

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 21-04-A

September 21, 2021

Investigation of the Department of Public Utilities, on its own motion, instituting a rulemaking pursuant to G.L. c. 164, § 148; G.L. c. 30A, § 2; and 220 CMR 2.00, to establish requirements for Use of Professional Engineers for Gas Utility Work, 220 CMR 105.00.

ORDER ADOPTING FINAL REGULATIONS

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I. INTRODUCTION

On December 31, 2018, Governor Baker signed as an emergency law Chapter 339 of the Acts of 2018, An Act Further Providing for the Safety of the Commonwealth's Natural Gas Infrastructure ("Act"). Section 2 of the Act amended G.L. c. 164 by adding Section 148, which requires the stamp of a professional engineer ("PE Stamp") on "any engineering plans or specifications for engineering work or services that could pose a material risk to public safety," as determined by the Department of Public Utilities ("Department"). Section 2 of the Act further states that the Department "may promulgate regulations as necessary to implement this section and applicable provisions of" G.L. c. 112, § 81R, subsection (l), which pertains to the registration of professional engineers ("PEs").

On February 18, 2021, pursuant to G.L. c. 164, § 148, G.L. c. 30A, § 2 and 220 CMR 2.00, the Department of Public Utilities ("Department") opened this rulemaking for the purpose of adopting uniform requirements regarding the use of PEs by local gas distribution companies, pursuant to G.L. c. 164, § 148. The regulations are to be promulgated as 220 CMR 105.00: Use of Professional Engineers for Gas Utility Work. The Department issued the Proposed Regulations and the Guidelines for Use of Professional Engineers for Gas Utility Work ("Proposed Guidelines") as appendices to the Order opening this proceeding.

With this Order, the Department issues the Final Regulations¹ and Final Guidelines.² As the Department and stakeholders develop their understanding of how best to apply PE requirements, the Department, with stakeholder input, will be able to amend the Guidelines as necessary while the Final Regulations promulgated with this Order remain in effect.

II. PROCEDURAL BACKGROUND

Pursuant to the requirements of G.L. c. 30A, § 2, notice of this rulemaking was published in the Massachusetts Register on March 5, 2021, and in The Boston Globe and the Boston Herald on March 10, 2021. On April 8, 2021, the Department held a public hearing to receive comments. The Department accepted initial written comments through April 1, 2021, and reply comments through April 14, 2021.

The Department received initial comments from the following local distribution companies (“LDCs”) filing jointly: NSTAR Gas Company and Eversource Gas Company of Massachusetts each d/b/a Eversource Energy; Boston Gas Company and former Colonial Gas Company d/b/a National Grid; Liberty Utilities (New England Natural Gas Company) Corp. d/b/a Liberty; The Berkshire Gas Company; and Fitchburg Gas and Electric Light Company d/b/a Unitil. The Department also received initial written comments from the Office of the Attorney General of the Commonwealth of Massachusetts (“Attorney General”), American Council of Engineering

¹ Attached hereto as Appendix A is a copy of the Final Regulations marked to show the changes made to the Proposed Regulations. Attached hereto as Appendix B is a clean copy of the Final Regulations.

² Attached hereto as Appendix C is a copy of Final Guidelines marked to show the changes made to the Proposed Guidelines. Attached hereto as Appendix D is a clean copy of the Final Guidelines.

Companies of Massachusetts (“ACEC/MA”), and Massachusetts Society of Professional Engineers (“MSPE”).

The following people spoke at the public hearing on April 8, 2021: Attorney Brendan Vaughan on behalf of the LDCs; and Jose Costa on behalf of Northeast Gas Association (“NGA”). In addition, the Department received reply comments from the LDCs, the Attorney General, and NGA.

The Secretary of State of the Commonwealth of Massachusetts (“Secretary of State”) provided the Department with two stylistic edits and one formatting edit to the Final Regulations. The Secretary of State added regulation titles for 250 CMR (referenced in 220 CMR 105.01) and 250 CMR 5.00 (referenced in 220 CMR 105.04(2)). In addition, the Secretary of State removed the first line indentation in 220 CMR 105.02. We incorporate the Secretary of State’s edits in the Final Regulations.

III. PROPOSED PROFESSIONAL ENGINEER REGULATIONS AND GUIDELINES

Pursuant to the Proposed Regulations, each Gas Company shall require the review and stamp of a PE with “Sufficient Knowledge” on any engineering plans or specifications that could pose a material risk to public safety, as determined by the Department pursuant to G.L. c. 112, § 81R clause (1). Proposed Regulations 220 CMR 105.04(1). Proposed Regulations 220 CMR 105.02 defines “Sufficient Knowledge” as “An understanding of natural gas facilities in general and of the pipeline design, construction, operations, maintenance, standards, and procedures of a particular Gas Company.” In addition, the regulations provide that the PE’s review and use of their PE Stamp must comply with the professional and ethical obligations set forth in 250 CMR 5.00, which governs the professional practice of all PEs licensed in the Commonwealth.

Proposed Regulations 220 CMR 105.04(2). The regulations further provide that each Gas Company shall maintain the plans and specifications that bear a PE Stamp and shall keep these documents readily accessible upon request by the Department and in accordance with the document retention timelines set forth in 49 C.F.R. Part 192, the federal pipeline safety regulation. Proposed Regulations 220 CMR 105.04(3). Finally, the regulations require each Gas Company to incorporate procedures for all requirements of 220 CMR 105.00 into its written procedures under 49 C.F.R. Part 192 as applicable, to ensure compliance with G.L. c. 164, §§ 105A, 148 and 220 CMR 105.00. Proposed Regulations 220 CMR 105.05.

The Proposed Guidelines delineate the specific types of engineering work or services that the Department finds could pose a material risk to public safety and, thus, require a PE Stamp. In particular, the Proposed Guidelines provide a detailed definition of “Complex Projects” and specify that any gas pipeline engineering plans or specifications for Complex Projects must be produced by or under the direct charge and supervision of a PE with Sufficient Knowledge, as defined in 220 CMR 105.00. Proposed Guidelines §§ I.B, II.A. Further, the Proposed Guidelines provide that a PE must ensure, in coordination with Gas Company personnel, that the plans or specifications conform to all applicable pipeline safety laws, regulations, and standards and procedures of the Gas Company. Proposed Guidelines § II.A. The PE and Gas Company must also ensure that the plans or specifications present a proper sequencing of steps to be performed. Proposed Guidelines § II.A. The Proposed Guidelines also provide the following: (1) that a PE Stamp may not be used on standardized or generic plans or specifications; (2) that all plans and specifications with a PE Stamp must be part of a site-specific project package and applicable to the specific project requirements; (3) that prior to commencing work on a complex

project, the Gas Company must ensure that all plans or specifications bearing the PE Stamp are accurate, complete, follow proper sequencing of steps to be performed, and accord with all applicable standards and procedures; and (4) that a PE Stamp is not required during an Emergency, as defined in 220 CMR 105.00, but is required after the Emergency has been brought to conclusion and gas service restored. Proposed Guidelines § II.B, C, D.

IV. FINAL CHANGES TO PROPOSED REGULATIONS AND GUIDELINES

A. Proposed Regulations 220 CMR § 105.02: Definitions

1. Plans or Specifications

a. Comments

ACEC/MA argues that requiring a PE Stamp “on any engineering plans or specifications” is a very broad categorization of documents that might include engineering work product not usually stamped by a licensed PE in direct charge (e.g., preliminary engineering documents, not issued for construction documents, or engineering calculations) (ACEC/MA Comments at 2). To address this, ACEC/MA proposes replacing “plans or specifications” throughout the Final Regulations and Guidelines with “Instruments of Service” (ACEC/MA Comments at 5-6) and proposes the following definition for this new term:

The final drawings, plans, specifications, plats, reports, and project specific procedures prepared by, or under the Direct Charge and Supervision of, a registered Professional Engineer. Instruments of Service do not include interim drawings, plans, specifications, plats and reports or drawings, plans, specifications, plats and reports that are marked “preliminary,” “not for construction,” “for plan check only,” or “for review only” (ACEC/MA Comments at 2).

Without addressing ACEC/MA’s proposal, the LDCs offer the following definition for “Plans”: “Engineering drawings used by a Professional Engineer to approve the piping, fittings,

and components required to contain the gas at the system Maximum Allowable Operating Pressure” (“MAOP”) (LDC Comments at 1).

b. Analysis and Findings

On balance, the Department finds the LDCs’ definition of “Plans” too restrictive because it would require drawings to have a PE Stamp only if they are used to contain the gas at the system MAOP. This would undermine the Department’s approach to delineate the specific definitions of “Complex Projects” requiring a PE Stamp in Proposed Guidelines § II.B. The Department is also disinclined to require MAOP consideration for every Complex Project as defined. The Department prefers ACEC/MA’s definition of “Instruments of Service” as it is appropriate to the Department’s overall approach and thorough without being restrictive. Thus, the Department adds ACEC/MA’s definition of “Instruments of Service” to Final Regulations 220 CMR 105.02 and replaces the term “plans and specifications” with this term throughout the Final Regulations and Guidelines.

