired by operators are not required to possess the same training nor experience of operator personnel performing the exact same covered task. It bears repeating that written evaluation alone cannot effectively measure skills and abilities.

At the October 2017 Operator Qualification technical conference, Staff presented a summary of deficiencies as determined by recent Staff audits of existing OQ programs and their implementation. The primary findings were that:

(1) LDC OQ plans were not in the control of the operator;

(2) LDC OQ plans are inconsistent with each operator's actual Operations and Maintenance Plans and Emergency Response procedures;

(3) LDC OQ plans provide insufficient information on how a "covered task" is identified as such;

(4) LDC OQ plans do not explain how persons qualifying others themselves were qualified and how re-evaluation intervals are established;

(5) The plans lack sufficient documentation that any meaningful criteria were considered to determine which portions of covered tasks should be considered critical to correct performance;

(6) Plans lack any apparent expectation that questions relating to critical tasks had to be answered correctly during written evaluations;

(7) AOCs specific to individual covered tasks were not clearly compared to specific covered tasks;

(8) Successfully answering all AOC-related questions was not a condition for qualification;

(9) Span of control, meaning the OQ program's allowed number of not properly qualified persons being directed and observed by a qualified person, often seemed unreasonable and unsafe;

(10) Security of evaluation materials throughout the test-taking process was severely lacking.

In addition, Staff had significant questions about the effectiveness of existing OQ programs based on the number of errors Staff observed in "qualified" personnel performing covered tasks, as well as reexamination of in-service work completed by "qualified" personnel. Examples of errors observed included "qualified" personnel:

1. operating a main line valve instead of a service curb valve;

2. bar holing directly over a marked out electrical service;

3. pulling water through a gas sensor and continuing to use the sensor;

4. ringing doorbells during a leak investigation;

5. installing plastic pipe with no tracer wire;

6. inadequately testing service lines; and

7. misclassifying leaks.

Each one of these errors increased risk to the gas system and ultimately could have led to injury or death to either the public, operator personnel, or both.

Staff also found operator recordkeeping to be deficient in many areas. For example, records could not be provided or were lacking in the following areas: (1) qualification methods; (2) method to determine which personnel were qualified and for which covered tasks; (3) whether personnel had been qualified as to the current procedure and the latest equipment; (4) (5) who had observed non-qualified personnel performing tasks; (6) how actual control was maintained when the ratio of non-qualified personnel to qualified personnel exceeded the stated span of control; (7) when and how changes to the OQ plan were made or are to be made; and (8) if and when 'qualified' personnel were trained (or in need of training).

Staff audits fully demonstrate that the OQ plans being used by New York State operators fail to meet the requirements of the OQ regulations and, as being implemented today by most NY LDCs, are not adequate for determining the competence of the natural gas and hazardous liquid workforce.

Conclusion

The key element missing in current OQ plans is operator control. Each operator must regain sufficient control over the execution of its OQ plan to ensure the capacity of its workforce

to perform covered tasks on its facilities in a manner that ensures public safety and compliance with the regulations. At all times, the operator must know that work done on its facilities is being performed by an operator-qualified individual, or under the observation of an operator-qualified individual, who can correctly complete the covered task and recognize and react to AOCs that may be encountered while performing that task. This includes having a system in place to identify that the qualified individual has been qualified to the procedure and related equipment, and that their qualification is up-to-date within the determined timeframe of re-assessment and re-qualification intervals. The operator must implement a secure evaluation process to be confident that the results of each evaluation are a true representation of an individual's KSAs.

Under the plans currently used by most LDCs, this control is lacking. In light of these shortfalls, Staff developed a series of Best Practices that they are proposing the Commission adopt for each OQ Program, ones that are truly focused on determining whether persons performing covered tasks possess the knowledge, skills, and abilities required to successfully and safely complete that task using the equipment and procedures used by the host LDC. Staff recommends that the Commission adopt these Best Practices for each of the State's operators. These Best Practices, as well as Staff's expectations of a "model" OQ Plan, are detailed in the appendices of this document.