2. Emergency

The LDCs seek clarification on the meaning of the term “immediate action” as included in the definition of “Emergency” (LDC Comments at 1). The LDCs note that this clarification is important because certain work could present a “clear and imminent danger” yet take multiple months of work to resolve, such as encroachments (LDC Comments at 1 & n.2). Additionally, the LDCs recommend that the last clause of this definition, clarifying that a “loss of business or profits” is not the basis for an Emergency, be struck because these terms are not defined, are open to interpretation, and are unclear as to applicability (LDC Comments at 1). The LDCs further assert that the potential loss of business or profits will be the subject for investigation and

resolution in future proceedings, and so the Department should resolve the ambiguity found here in its Proposed Regulations by eliminating the clause outright (LDC Comments at 1).

The Department declines to make any changes to the definition of “Emergency” as this definition is consistent with the definition of “Emergency” in 220 CMR 99.00: Procedures for the Determination and Enforcement of Violations of Safety Codes Pertaining to Damage Prevention. The language “but not including a loss of business or profits” is necessary to distinguish that monetary or business losses do not present the type of unexpected occurrence requiring immediate action. Final Regulations 220 CMR 105.02. We further clarify that the Emergency ends when the immediate danger has been addressed; any additional work requiring months to resolve thereafter does not fall within the definition of “Emergency.”

B. Proposed Regulations 220 CMR 105.03: Applications for Exceptions

1. Safety Standard

a. Comments

The Attorney General recommends that the Department adopt a requirement that any exception request demonstrate a level of safety equal to or greater than that required by the Proposed Regulations, rather than merely showing that the exception sought does not detract from the safety objectives of 220 CMR. 105.00 (Attorney General Comments at 3). The Attorney General suggests that the Department adopt the language used in 220 CMR 114.03, the exceptions provision in the Uniform Natural Gas Leaks Classification regulation, which requires that any request for an exception shall demonstrate “why the exception sought provides an equal or greater level of safety than the safety objective prescribed in [the relevant statute]” (Attorney General Comments at 3).

The LDCS argue that the Attorney General’s proposal would be inconsistent with their best practices and the Department’s ongoing compliance initiatives (LDC Reply Comments at 4). The LDCs maintain that the Department’s current requirements are comprehensive and appropriately balance the Department’s safety goals (LDC Reply Comments at 4). The LDCs state that they are not aware of how they could demonstrate an “equal or greater level of” safety and what documentation would be required to support such a showing, nor are they clear on why a heightened safety standard would be warranted when they are already seeking these exemptions to operate their systems in a safe and reliable manner and in accordance with the Department’s authority and regulations (LDC Reply Comments at 4).

b. Analysis and Findings

The Department declines to change the language in this provision to “provides a level of safety equal to or greater than the safety level prescribed,” as recommended by the Attorney General. We find that the current language is equivalent to the Attorney General’s suggestion because an exception that does not detract from the regulation’s safety objectives must be at least equal to the prescribed safety level. Moreover, except for the exception provision in 220 CMR 114.03, all of the Department’s pipeline safety regulations use this same standard.

2. Specific Exceptions

a. Comments

The LDCs argue that the current description of the exception process does not specify whether the exception must relate to a specific incident or occurrence, or alternatively, whether an LDC could propose an exemption from a type of work discussed in the context of the Guidelines (LDC Comments at 2). The LDCs maintain that they should be permitted to seek

exemptions for types of work, as necessary and approved by the Department, based on their unique circumstances and the compositions of their respective distribution systems (LDC Comments at 2).

The Attorney General recommends that the Department not permit LDCs to propose an exemption from a type of work as opposed to a particular work assignment, occurrence, or project (Attorney General Reply Comments at 1). The Attorney General offers that if a particular category of work results in repetitive requests for exceptions or some other circumstances that would lead an LDC to request an exception for a category of work, the Department can take this concern into account when evaluating future amendments to the Guidelines with input from stakeholders (Attorney General Reply Comments at 2).

b. Analysis and Findings

The Department finds that an exception must relate to a specific incident or occurrence and does not accept the LDCs' proposal that they be allowed to seek exceptions for types of work. As the Attorney General suggests, the Department can take into consideration prior exception requests when evaluating potential amendments to the Guidelines.

3. Making Documentation Publicly Available

a. Comments

The Attorney General recommends that the Department make the documentation and decisions associated with exception requests publicly available on the Department's website, similar to the state waiver information posted on the U.S. DOT Pipeline and Hazardous Materials Safety Administration's ("PHMSA") website (Attorney General Comments at 2). The Attorney General acknowledges that the Department declined to adopt this recommendation in the recent

multi-regulation rulemaking, D.P.U. 20-70-A at 8–9 (2020), but argues that these circumstances are different because the Department has stated that it anticipates amending the Guidelines with stakeholder input to ensure that the PE requirements adequately address safety concerns and industry realities (Attorney General Comments at 3, citing D.P.U. 21-04, at 3). The Attorney General claims that it is very likely that the exception documentation and decisions will provide significant insight into the “safety concerns and industry realities” associated with the Regulations and Guidelines, promote transparency into the practical application of the Regulations, and provide important information that can serve stakeholders in evaluating and recommending amendments to the Guidelines (Attorney General Comments at 3). Further, to the extent that confidential protection for the information is necessary, the Attorney General states that the petitioner can follow the usual course of requesting confidential treatment from the Department, and the Department may redact any information warranting confidential protection. (Attorney General Comments at 3).

The LDCs disagree with making exception requests and associated documentation publicly available (LDC Reply Comments at 2). The LDCs note that the Attorney General’s reference to changing the Guidelines over time does not materially distinguish this request from the Attorney General’s request in D.P.U. 20-70, which the Department rejected (LDC Reply Comments at 2). The LDCs assert that an exception does not serve to inform how amendments to the Guidelines may work but, rather, serves to provide the Department with site-specific information on LDC projects (LDC Reply Comments at 2). The LDCs state that if the Department determines that it needs more information to review the LDCs’ practices in the future, the Department can seek any input and feedback it deems relevant, including the opportunity for

LDC comment as in this proceeding, and amend the Guidelines as necessary (LDC Reply Comments at 2-3). The LDCs also contend that the Attorney General's proposed process would be administratively burdensome for the Department, as new docketed matters would need to be developed and the Department's website updated for each exception request, and that this process would increase the risk of disclosing critical energy infrastructure information (LDC Reply Comments at 3). To the extent that the Department deviates from its determination in D.P.U. 20-70, the LDCs suggest that the Department publicly post only its letters or decisions approving exceptions, rather than publishing the underlying documentation, consistent with the Department's practice for posting notices of probable violation (LDC Reply Comments at 3).

b. Analysis and Findings

The Department agrees with the LDCs that this situation is not sufficiently different from that of D.P.U. 20-70 and thus declines to post exception-related documentation on our website for the same reasons that we found such postings unnecessary in D.P.U. 20-70-A:

[W]hereas waiver approvals require Department consideration and notice to PHMSA, the Department has delegated to the Pipeline Safety Division the authority to review and approve exceptions (subject to appeal to the Department), relying on the Pipeline Safety Division's technical knowledge and experience in ensuring pipeline safety.

The purpose of the application documentation is to provide the Department with sufficient information to issue a decision on the requested exception, not to provide evidence for an anticipated future proceeding to amend the Guidelines. Moreover, if exception-related documentation becomes relevant to a future proceeding, the Department can ensure that such documentation is made available to stakeholders as appropriate.

C. Proposed Regulations 220 CMR 105.04(1): Use of Professional Engineers

In addition to changing “engineering plans or specifications” to “Instruments of Service” as discussed above, ACEC/MA proposes the following changes to Proposed Regulations 220 CMR 105.04(1):

Pursuant to M.G.L. c. 164, § 148, each Gas Company shall require the ~~review and~~ stamp of a Professional Engineer with Sufficient Knowledge who is in responsible charge

The Department agrees with striking “review and” as a Gas Company is responsible for requiring the PE Stamp but not the PE review; the review itself is the PE’s responsibility as noted in Final Regulations 220 CMR 105.04(2): “The Professional Engineer’s review and use of their Professional Engineer’s stamp must comply with the professional and ethical obligations set forth in 250 CMR 5.00.” The Department also agrees with ACEC/MA and adds specification that the PE should be “the engineer of record” (rather than “in responsible charge”). Final Regulations 220 CMR 105.04(1).

D. Proposed Regulations 220 CMR 105.04(3): Recordkeeping

1. Comments

The LDCs recommend amending the recordkeeping requirement to clarify that official records maintained at an LDC’s office may be: (1) maintained electronically and (2) stored off-site at document storage facilities (LDC Comments at 2). The LDCs argue that these changes are necessary to deal with the sheer volume of records called for by the Proposed Regulations and Guidelines and to address the practical reality that most records are stored electronically and are readily accessible in that format (LDC Comments at 2). The LDCs also request clarification that only the documents containing a PE Stamp must be stored for the useful

life of the pipe (LDC Comments at 2). The LDCs argue that the standard business practice is to store and archive the as-built construction records, but storing all design drawings would likely require new document management processes and systems, and would not support the Department's aims of having access to the stamped documents (LDC Comments at 2).

The Attorney General opposes the LDCs' attempt to limit the scope of documents to be retained (Attorney General Reply Comments at 2). According to the Attorney General, the Department should require the LDCs to retain the PE-stamped documents along with any documentation upon which the PE relied in stamping the documents, to provide proper context and insight (Attorney General Reply Comments at 2).

2. Analysis and Findings

The Department agrees with the LDCs that they may maintain records electronically or at their off-site storage locations. As for retaining supporting documentation, the Department amends this provision to clarify that supporting documentation must also be retained to ensure that the PE-stamped documents are understood in their proper context. While the LDCs may need to adopt new document management processes and systems to allow for this storage, the Department is confident that the LDCs will find ways to manage this. The Department also clarifies that the documents should be retained for at least five years after the date of abandonment. Final Regulations 220 CMR 105.04(3).

E. Enforceability of Guidelines

ACEC/MA raises a concern about the consistency and predictability of the Guidelines and questions whether they are recommendations or enforceable standards (ACEC/MA Comments at 3). In the interest of consistency and predictable enforcement, ACEC/MA suggests changing

the title from “Guidelines,” which implies articulated recommendations, to “Requirements,” signifying a regulation or an enforceable standard, and making similar changes to Proposed Guidelines § I.A to avoid the use of “Guidelines” (ACEC/MA Comments at 3-4).

The Department intends the Final Guidelines to be fully enforceable as a component of the Final Regulations, as indicated by the references in Final Regulations 220 CMR 105.01(1) (“Further, 220 CMR 105.00 may be supplemented with guidelines from the Department of Public Utilities, Commonwealth of Massachusetts”) and Final Regulations 220 CMR 105.04(1) (requiring PE Stamp on any engineering work or services that could pose a material risk to public safety “as determined by the Department”). The Department has previously used the term “Guidelines” in conjunction with 220 CMR 115.00: Uniform Reporting of Lost and Unaccounted-for Gas and in the Service Quality standards, adopted in D.P.U. 12-120-D (2015). We see no reason to depart from our use of this term here.

F. Proposed Guidelines § I.B: Definitions

1. Abandonment

The LDCs recommend adding language to the definition of “Abandonment” so that purging is required “except when the volume of gas is so small there is no potential hazard” (LDC Comments at 3). The LDCs state that this change aligns with 49 C.F.R. § 192.727(b) and 220 CMR 107.00: Abandonment of Gas Service Lines and Leakage Survey Procedures and with how the purging process works in the field (LDC Comments at 3).

The Department agrees with this recommendation as this language is consistent with the definition of “Abandonment” in 220 CMR 107.02.

2. Complex Projects

a. Introduction

Any engineering work or services that could pose a material risk to public safety and requires a job-specific design plan, such as the following:

i. Comments

MSPE states that there may be instances where a PE is not needed but urges caution in defining too broadly certain types of work that may be excluded from the PE requirements as routine, low-risk, non-complex work (MSPE Comments at 1). MSPE notes that G.L. c. 164, § 148 makes no reference to a project's scope or complexity, only to the potential for public harm (MSPE Comments at 1). MSPE encourages the Department to consider not just the scope of the individual project but also whether the project is part of a larger, more complex system and whether that larger scope increases material risk to the public (MSPE Comments at 2).

The LDCs recommend amending the above-noted language to read, "The following are considered Complex Projects for the purposes of this regulation," or alternatively, note that the LDCs have the discretion to determine what additional engineering work or services over and above the Guidelines should be PE Stamped (LDC Comments at 3-4). The LDCs note the possibility that projects not specifically listed in the definition of Complex Projects would be considered Complex Projects by a particular LDC based on its engineering analysis and the specifics of its distribution system (LDC Comments at 3).

ii. Analysis and Findings

The Department agrees with MSPE that the determinations of Complex Project should include whether the project is part of a larger, more complex system and whether that larger scope increases material risk to the public. The Department further agrees that the LDCs have

the discretion to determine what additional engineering work or services over and above the Guidelines should be PE Stamped, and replaces “such as” with “including but not limited to” for further clarity.

b. Complex Projects, Item 1

Installation that creates or reconfigures district pressure regulator stations or gate/take stations.

The LDCs suggest that this definition requires further clarification because gate stations and district regulators have summer and winter set-points that often require routine changes for winter and summer operations, and these seasonal changes can result in a reduction or increase in the volumetric capacity of regulators (LDC Comments at 4). In addition, the LDCs note that contingency plans for low-inlet pressure at gate stations may require the removal of cages to increase flow rates into a company’s distribution system (LDC Comments at 4). To address these concerns, the LDCs recommend that this definition be adjusted to encompass changes in volumetric capacity that affect MAOP (LDC Comments at 4). The LDCs also recommend adding the following language to the definition of “Reconfigure,” specific to regulator stations: “Normal operations and maintenance activities related to regulators and stations such as replacing individual components (for example, orifices, springs, filters/strainers, valves, etc.) are excluded from requiring a PE Stamp” (LDC Comments at 4 n.4).

The Department agrees with the LDCs that the use of “reconfigure” in Item 1 should not apply to seasonal changes. The Department further adds the language “(e.g., orifices, springs, filters/strainers, valves)” to the definition for further clarification. The Department declines to incorporate the LDCs’ other suggested language changes.

c. Complex Projects, Item 2

System analysis and subsequent adjustment of system operating pressures at district regulator stations or gate/take stations when the adjustment increases or decreases the MAOP or MOP of the system.

i. Comments

ACEC/MA suggests removing this item entirely (ACEC/MA Comments at 4).

ACEC/MA contends that this definition is associated with the operations and not the design of a gas utility's system, as defined as an Instrument for Service, and this requirement may hinder the timely and safe operations of the system (ACEC/MA Comments at 4).

The LDCs oppose ACEC/MA's recommendation to remove this item and instead recommend modifying it to require a PE Stamp when "subsequent adjustment of system operating pressures at distribution regulator stations or gate/take stations increases or decreases the MAOP or MOP of the system" (LDC Comments at 5; LDC Reply Comments at 4-5). The LDCs state that this definition removes "system analysis" which is not appropriate for a PE Stamp and should also serve to address ACEC/MA's concern (LDC Comments at 5; LDC Reply Comments at 5). The LDCs recommend that the common operator practice of making pressure adjustments less than the system MAOP or MOP should not require a PE Stamp, since they are routine in nature and reflective of the safe and reliable operational realities of each system (LDC Comments at 5; LDC Reply Comments at 5).

ii. Analysis and Findings

Rather than deleting this provision outright, the Department adopts the LDCs' recommendation and clarifies this provision by adding "when the adjustment increases or decreases the MAOP or MOP of the system" to this item. The Department also adds "as defined

in 49 CFR § 192.3” to the definition of “MAOP” and adds the following definition for “MOP”:
“Maximum actual operating pressure as defined in 49 CFR § 192.3.”

d. Complex Projects, Item 5

Installation, replacement, or abandonment of distribution mains or services that:

The LDCs argue that the term “services” should be removed from this definition of “Complex Projects” as the scenarios delineated therein (except for Item 5.e, discussed below) are not typically applicable to services (LDC Comments at 5 & n.5). The LDCs argue that the inclusion of services in this definition would create operational confusion as to its application, and that the definition should highlight only those items that would be actually realized in a Complex Project (LDC Comments at 5).