Staff acknowledges industry efforts to develop industry-wide best practices; imparting specific knowledge for specific covered tasks in the qualification programs is essential to public safety. However, the current operator qualification knowledge-based testing protocol for the evaluation of KSAs needed to complete a Covered Task is insufficient. While training programs may be offered by contractors and third-party vendors, it is not apparent that the operators have

reviewed these training programs or verified (and documented) that specific individuals completed the training. OQ Programs remain the responsibility of each operator despite the prevalence of "off-the-shelf" programs and, thus, the onus remains on these operators to ensure the training of company personnel and contractors remains fully compliant with both Federal and State regulations.

APPENDIX A

Key Elements of a "Model" Plan

The "four-part test" shall be eliminated and replaced by a "two-part test." Simply put, every task performed on a pipeline facility that affect(s) the integrity of the pipeline shall be considered a "covered task" and shall require operator qualification credentials. Having a trained and qualified workforce, from the design phase, through construction, and into operations and maintenance activities, offers the best protections that New York's pipeline systems will continue to provide safe and reliable service.

Training and evaluation must be sufficient to ensure that any individual working on a pipeline has the *knowledge, skills,* and *abilities* to perform a given covered task using specific operator procedures and equipment, as well as being able to recognize and react to any *Abnormal Operating Conditions*. The model process is as follows:

1. Operators shall provide individuals training that provides the knowledge required to perform a covered task, using operator and facility-specific procedures and equipment. This may, for instance, take the form of in-classroom, web-based lectures, or written documents. Such training will also include a process that teaches workers how to identify and react to facility-specific AOCs. In all cases, the training completed shall be reviewed and documented by the operator.
2. Operators shall evaluate the individual's knowledge through a documented written or oral examination.
3. Operators shall further develop an individual's knowledge, skills, and abilities through on-the-job training. This shall include hands-on learning, simulations, etc.

a. Hands-on training must be specifically tailored to each operator's procedures and equipment.

b. Any training on live pipeline facilities must be directed and observed by OQ qualified personnel and fall within designated and conservative span of control limits defined for that covered task.

4. Operators shall evaluate the individuals' *skills* and *abilities* through a documented practical evaluation.

   a. Practical evaluation must be accomplished through on-the-job performance (using company procedures and equipment) of a covered task while being directed and observed by OQ qualified personnel and must fall within designated span of control limits defined for that covered task.

   b. Operators must evaluate whether an individual can recognize and react to AOCs during a practical evaluation. Under no circumstance may a not fully qualified individual perform covered tasks involving critical functions (pressure regulation, etc.), even if directed and observed by a qualified individual.

5. Operators must establish requalification intervals for each covered task. Requalification is intended to ensure that individuals are correctly performing covered tasks according to company procedures. Requalification must include both training and evaluation (using operator procedures and equipment) similar to the process for an individual's initial qualification to verify they still possess the required KSA to properly complete a covered task.

6. A "Management of Change" program must be an established and documented whereby the operator identifies any significant changes (including, for instance, changes in

procedures or equipment) that may affect individuals' qualification(s) and communicates those changes to everyone affected by the change. The program must clearly define what constitutes a significant change (e.g. which procedures or equipment), how these changes are communicated, and whether a "stand-down" or "transition" period is necessary. For instance, significant changes (a) that the operator identifies would negatively impact the pipeline facilities if currently qualified individuals perform the related covered task(s) may require a "stand-down" period. In this instance, all individuals' qualifications to perform the specific task(s) may be rescinded. This is intended to ensure individuals do not perform a covered task until properly re-qualified with the change(s). Alternatively, a significant change (b) that the operator identifies would not negatively impact the pipeline facilities if currently qualified individuals perform related covered task(s) may require a "transition" period in which a determined interval is set during which the covered task may still be performed by currently qualified individuals but re-qualification is still necessary going forward. This is intended to allow operators to continue normal operations with currently qualified individuals while integrating the changes over a period of time.