The Department disagrees with the LDCs that the items under Item 5 -- particularly as amended in the Final Guidelines -- apply only to mains and therefore declines to remove “services” from this definition.

e. Complex Projects, Item 5.a

Involves a single tie-in 12" or greater;

The LDCs request that the Department clarify whether the 12" requirement in Item 5.a refers to the size of the tap or branch or to the size of the main (LDC Comments at 5-6). The LDCs suggest that the definition should apply to 12" taps or branches as opposed to every tap or branch off of a 12" main (LDC Comments at 6).

The Department clarifies that the “12" or greater” requirement applies to the tie-in and not to the main by adding the following language: “Involves a single tie-in **that is 12" or greater.**”

f. Complex Projects, Item 5.d

Involves distribution pipelines operating at a pressure greater than 200 psig;

The LDCs recommend removing this item entirely because it is encompassed within Item 8 (“Installation or abandonment of mains or service lines connecting to a high-pressure distribution main with an MAOP of 200 psig or greater, including farm taps”), with the addition only of Farm Taps (LDC Comments at 7).

The Department acknowledges some overlap between Items 5.d and 8. To correct this, the Department deletes Item 8, maintains Item 5.d, and adds a new Item 5.e: “Involves connecting to a high-pressure distribution main with an MAOP of 200 psig or greater, including Farm Taps.”

g. Complex Projects, Item 5.e

Crosses any road of two or more lanes;

The LDCs argue that the inclusion of projects crossing two-lane roads would significantly increase the number of projects requiring a PE Stamp without concomitant benefits to safety, as most roads in the Commonwealth are considered “two-lane” (LDC Comments at 6). The LDCs further argue that this requirement would provide no material benefit nor assess any significant difference in risk between a long-side and short-side service install because extending the length of a service by the several feet difference between a short-side and long-side service does not render it complex (LDC Comments at 6). According to the LDCs, this definition would have a significant impact on Gas System Enhancement Project (“GSEP”) work, as many service replacements associated with GSEP are long-side services (LDC Comments at 6). The LDCs propose the following language instead: “Crosses any major thoroughfare or limited-access

highway with four or more travel lanes. However, crossings of major thoroughfares with the right-of-way of a normal road underpass and services are excluded from this requirement” (LDC Comments at 6-7).

After considering the LDCs’ proposed change to this item, the Department has determined that a project crossing a road does not by itself signify a Complex Project requiring a PE Stamp. Thus, we have eliminated this provision.

h. Complex Projects, Item 5.g

Uses trenchless technology for pipe 4" or greater.

The LDCs recommend that this definition be revised to provide for a PE Stamp when the design uses trenchless technology for pipe greater than 4", rather than for pipe 4" or greater (LDC Comments at 7). The LDCs claim that this change more discretely accounts for the operational reality that the design and installation of 2" or 4" pipe by trenchless technology is not materially different, but that there are different design challenges when 6" pipe or greater is installed (LDC Comments at 7).

The Department agrees with the LDCs to change the nominal diameter in this provision to greater than 4".

i. Complex Projects, Item 9

Nonstandard installation of service lines 12" or greater in nominal diameter.

i. Comments

ACEC/MA suggests that the definition of “Nonstandard” in this definition is ambiguous and that the 12" or greater reference appears to be random (ACEC/MA Comments at 4).

ACEC/MA recommends changing the size requirement to 4" or greater to be more consistent

with the requirements in Item 5.g (regarding trenchless technology) and to represent larger volume customers (ACEC/MA Comments at 4).

The LDCs recommend that Item 9 be deleted, since Item 5.a already requires a PE Stamp for service lines 12" or greater (LDC Comments at 7-8). Otherwise, the LDCs oppose ACEC/MA's recommendation to change the service line size from 12" to 4" because service lines 12" or greater in nominal diameter are installed on more complex distribution projects, and thus the Guidelines strike an appropriate balance of requiring a PE Stamp on truly complex projects without requiring a PE Stamp on Plans that are "generic" or "standard" (LDC Reply Comments at 5). The LDCs also recommend striking out the use of the term "Nonstandard" because Proposed Guidelines § II.B states that standardized or generic plans cannot be PE Stamped, and the inclusion of the term "Nonstandard" will be confusing (LDC Comments at 8).

ii. Analysis and Findings

The Department declines to change the size from 12" or greater to 4" or greater. Rather, the Department agrees with the LDCs to strike this provision because Item 5.a already requires a PE Stamp for any tie-in 12" or greater.

j. Complex Projects, Item 10

Installation or reconfiguration of liquefied natural gas ("LNG") peak shaving facilities or portable LNG facilities connected to a distribution system.

ACEC/MA suggests adding "or intrastate transmission line" to the list of items that connect to liquefied natural gas ("LNG") peak shaving facilities or portable LNG facilities (ACEC/MA Comments at 4). ACEC/MA states that this addition will close a loophole that may occur for new or existing LNG facilities connected to intrastate transmission lines instead of a distribution system (ACEC/MA Comments at 4). ACEC/MA also suggests adding a similar

provision to address compressed natural gas (CNG) facilities (ACEC/MA Comments at 5).

According to ACEC/MA, it is becoming more common for gas companies to use CNG in peak-shaving and system maintenance activities or for a source of supply to customers prior to the extension of a gas main (ACEC/MA Comments at 5). ACEC/MA states that since these CNG facilities store and handle gas at high pressures (typically greater than 2,500 psig), they could pose a material risk to public safety if not properly designed (ACEC/MA Comments at 5).

The Department agrees with ACEC/MA to add “intrastate transmission line” to this item (now Item 8). The Department further adds “Large-volume User” to this list and adds the following definition for “Large-volume User”:

A user defined as a Large-volume User by a Gas Company, including but not limited to a co-generation facility, factory, power plant, or institutional facility.

The Department also agrees with ACEC/MA to add the following provision for CNG as Item 14:

Installation or reconfiguration of compressed natural gas (CNG) facilities or portable CNG facilities connected to a gas distribution system, intrastate transmission line or Large-volume User.

k. Complex Projects, Item 11

Nonstandard installation of large volume meter sets if the inlet line to the meter is 4” or greater in nominal diameter, with consideration given to site-specific complexity.

The LDCs recommend striking out the use of the term “Nonstandard” in this item because Proposed Guidelines § II.B already states that standardized or generic plans cannot be PE-stamped, making inclusion of the term “Nonstandard” here confusing (LDC Comments at 8). The LDCs also request that this section be amended to call for PE Stamps on the installation of large volume meter sets if the inlet line to the meter is greater than 4” (LDC Comments at 8).

Further, with respect to the terms “site-specific complexity” and “due consideration,” the LDCs offer that such a determination should be made by the LDCs with input from a PE reviewing and providing a PE Stamp on the project before the facility is constructed (LDC Comments at 8).

The Department agrees with the LDCs that the term “Nonstandard” should be eliminated from this item (now Item 9). The Department also agrees with the LDCs to change the required size of the large-volume meter sets from 4” or greater to greater than 4”. The Department further agrees with the LDCs that a determination of site-specific complexity should be made by an LDC with input from a professional engineer but finds no need to state this in the Guidelines. Finally, with the addition of the definition of “Large-volume User” as noted above, the Department changes “large volume meter sets” to “Large-volume User meter sets.”

1. Complex Projects, Item 12

Installation, reconfiguration, or annual review of relief valve capacity calculations per 49 C.F.R § 192.739 for district regulator and relief valve stations.

i. Comments

The LDCs contend that reviews of relief valve calculations are routine analyses that they complete annually and that do not usually result in setting changes or modifications in the field (LDC Comments at 8). Thus, the LDCs maintain that any additional review by a PE would be unnecessary where no modifications are identified through a company’s analysis (LDC Comments at 8). In recognition of the importance of PE review where such analysis could lead to setting changes or modifications in the field, the LDCs recommend revising this section to state:

“Analysis of relief valve capacity calculations per 49 CFR § 192.739 that lead to the installation or reconfiguration of district regulator or relief valve stations” (LDC Comments at 8-9). The LDCs state that this change would require a PE Stamp to examine the change in equipment,

components, calculated capacity, and required overpressure protection for those instances where the capacity of a district regulator station needs to be increased or decreased, through a physical modification (LDC Comments at 9).

ACEC/MA suggests adding “and gate/take stations” to the end of “Installation, reconfiguration, or annual review of relief valve capacity calculations per 49 C.F.R § 192.739 for district regulator and relief valve stations and gate/take stations” (ACEC/MA Comments at 4-5). ACEC/MA states that this addition will close a loophole since it is typically the responsibility of the gas company to operate and maintain the pressure regulation and overpressure protection equipment at a gate/take station (ACEC/MA Comments at 5).

ii. Analysis and Findings

The Department agrees with the LDCs that annual reviews of relief valve calculations are routine and do not require a PE Stamp unless they lead to setting changes or modifications in the field. The Department also agrees with ACEC/MA to add “gate/take stations” to this provision. Thus, the Department revises this item (now Item 10) as follows:

~~Installation, reconfiguration, or annual review of relief valve capacity calculations per 49 C.F.R § 192.739 for district regulator and relief valve stations.~~ Annual review and analysis of relief valve capacity calculations per 49 CFR § 192.739 that lead to the installation or reconfiguration of relief valves at district regulator or gate/take stations.

m. Complex Projects, Item 13

System design and procedures for installation of cathodic protection.

The LDCs state that most corrosion engineers are certified for knowledge and proficiency through the National Association of Corrosion Engineers (“NACE”), and not the Massachusetts Board of Registration of Professional Engineers and Land Surveyors (LDC Comments at 9).

The LDCs further state that cathodic protection (“CP”) design and procedures are carried out under the direction of a NACE-certified individual, since there is no specific CP PE discipline, and that this aligns with the federal regulations in 49 C.F.R. § 192.453 (LDC Comments at 9). Given the lack of local certification criteria, the LDCs note with concern that a PE requirement for corrosion control could hinder the LDCs’ CP installation operations because of a lack of qualified PEs in this area of expertise (LDC Comments at 9). Thus, the LDCs recommend deletion of this provision and instead include CP as part of the definition of a Complex Project, to allow a qualified PE review and PE Stamp to be assigned to appropriate projects (LDC Comments at 9-10). Further, the LDCs note that the term “installation of corrosion control” is overly broad and would theoretically encompass a simple single anode installation for hot spot protection to an installation of an impressed current system (LDC Comments at 9 n.10).

The Department declines to delete or revise this definition of “Complex Project” because this type of project involves many different components that may be beyond NACE certification and should require a PE Stamp to ensure public safety. Further, the Department does not agree that “installation of corrosion control” is overly broad in this context where the reference to “System design” indicates more than a single anode installation. Thus, the Department declines to make any changes to this item (now Item 11).

n. Complex Projects, Item 14

System design to supply large-volume users, such as co-generation facilities, factories, power plants, or institutional facilities.

The LDCs recommend that “System design” in this item be clarified to mean the plans used to supply large-volume users, and that LDC-specific criteria be used to define a large-volume user (LDC Comments at 10). The LDCs state that, in common parlance, “system

design” refers to the system modeling and impact studies on a distribution system, which analysis is performed by a program and analysts, is not part of a construction project, and could not be PE-Stamped (LDC Comments at 10). The LDCs suggest clarification of this section to refer to “construction design” or “design plans” to supply large-volume users (LDC Comments at 10).

The Department agrees with the LDCs to clarify this definition by changing “System design” to “Construction design plans” in this item (now Item 12). Further, with the addition of the definition of “Large-volume User” noted above, the Department strikes the language “such as co-generation facilities, factories, power plants, or institutional facilities” from this item.

o. Complex Projects, Item 15

Installation or reconfiguration of liquefied propane gas facilities connected to a distribution system.

ACEC/MA recommends replacing “propane gas” with “propane gas/air” in this provision (ACEC/MA Comments at 5). ACEC/MA states that this will clarify the definition as some gas utilities in the Commonwealth operate propane/air peak-shaving facilities that are directly connected to their distribution systems (ACEC/MA Comments at 5).

The Department agrees and adds “air” to “propane gas facilities” as suggested to this item (now Item 13).

3. Installation

The LDCs recommend revising the definition of “Installation” from the “design or construction of new facilities or changes to existing facilities” to “The design or construction of new facilities or reconfigurations of existing facilities that affect the MAOP, function, or capacity of the existing facility” (LDC Comments at 10). The LDCs assert that there are many “changes” to existing facilities, such as the changes to regulator cages or orifices, that are not

complex and do not constitute an installation, and that this change will more clearly define “Installation” and help reach the Department’s goal of capturing the root of Complex Projects that require a PE Stamp (LDC Comments at 10).

The Department declines to add “that affect the MAOP, function, or capacity of the existing facility” to the definition of “Installation.” For the same reasons that the Department declined to add an MAOP consideration to the definition of “Plans,” the Department finds that this change would result in unintended exemptions from the delineated items under “Complex Projects” that should require a PE Stamp.

4. Uprating

As with the amendment to the definition of “Abandonment,” the LDCs recommend adding “in accordance with 49 CFR § 192 Subpart K” to the definition of “Uprating” to align with current practices and ensure consistency (LDC Comments at 3).

The Department agrees with the LDCs to add “in accordance with 49 CFR Part 192, Subpart K” to the definition of “Uprating.”

G. Proposed Guidelines § II.A: Proper Sequencing of Steps

1. Comments

The Attorney General recommends that the Department clarify the meaning of the requirement “proper sequencing of steps to be performed” in the Proposed Guidelines § II.A (Attorney General Comments at 2). The language in question is as follows:

The professional Engineer must ensure, in coordination with Gas Company personnel, that the plans or specifications conform to all applicable pipeline safety laws, regulations, and standards and procedures of the Gas Company, and that they present a proper sequencing of steps to be performed.

The Attorney General recommends that the Department either define this language in the Guidelines or elaborate on its purpose as it relates to the use of PEs within the Guidelines (Attorney General Comments at 2).

The LDCs recommend replacing “proper sequencing” as used in Proposed Guidelines §§ II.A and II.C with “sequence of construction steps within Plans” to ensure that the proper scope of PE work is captured (LDC Comments at 11). The LDCs note that the phrase “proper sequencing” is not part of the standard operating procedure and is open to interpretation, as it could refer to the numbered sequence of steps within a set of Construction Plans, which a PE could stamp, or it could refer to the steps of a standard operating procedure, which a PE could not stamp (LDC Comments at 11).

2. Analysis and Findings

The Department agrees with the Attorney General and LDCs that “proper sequencing of steps to be performed” requires clarification. Thus, the Department deletes that language from both Proposed Guidelines § II.A and § II.C and adds the following new provision as Final Guidelines § II.C:

The Professional Engineer must ensure, in coordination with Gas Company personnel, that the project-specific procedures present an adequate sequence of all construction steps to be performed.

The Department also reorders the provisions in Proposed Guidelines § II for logical consistency.

H. Proposed Guidelines § II.C: Gas Company Responsibilities

ACEC/MA recommends adding language to this provision so that prior to commencing work on a Complex Project, a Gas Company would have to ensure not only that the Instruments

of Service bear the PE Stamp but also that the PE “exercised his or her professional skill and care consistent with the professional skill and care to provide Instruments of Service” that are accurate and complete (ACEC/MA Comments at 6). ACEC/MA explains that a PE’s services are governed by the professional standard of care and, under the standard of care, a PE can exercise professional skill and judgment but cannot guarantee that engineering plans and specifications are accurate and complete (ACEC/MA Comments at 6). ACEC/MA states, therefore, that a gas company providing engineering Instruments of Service cannot guarantee that they are accurate and complete because they bear the stamp of a professional engineer (ACEC/MA Comments at 6, citing Klein v. Catalano, 386 Mass. 701, 719 (1982); Anthony’s Pier Four, Inc. v. Crandall Dry Dock Engrs. Inc., 396 Mass. 818, 823 (1986); Raffel v. Perley, 14 Mass. App. Ct. 242, 246 n.9 (1982)).

The Department declines to add ACEC/MA’s suggested language because the purpose of this provision (now Final Guidelines § II.B) is to direct a Gas Company to ensure that the Instruments of Service bear a PE Stamp, not to direct a Gas Company to ensure that the PE performed his or her review in compliance with the PE requirements set forth in the PE statute, G.L. c. 112, §§ 84D through 81T, and the PE regulation, 250 CMR 5.00: Professional Practice. In addition, as noted above, Final Regulations 220 CMR 105.04(2) provide that the PE’s review and use of their PE Stamp must comply with the professional and ethical obligations set forth in 250 CMR 5.00.

I. PE Availability

1. Comments

MSPE notes that there are over 15,000 PEs licensed to practice in the Commonwealth of Massachusetts and suggests that decisions about public safety should not be based on the purported shortage of PEs but, rather, on the need for LDCs, tasked with upholding public safety, to adjust recruitment and hiring practices to ensure that they are appropriately staffed (MSPE Comments at 2). Further, MSPE encourages companies and utilities to look within for licensed engineers, as they may have employees who qualify for licensure and simply need to take the exam, and further notes that both MSPE and the National Society of Professional Engineers are happy to collaborate with companies and utilities on ways to promote licensure (MSPE Comments at 2).