7. The standards and expectations for operator qualification of contractors and operator employees are the same. Ideally, contractors shall use the same equipment and procedures as operator employees. In the rare exception when a contractor with specialized skills uses different equipment and/or procedures than the operator, the contractor's OQ training procedures should reflect and address any differences from the operator's procedures and equipment. Nonetheless, the specialized contractor's equipment and procedures must also meet the operator's standard requirements included

in the operator's equipment qualification and operator procedure qualification. The review and the acceptance of these procedures and equipment by the operator must be documented.[28] For specialized procedures, the operator may adopt the contractor procedures if those procedures have been reviewed by the operator and found to be acceptable under 16 NYCRR Part 255, and, where applicable, that review has been documented. An example would be underwater repairs, whereby a contractor performs a test repair demonstrating that the equipment and procedures meet regulatory and industry standards for that repair. Qualifications of contractor and operator employees shall only be issued by the operator after an evaluation of KSAs has occurred.

8. Records shall be kept on each individual qualified, how qualification was determined, and who made the final determination. Records must be maintained concerning any instances where non-qualified individuals performed work on the pipeline while being directed and observed by a qualified individual. This documentation process can be used to document on-the-job training. Such records must be easily accessible by NYSDPS Staff performing audits of covered tasks.
9. When using Mutual Aid (MA) for emergency response, etc., operators must review and retain records of the all individual(s) intending to perform covered tasks and the individuals intending to direct and observe any non-qualified individual(s) performing each covered task. These individuals would need to be qualified under the plan of the operator seeking MA or that operator must review the program(s) the MA was qualified under and document that it meets or exceeds the requesting operator's plan. Span of control limitations must be maintained.

[28] 16 NYCRR §255.603(b) requires revisions to operator procedures to be submitted to the Department at least 30 days prior to the effective date.

10. Identification of the covered tasks that an individual is qualified to perform, and the expiration date of that qualification, shall be readily accessible and easily verified by the individual, the supervisor, the operator, and the regulatory inspector. It is essential that operators, contractors, and regulatory staff be able to verify that the person performing the covered task is qualified or the person directing and observing that individual is qualified. While the OQ rule allows contractors to 'qualify' individuals performing covered tasks, operators must review each contractor's program and be sure that it meets (or exceeds) the operator's OQ plan. This review must be documented.
11. Finally, the written qualification program shall include a training and evaluation process for personnel performing engineering tasks so that functions such as the development of design and engineering modifications to the pipeline system are performed and/or reviewed by qualified personnel.

APPENDIX B

NYSDPS Identified Best Practices

These Best Practices were presented at the 2017 OQ technical conference and have been revised based upon input received from industry personnel. While some of these Best Practices may be inappropriate for certain operators and pipeline systems, Staff recommends that each operator be required to incorporate each Best Practice into its Operator Qualification Program or documents reasons why any Best Practice should not apply to its system. These Best Practices have been broken down into related categories and are as follows:

Qualification (General)

1. No person shall perform a covered task on a pipeline system unless they are properly qualified. Qualified as it applies to an individual performing a covered task, means that an individual has been evaluated and can:
    a. Perform assigned covered tasks.
    b. Recognize and react to abnormal operating conditions that may be encountered while performing a covered task.
    c. 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.
    d. 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)

e. Meet the physical abilities required to perform the specific covered task (e.g., color vision or hearing).

Testing, Training, Evaluation

Training

1. Operators shall provide training to ensure that any individual performing a covered task has the necessary knowledge, skills, and abilities to perform the task in a manner that ensures the safety and integrity of the operator's pipeline facilities.
2. The training of all persons qualified under the OQ Plan shall be verified and documented.
3. Contractors must receive the same training as operator personnel.
4. Training on the operator's procedures and equipment must be included in the OQ Plan. This training must be completed prior to evaluation and the evaluation must include operator procedures and equipment.
5. Specific triggers for additional training must be clearly defined (training required after failed evaluations, unacceptable performance, etc.). This training must be completed prior to re-evaluation.
6. Additional training shall be required if an individual does not pass any evaluation (written or practical).
7. In no case shall an untrained individual perform covered tasks involving critical functions (pressure regulation, etc.), even if directed and observed by a qualified individual.
8. The operator shall provide supplemental training for the individual when procedures and specifications are changed for the covered task.