The LDCs oppose MSPE's argument that the Department should not consider PE availability when considering the scope of work that should require a PE Stamp (LDC Reply Comments at 6). The LDCs argue that MSPE's reasoning is flawed because it incorrectly assumes without substantiation that the total pool of licensed PEs in Massachusetts is sufficiently knowledgeable in a particular LDC's gas distribution system (LDC Reply Comments at 6). The LDCs contend that the available pool of PEs with the necessary knowledge is relatively small and far smaller than MSPE would lead the Department to believe (LDC Reply Comments at 6). The LDCs note that although they have had limited success in outside recruitment of PEs and are encouraging in-house staff to apply for licensure, their need to do this demonstrates a lack of readily available PE resources (LDC

Reply Comments at 6-7). The LDCs further contend that if they are unable to secure enough in-house PEs, their ability to undertake critical gas work on their respective systems would be compromised (LDC Reply Comments at 7). Nevertheless, the LDCs stress that they are not seeking to limit the Proposed Regulations or Guidelines based on the availability of PEs and that they have been able to meet the current requirements (LDC Reply Comments at 7).

2. Analysis and Findings

The Department declines to consider the availability of PEs in light of the important public safety measures to be met by these Final Regulations and Guidelines. Nevertheless, the Department acknowledges that some LDCs may face difficulties in meeting these new safety obligations. The Department further appreciates MSPE's offer to collaborate with the LDCs to promote licensure.

J. Pipeline Safety Management System ("PSMS")

In addition to supporting the LDCs' suggested changes to the Proposed Regulation and Guidelines, NGA recommends that the Department also consider additional efforts that address the intent of the PE Regulation and mitigate risk: specifically, application of PSMS elements (NGA Comments at 2). NGA explains that it and its members have been working with Department staff for the past few years on state-wide implementation of a PSMS per the American Petroleum Institute's API RP 1173, have completed Phase 1 of PSMS, developed individualized roadmaps for improvements, and are in Phase II activities ((NGA Comments at 2-3; Tr. at 8). NGA further notes that the PE process is a component of PSMS, which

provides an additional layer of protection that was not in place prior to the 2018 Merrimack Valley incident that prompted the creation of these PE regulations (Tr. at 8). NGA states that PSMS will continue to provide a consistent approach to safety and risk mitigation needed to enhance overall operational behaviors and, equally importantly, represents a paradigm shift in sustainable safety culture focus (NGA Comments at 3). NGA believes that embedding a PSMS approach of “Plan-Do-Check-Act” in daily operations, including the engineering design review process, provides additional accountability and a defense-in-depth process that spans initial design through construction execution and the commissioning of assets (NGA Comments at 3). NGA suggests that, in many cases, the layers-of-protection approach underpinning PSMS provides a greater degree of pipeline safety value than reliance on one credentialed engineer (NGA Comments at 3). NGA recommends that the Department finalize this rulemaking with consideration of the other safety programs like PSMS that the LDCs have established and note that some of the proposed prescriptive requirements in this rulemaking are already being addressed through other methods and programs. (Tr. at 8).

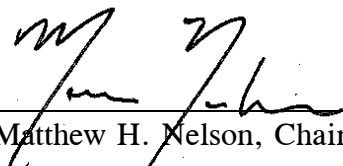
The Department agrees with NGA that state-wide implementation of PSMS is an important element in ensuring public safety, in addition to these PE Regulations and Guidelines, and looks forward to the LDCs’ final implementation of PSMS as an added safety measure.

V. ADOPTION OF FINAL REGULATIONS AND GUIDELINES

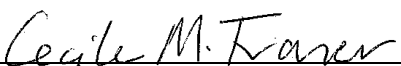
For the reasons stated above, the Department, by this Order, adopts the attached Final Regulations 220 CMR 105.00: Use of Professional Engineers for Gas Utility Work and the Final Guidelines for Use of Professional Engineers for Gas Utility Work.

The Department has filed standard Regulations Filing Forms and the regulations, 220 CMR 105.00, with the Office of the Secretary of the Commonwealth, State Publications and Regulations Division. These regulations are effective upon publication in the Massachusetts Register.

By Order of the Department,


Matthew H. Nelson, Chair


Robert E. Hayden, Commissioner


Cecile M. Fraser, Commissioner

220 CMR: DEPARTMENT OF PUBLIC UTILITIES

220 CMR 105.00: USE OF PROFESSIONAL ENGINEERS FOR GAS UTILITY WORK

Section

105.01: Purpose and Scope

105.02: Definitions

105.03: Applications for Exceptions from Provisions of 220 CMR 105.00

105.04: Use of Professional Engineers

105.05: Gas Company Procedures Manual

105.01: Purpose and Scope

- (1) Purpose. 220 CMR 105.00 establishes regulations to promote the safety of natural gas engineering work or services through the use of Professional Engineers with sufficient knowledge of natural gas facilities, to provide direction to gas companies for certain engineering work or services. 220 CMR 105.00 does not waive or otherwise modify any provisions of M.G.L. c. 112, §§ 81D through 81T or 250 CMR: *Board of Registration of Professional Engineers and Land Surveyors*, which establish requirements for Professional Engineers. Further, 220 CMR 105.00 may be supplemented by guidelines from the Department of Public Utilities, Commonwealth of Massachusetts.
- (2) Scope. 220 CMR 105.00 applies to every Gas Company as defined in 220 CMR 105.02.

105.02: Definitions

For the purposes of 220 CMR 105.00, the following definitions apply:

Department. Department of Public Utilities, Commonwealth of Massachusetts.

Division. Pipeline Safety Division of the Department.

Emergency. A sudden or unexpected occurrence involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services, but not including a loss of business or profits.

Gas Company. As defined in M.G.L. c. 164, § 1, a corporation organized for the purpose of making and selling or distributing and selling, gas within the commonwealth, even though subsequently authorized to make or sell electricity; provided, however, that gas company shall not mean an alternative energy producer.

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Instruments of Service. The final drawings, plans, specifications, plats, reports, and project-specific procedures prepared by, or under the Direct Charge and Supervision of, a registered Professional Engineer. Instruments of Service do not include interim drawings, plans, specifications, plats and reports or drawings, plans, specifications, plats and reports that are marked “preliminary,” “not for construction,” “for plan check only,” or “for review only.”

Professional Engineer. A person who is registered as a professional engineer in the Commonwealth of Massachusetts and certified under M.G.L. c. 112, § 81E; provided, however, that the Professional Engineer has Sufficient Knowledge.

Sufficient Knowledge. An understanding of natural gas facilities in general and of the pipeline design, construction, operations, maintenance, standards, and procedures of a particular Gas Company that would permit effective review of that Gas Company’s engineering plans or specifications.

105.03: Applications for Exceptions from Provisions of 220 CMR 105.00

Any Gas Company may make a written request to the Department for an exception to the provisions of 220 CMR 105.00, in whole or in part. The request shall justify why the exception should be granted and shall demonstrate why the exception sought does not detract from the safety objectives of 220 CMR 105.00. The request shall include details on the need for the exception, specific information on the circumstances surrounding the requested exception, the provisions of 220 CMR 105.00 from which the exception is sought, the time period for which the exception is sought, and a description of any safety consequences that might result from the exception. Documentation in support of the request shall also be submitted.

The Department may deny the exception or grant the exception as requested, or as modified by the Department and subject to conditions. Any exception shall be issued in writing and may be made by the Director of the Division. Any person aggrieved by a decision of the Director regarding a request for an exception may appeal the Director’s decision to the Department. Any appeal shall be in writing and shall be made not later than ten business days following issuance of the written decision of the Director.

105.04: Use of Professional Engineers

- (1) Pursuant to M.G.L. c. 164, § 148, each Gas Company shall require the ~~review and~~ stamp of a Professional Engineer with Sufficient Knowledge who is the engineer of record on any ~~Instruments of Service engineering plans or specifications~~ for engineering work or services that could pose a material risk to public safety, as determined by the Department pursuant to G.L. c. 112, § ~~81R~~ clause (l).

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- (2) The Professional Engineer's review and use of their Professional Engineer's stamp must comply with the professional and ethical obligations set forth in 250 CMR 5.00: Professional Practice.
- (3) Each Gas Company shall maintain ~~at its office within the Commonwealth of Massachusetts~~ the ~~plans and specifications~~ Instruments of Service that bear a Professional Engineer's stamp pursuant to 220 CMR 105.00 and supporting documentation. These ~~plans and specifications~~ Instruments of Service and supporting documentation shall be readily accessible upon request by the Department and shall be maintained for the useful life of the pipe, as that term is used in 49 CFR Part 192, and for at least five years after the date of abandonment.

105.05: Gas Company Procedures Manual

Each Gas Company shall incorporate procedures for all requirements of 220 CMR 105.00 into its written procedures under 49 CFR Part 192 as applicable, to ensure compliance with M.G.L. c. 164, §§ 105A, 148 and 220 CMR 105.00.

REGULATORY AUTHORITY

220 CMR 105.00: M.G.L. c. 164, §§ 66, 76, 76C, 105A and 148.

220 CMR: DEPARTMENT OF PUBLIC UTILITIES

220 CMR 105.00: USE OF PROFESSIONAL ENGINEERS FOR GAS UTILITY WORK

Section

105.01: Purpose and Scope

105.02: Definitions

105.03: Applications for Exceptions from Provisions of 220 CMR 105.00

105.04: Use of Professional Engineers

105.05: Gas Company Procedures Manual

105.01: Purpose and Scope

- (1) Purpose. 220 CMR 105.00 establishes regulations to promote the safety of natural gas engineering work or services through the use of Professional Engineers with sufficient knowledge of natural gas facilities, to provide direction to gas companies for certain engineering work or services. 220 CMR 105.00 does not waive or otherwise modify any provisions of M.G.L. c. 112, §§ 81D through 81T or 250 CMR: *Board of Registration of Professional Engineers and Land Surveyors* which establish requirements for Professional Engineers. Further, 220 CMR 105.00 may be supplemented by guidelines from the Department of Public Utilities, Commonwealth of Massachusetts.
- (2) Scope. 220 CMR 105.00 applies to every Gas Company as defined in 220 CMR 105.02.

105.02: Definitions

For the purposes of 220 CMR 105.00, the following definitions apply:

Department. Department of Public Utilities, Commonwealth of Massachusetts.

Division. Pipeline Safety Division of the Department.

Emergency. A sudden or unexpected occurrence involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services, but not including a loss of business or profits.

Gas Company. As defined in M.G.L. c. 164, § 1, a corporation organized for the purpose of making and selling or distributing and selling, gas within the commonwealth, even though subsequently authorized to make or sell electricity; provided, however, that gas company shall not mean an alternative energy producer.

220 CMR: DEPARTMENT OF PUBLIC UTILITIES

Instruments of Service. The final drawings, plans, specifications, plats, reports, and project-specific procedures prepared by, or under the Direct Charge and Supervision of, a registered Professional Engineer. Instruments of Service do not include interim drawings, plans, specifications, plats and reports or drawings, plans, specifications, plats and reports that are marked “preliminary,” “not for construction,” “for plan check only,” or “for review only.”

Professional Engineer. A person who is registered as a professional engineer in the Commonwealth of Massachusetts and certified under M.G.L. c. 112, § 81E; provided, however, that the Professional Engineer has Sufficient Knowledge.

Sufficient Knowledge. An understanding of natural gas facilities in general and of the pipeline design, construction, operations, maintenance, standards, and procedures of a particular Gas Company that would permit effective review of that Gas Company’s engineering plans or specifications.

105.03: Applications for Exceptions from Provisions of 220 CMR 105.00

Any Gas Company may make a written request to the Department for an exception to the provisions of 220 CMR 105.00, in whole or in part. The request shall justify why the exception should be granted and shall demonstrate why the exception sought does not detract from the safety objectives of 220 CMR 105.00. The request shall include details on the need for the exception, specific information on the circumstances surrounding the requested exception, the provisions of 220 CMR 105.00 from which the exception is sought, the time period for which the exception is sought, and a description of any safety consequences that might result from the exception. Documentation in support of the request shall also be submitted.

The Department may deny the exception or grant the exception as requested, or as modified by the Department and subject to conditions. Any exception shall be issued in writing and may be made by the Director of the Division. Any person aggrieved by a decision of the Director regarding a request for an exception may appeal the Director’s decision to the Department. Any appeal shall be in writing and shall be made not later than ten business days following issuance of the written decision of the Director.

105.04: Use of Professional Engineers

- (1) Pursuant to M.G.L. c. 164, § 148, each Gas Company shall require the stamp of a Professional Engineer with Sufficient Knowledge who is the engineer of record on any Instruments of Service for engineering work or services that could pose a material risk to public safety, as determined by the Department pursuant to G.L. c. 112, § 81R clause (l).

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- (2) The Professional Engineer's review and use of their Professional Engineer's stamp must comply with the professional and ethical obligations set forth in 250 CMR 5.00: *Professional Practice*.
- (3) Each Gas Company shall maintain the Instruments of Service that bear a Professional Engineer's stamp pursuant to 220 CMR 105.00 and supporting documentation. These Instruments of Service and supporting documentation shall be readily accessible upon request by the Department and shall be maintained for the useful life of the pipe, as that term is used in 49 CFR Part 192, and for at least five years after the date of abandonment.

105.05: Gas Company Procedures Manual

Each Gas Company shall incorporate procedures for all requirements of 220 CMR 105.00 into its written procedures under 49 CFR Part 192 as applicable, to ensure compliance with M.G.L. c. 164, §§ 105A, 148 and 220 CMR 105.00.

REGULATORY AUTHORITY

220 CMR 105.00: M.G.L. c. 164, §§ 66, 76, 76C, 105A and 148.

GUIDELINES FOR USE OF PROFESSIONAL ENGINEERS FOR GAS UTILITY WORK

D.P.U. 21-04-A, Appendix C (September 21, 2021)

I. GENERAL

A. Purpose and Scope

The purpose of these Guidelines is to ensure that every gas company, as defined in 220 CMR 105.00, requires the stamp of an appropriate Professional Engineer on any engineering plans or specifications for engineering work or services that could pose a material risk to public safety, pursuant to G.L. c. 164, § 148 and 220 CMR 105.00. More specifically, these Guidelines delineate the types of engineering work or services that could pose a material risk to public safety and, thus, require a Professional Engineer stamp. In the event of a conflict between these Guidelines and any Orders or regulations of the Department of Public Utilities (“Department”), said Orders and regulations shall govern.

These Guidelines apply to every gas company as defined in M.G.L. c. 164, § 1: a corporation organized for the purpose of making and selling or distributing and selling, gas within the commonwealth, even though subsequently authorized to make or sell electricity; provided, however, that gas company shall not mean an alternative energy producer.

B. Definitions

In addition to the definitions set forth in 220 CMR 105.00, the following definitions apply to these Guidelines:

“Abandonment.” The process of disconnecting a pipeline from all sources and supplies of gas, purging the pipeline of gas except when the volume of gas is so small that there is no potential hazard, and sealing the ends.

“Bypass.” An auxiliary piping arrangement, generally used to carry gas around specific equipment or an integral section of a piping system.

“Complex Project.” Any engineering work or services that could pose a material risk to public safety and requires a job-specific design plan, such as including but not limited to the following:

1. Installation that creates or reconfigures district pressure regulator stations or gate/take stations.
2. System analysis and subsequent adjustment of system operating pressures at district regulator stations or gate/take stations when the adjustment increases or decreases the MAOP or MOP of the system.

3. Installation of new, intrastate compressor stations.
4. Installation, uprating, or abandonment of intrastate transmission lines.
5. Installation, replacement, or abandonment of distribution mains or services that:
 - a. Involves a single tie-in that is 12" or greater;
 - b. Involves two or more tie-ins of any size;
 - c. Requires more than one bypass;
 - d. Involves distribution pipelines operating at a pressure greater than 200 psig;
 - e. Involves connecting to a high-pressure distribution main with an MAOP of 200 psig or greater, including Farm Taps;
 - ~~d. Crosses any road of two or more lanes;~~
 - ~~e.f. Crosses any bridge, railway, or waterway; or~~
 - ~~f.g. Uses trenchless technology for pipe greater than 4" or greater.~~
6. Uprating of distribution mains and services.
7. Installation or abandonment of service lines that require an interruption of flow in the distribution main.
- ~~8. Installation or abandonment of mains or service lines connecting to a high pressure distribution main with an MAOP of 200 psig or greater, including farm taps.~~
- ~~9. Nonstandard installation of service lines 12" or greater in nominal diameter.~~
- ~~10.8. Installation or reconfiguration of liquefied natural gas ("LNG") peak shaving facilities or portable LNG facilities connected to a distribution system, intrastate transmission line, or Large-volume User.~~
- ~~11.9. Nonstandard Installation of Large-volume User large volume-meter sets if the inlet line to the meter is greater than 4" or greater in nominal diameter, with consideration given to site-specific complexity.~~

~~12.10. Installation, reconfiguration, or annual review of relief valve capacity calculations per 49 C.F.R. § 192.739 for district regulator and relief valve stations. Annual review and analysis of relief valve capacity calculations per 49 CFR § 192.739 that lead to the installation or reconfiguration of relief valves at district regulator or gate/take stations.~~

~~13.11. System design and procedures for installation of cathodic protection.~~

~~14.12. System Construction design plans to supply a Large-volume User large volume users, such as co-generation facilities, factories, power plants, or institutional facilities.~~

~~13. Installation or reconfiguration of liquefied propane gas/air facilities connected to a distribution system.~~

~~15.14. Installation or reconfiguration of compressed natural gas (“CNG”) facilities or portable CNG facilities connected to a gas distribution system, intrastate transmission line, or Large-volume User.~~

“Farm Tap.” A regulated service line directly connected to a production, gathering, or transmission pipeline that is not operated as part of a distribution system.