Evaluation

1. Each evaluation for a covered task must determine whether the individual can perform the assigned covered task correctly and recognize and react to abnormal operating conditions. Each evaluation must include a written (or oral) examination and a practical evaluation (observation during performance on the job or during simulation(s).
2. Evaluation methods and results must be documented for each covered task for each qualified person. Pass/Fail results alone are not acceptable.
3. Deficiencies/recommendations from effectiveness evaluations shall be incorporated into the plan as soon as practical. The OQ Plan shall clearly define this timeframe.
4. The Plan shall include provisions to evaluate an individual if there is reason to believe the individual is no longer qualified to perform a covered task. This will be based on covered task performance contributing to an incident or accident and other factors affecting the proper performance/completion of covered tasks. These other factors shall include observation of a task being improperly completed or documentation of incorrect task completion (record illustrates improper completion).
5. Re-assessment and re-qualification intervals for each covered task shall be clearly documented and supported.
6. The Plan must include a documented process for ensuring that only operator qualified individuals, or individuals being directed and observed by operator qualified individuals, are performing covered tasks. If span of control is greater than 1:1 for any covered task, the plan must include documented justification (e.g., a review of OQ for each job location, a qualified inspector is assigned for each working location).

7. The Plan must capture all qualifications of an individual in one uniform, easily accessible system that allows for near-instantaneous verification of qualifications in the field at any time.
8. Evaluation (written or practical) shall not occur until after a minimum established timeframe once training has been completed. For example, if training is given on one day, the Plan must state that evaluation cannot occur for XX days after the training is completed. This period of time shall be documented and justified and cannot be less than 48 hours after training is completed.
9. Re-evaluation (written or practical) shall not occur until after a minimum established timeframe following any failed evaluation for the same covered task.
10. Qualification shall not be determined by written evaluations alone.
11. Evaluation intervals for covered tasks involving critical functions (pressure regulation, etc.) shall occur at least annually. If, during the evaluation, any step is not performed properly, or any critical question is not answered properly, evaluation shall immediately stop, and the person(s) shall be retrained and re-evaluated at a later date and shall not attempt to complete the task until retrained.
12. Unless impractical because of function, practical evaluations shall not exceed one-on-one (one person evaluated at a time).
13. Observation of on-the-job performance shall not be used as a sole method of evaluation. However, when on-the-job performance is used to complete an individual's competency for a covered task, the operator qualification procedure must define the measures used to determine successful completion of the on-the-job performance evaluation.

14. The operator shall establish the requirements to be an Evaluator, including the necessary training.
15. A training and evaluation process for personnel performing engineering tasks shall be added to the OQ program so that functions such as the development of design and engineering modifications to the pipeline system are performed and reviewed by qualified personnel.

Written Evaluations

1. The security measures taken of the evaluation process from test/test question development to the conclusion of actual testing must be clearly defined in the OQ program.
2. All written evaluations must take place at either the operator's facility or a third-party testing center. In no case shall evaluation take place at a contractor's location unless administered and proctored by the operator; this shall occur only for contractors with specialized knowledge.
3. All written evaluation equipment (computers, I-pads, etc.) must have software that disables 'print,' 'print screen,' and 'screen capture' functions and prohibits users from being able to access features which would allow them to copy, print, or access other applications or visit other websites during an online exam.
4. At least two proctors will be required for all test sessions. One proctor will administer the exams and monitor the classroom; the second proctor will monitor all computer screens.