“Installation.” The design or construction of new facilities or changes to existing facilities.

“Large-volume User.” A user defined by a Gas Company as a Large-volume User, including but not limited to a co-generation facility, factory, power plant, or institutional facility.

“MAOP.” Maximum allowable operating pressure as defined in 49 CFR § 192.3.

“MOP.” Maximum actual operating pressure as defined in 49 CFR § 192.3.

“Peak-shaving Facilities.” An LNG facility used for storing surplus natural gas for use during peak demand periods such as winter and summer.

“Reconfigure.” Rebuild or relocate components, including the replacement of any individual component that would alter the MAOP or volumetric capacity, but excluding individual component replacement that has no effect on operation or function (e.g., orifices, springs, filters/strainers, valves).

“Tie-in.” The connection of a new pipeline or branch to an existing pipeline.

“Trenchless Technology.” A method used to minimize excavation activity, such as horizontal directional drilling, tunneling, and auger boring, but excluding short installations with pneumatic tools such as moling.

“Uprating.” Increasing the MAOP of a pipeline in accordance with 49 CFR Part 192, Subpart K.

II. USE OF PROFESSIONAL ENGINEERS

A. Any gas pipeline engineering Instruments of Service ~~plans or specifications~~ for Complex Projects must be produced by or under the direct charge and supervision of a Professional Engineer with Sufficient Knowledge, as defined in 220 CMR 105.00. The Professional Engineer must ensure, in coordination with Gas Company personnel, that the Instruments of Service ~~plans or specifications~~ conform to all applicable pipeline safety laws, regulations, and standards and procedures of the Gas Company, ~~and that the project-specific procedures present an adequate sequence of all construction steps to be performed.~~

A.B. Prior to commencing work on a Complex Project, the Gas Company must ensure that all ~~plans or specifications~~ Instruments of Service bear the Professional Engineer’s stamp and are accurate, complete, ~~follow proper sequencing of steps to be performed,~~ and accord with all applicable standards and procedures.

B.C. The Professional Engineer must ensure, in coordination with Gas Company personnel, that the project-specific procedures present an adequate sequence of all construction steps to be performed.

C.D. A Professional Engineer’s stamp may not be used on standardized or generic Instruments of Service ~~plans or specifications~~ unless they meet the definition of Complex Project. All ~~plans and specifications~~ Instruments of Service with a Professional Engineer’s stamp must be part of a site-specific project package and applicable to the specific project requirements.

D.E. A Professional Engineer’s stamp is not required during an Emergency, as defined in 220 CMR 105.00, but is required after the Emergency has been brought to conclusion and gas service restored to the customer if there is further work or services constituting a Complex Project.

GUIDELINES FOR USE OF PROFESSIONAL ENGINEERS FOR GAS UTILITY WORK

D.P.U. 21-04-A, Appendix D (September 21, 2021)

I. GENERAL

A. Purpose and Scope

The purpose of these Guidelines is to ensure that every gas company, as defined in 220 CMR 105.00, requires the stamp of an appropriate Professional Engineer on any engineering plans or specifications for engineering work or services that could pose a material risk to public safety, pursuant to G.L. c. 164, § 148 and 220 CMR 105.00. More specifically, these Guidelines delineate the types of engineering work or services that could pose a material risk to public safety and, thus, require a Professional Engineer stamp. In the event of a conflict between these Guidelines and any Orders or regulations of the Department of Public Utilities (“Department”), said Orders and regulations shall govern.

These Guidelines apply to every gas company as defined in M.G.L. c. 164, § 1: a corporation organized for the purpose of making and selling or distributing and selling, gas within the commonwealth, even though subsequently authorized to make or sell electricity; provided, however, that gas company shall not mean an alternative energy producer.

B. Definitions

In addition to the definitions set forth in 220 CMR 105.00, the following definitions apply to these Guidelines:

“Abandonment.” The process of disconnecting a pipeline from all sources and supplies of gas, purging the pipeline of gas except when the volume of gas is so small that there is no potential hazard, and sealing the ends.

“Bypass.” An auxiliary piping arrangement, generally used to carry gas around specific equipment or an integral section of a piping system.

“Complex Project.” Any engineering work or services that could pose a material risk to public safety and requires a job-specific design plan, including but not limited to the following:

1. Installation that creates or reconfigures district pressure regulator stations or gate/take stations.
2. System analysis and subsequent adjustment of system operating pressures at district regulator stations or gate/take stations when the adjustment increases or decreases the MAOP or MOP of the system.

3. Installation of new, intrastate compressor stations.
4. Installation, uprating, or abandonment of intrastate transmission lines.
5. Installation, replacement, or abandonment of distribution mains or services that:
 - a. Involves a single tie-in that is 12" or greater;
 - b. Involves two or more tie-ins of any size;
 - c. Requires more than one bypass;
 - d. Involves distribution pipelines operating at a pressure greater than 200 psig;
 - e. Involves connecting to a high-pressure distribution main with an MAOP of 200 psig or greater, including Farm Taps;
 - f. Crosses any bridge, railway, or waterway; or
 - g. Uses trenchless technology for pipe greater than 4".
6. Uprating of distribution mains and services.
7. Installation or abandonment of service lines that require an interruption of flow in the distribution main.
8. Installation or reconfiguration of liquefied natural gas ("LNG") peak shaving facilities or portable LNG facilities connected to a distribution system, intrastate transmission line, or Large-volume User.
9. Installation of Large-volume User meter sets if the inlet line to the meter is greater than 4" in nominal diameter, with consideration given to site-specific complexity.
10. Annual review and analysis of relief valve capacity calculations per 49 CFR § 192.739 that lead to the installation or reconfiguration of relief valves at district regulator or gate/take stations.
11. System design and procedures for installation of cathodic protection.
12. Construction design plans to supply a Large-volume User.
13. Installation or reconfiguration of liquefied propane gas/air facilities connected to a distribution system.

14. Installation or reconfiguration of compressed natural gas (“CNG”) facilities or portable CNG facilities connected to a gas distribution system, intrastate transmission line, or Large-volume User.

“Farm Tap.” A regulated service line directly connected to a production, gathering, or transmission pipeline that is not operated as part of a distribution system.

“Installation.” The design or construction of new facilities or changes to existing facilities.

“Large-volume User.” A user defined by a Gas Company as a Large-volume User, including but not limited to a co-generation facility, factory, power plant, or institutional facility.

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“Tie-in.” The connection of a new pipeline or branch to an existing pipeline.

“Trenchless Technology.” A method used to minimize excavation activity, such as horizontal directional drilling, tunneling, and auger boring, but excluding short installations with pneumatic tools such as moling.

“Uprating.” Increasing the MAOP of a pipeline in accordance with 49 CFR Part 192, Subpart K.

II. USE OF PROFESSIONAL ENGINEERS

- A. Any gas pipeline engineering Instruments of Service for Complex Projects must be produced by or under the direct charge and supervision of a Professional Engineer with Sufficient Knowledge, as defined in 220 CMR 105.00. The Professional Engineer must ensure, in coordination with Gas Company personnel, that the Instruments of Service conform to all applicable pipeline safety laws, regulations, and standards and procedures of the Gas Company.

- B. Prior to commencing work on a Complex Project, the Gas Company must ensure that all Instruments of Service bear the Professional Engineer's stamp and are accurate, complete, and accord with all applicable standards and procedures.
- C. The Professional Engineer must ensure, in coordination with Gas Company personnel, that the project-specific procedures present an adequate sequence of all construction steps to be performed.
- D. A Professional Engineer's stamp may not be used on standardized or generic Instruments of Service unless they meet the definition of Complex Project. All Instruments of Service with a Professional Engineer's stamp must be part of a site-specific project package and applicable to the specific project requirements.
- E. A Professional Engineer's stamp is not required during an Emergency, as defined in 220 CMR 105.00, but is required after the Emergency has been brought to conclusion and gas service restored to the customer if there is further work or services constituting a Complex Project.