5. The ratio of the number of persons allowed to take a written evaluation at a given time to the required number of proctors needs must be clearly defined. The maximum size (that is, number of persons) per test session must be defined and justified.
6. Proctors shall be properly trained and will ensure that no unpermitted items are used or accessed during the tests (cellphones, electronic devices, notes, etc.).
7. Proctor passwords must be deactivated at the conclusion of every test session.
8. Ultimately, all written evaluations will be made up of questions from a larger pool of questions; each test created shall include the ability to vary the order of the correct answers and order of questions.
9. Test rooms shall be configured to ensure all computer monitors are visible from one location at all times. If necessary, operators shall reduce the number of personnel that may be tested at a given time to ensure all computer screens are visible to the proctors.
10. Written evaluations must include questions that cover the operator's procedures and equipment for which the written evaluation is given.
11. All contractors must take the same written evaluation as operator personnel. This would be in addition to any generic operator qualification tests taken prior to working for the operator.
12. Each written evaluation shall include questions on Abnormal Operating Conditions specific to the individual covered tasks.
13. Written evaluations shall include critical questions related to the covered task(s), including, but not limited to, steps that, if performed incorrectly, could lead to an AOC. All such questions must be answered correctly.
14. Written evaluation failure shall necessitate additional training/retraining.

15. Stand-down intervals following any written evaluation failure must be clearly defined.
16. Reasonable accommodations shall be offered to persons that have trouble taking written evaluations. These accommodations shall include offering an option to use oral examination and upon request to do so.
17. All non-written evaluations shall be videotaped with full video and audio capabilities functioning and shall be maintained 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 a period of five years.

Practical Evaluations

1. Practical evaluation (observation during performance on the job or simulation) is required for all covered tasks. If there is a covered task that cannot be evaluated using practical evaluation, the plan must clearly identify the task(s) and the reasons why practical evaluation is not feasible.
2. Practical evaluations shall be administered on a one-to-one basis (one evaluator and one person being evaluated) unless the specific covered task cannot be completed by only one person.
3. If an OQ Plan from another entity/contractor is accepted by the operator, the review and acceptance must be clearly documented (e.g., who approved the plan, when it was approved, etc.) to demonstrate that it meets or exceeds the requirements of the operator's OQ Plan and conforms to the procedures and equipment used by the operator.
4. The operator would develop and document a matrix that cross references the operator's OQ task list with the task list in each Contractor's OQ plan. If the operator identifies any gaps between the two plans, the operator must address and rectify the differences prior to

performing any covered task. For example, under specific circumstances, Operator XYZ requires that three covered tasks be performed: #20A (investigating inside leaks), #20B (investigating outside leaks), and #20C (classifying leaks), while the Contractor only requires covered task #20 (leak investigation). Prior to any work being performed, clear documentation should exist explaining either that the contractor's task #20 is equivalent to the operator's task #20A, #20B, and #20C, and why the operator has 3 covered tasks, when the contractor has only one; the differences should be rectified.

5. Operators must have a written and practical evaluation method to assess any contractor individual who is qualified under another accepted OQ Plan to evaluate and demonstrate knowledge, skill, and ability to perform covered tasks with the given operator (operator procedures and equipment).
6. Evaluations shall not be "group evaluations." The objective is to determine the competency of the individual, not the group.
7. Guidance shall not be given during the evaluation. Operator procedures can be referenced by the person being evaluated. However, no other documents shall be allowed.
8. Any oral examination questions given during practical evaluations shall be documented, along with the answers given.

Program Effectiveness

1. 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 KSAs to perform covered tasks. An operator must conduct the program effectiveness review once each calendar year not to exceed 15 months.

2. 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.
3. 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:
    a. Keep a record of the 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:
        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;
        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.

Interested parties are invited to submit written comments on these issues. All filings should refer to Case 14-G-0212 and Case 17-G-0318 and be submitted to the Secretary by e-filing, through the Department of Public Service's Document and Matter Management System (DMM) (To register with DMM, go to http://www.dps.ny.gov/e-file/registration.html), or by e-mail to the Secretary at secretary@dps.ny.gov. If unable to file electronically, commenters may make submissions by U.S. Mail or by hand delivery to the Hon. Kathleen H. Burgess, Secretary, Three Empire Plaza, Albany, New York 12223-1350.