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December 20, 2017

Secretary
U.S. Nuclear Regulatory Commission
ATTN: Rulemakings and Adjudications Staff
Washington, DC 20555-0001

Subject: Comments Concerning Petition for Rulemaking 10 CFR 50, "*Fire Protection Compensatory Measures*," (82FR46717, dated October 6, 2017, Docket ID NRC-2017-0132)

This letter is being submitted in response to the U.S. Nuclear Regulatory Commission (NRC) request for comments concerning Petition for Rulemaking (PRM) 10 CFR 50, "*Fire Protection Compensatory Measures*," published in the *Federal Register* (i.e., 82FR46717, dated October 6, 2017).

The petitioners requested that the NRC amend its regulations to establish acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met. The petitioners assert that certain guidance documents as cited in the PRM associated with the current regulations are deficient and that rulemaking would ensure that compensatory measures are used appropriately following a violation in fire protection regulations. The rulemaking process would provide the public the opportunity to weigh in on the appropriateness of the use of various compensatory measures before the requirements are adopted as final.

Exelon Generation Company, LLC (Exelon) appreciates the opportunity to comment on this PRM and offers the attached comments for consideration by the NRC. In addition, Exelon supports the comments submitted by the Nuclear Energy Institute (NEI) regarding the subject PRM.

If you have any questions or require additional information, please contact Richard Gropp at (610) 765-5557.

Respectfully,

David P. Helker
Manager, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Comments Concerning Petition for Rulemaking

Comments Concerning Petition for Rulemaking

The U.S. Nuclear Regulatory Commission (NRC) published in the *Federal Register* (i.e., 82FR46717, dated October 6, 2017) a request for comments concerning Petition for Rulemaking (PRM) 10 CFR 50, "*Fire Protection Compensatory Measures*." In response to this request, Exelon Generation Company, LLC (Exelon) offers the following comments for consideration by the NRC.

Federal Register Notice (82FR46717)

Petition for Rulemaking Assertion	Exelon Comment
(1) <i>They are not regulations and, therefore, convey unenforceable expectations;...</i>	<p>Exelon does not agree with the petitioners' assertion.</p> <p>10 CFR 50.48(a) requires that each facility have a Fire Protection Program (FPP), and stipulates what that program must contain, including a requirement for administrative controls. Additionally, 10 CFR 50.48(d)(1) originally required these controls be in place four (4) months after the NRC's Safety Evaluation Report (SER) approving/accepting the Fire Protection (FP) features (refer to the 01-01-99 Edition of 10 CFR 50.48). The NRC subsequently deleted this section of 50.48, since licensees had come into compliance in the early 1980s and the NRC determined that there was no need to retain these words in the rule.</p> <p>The petitioners assume that a requirement has to be in a regulation to be enforceable, which Exelon considers to be incorrect.</p> <p>Compensatory measures are required by a plant's Facility Operating License (FOL), through the FP License Condition. The FP License Condition requires the licensee to: "<i>implement and maintain in effect all provisions of the approved Fire Protection Program as described in the UFSAR, and as approved in the NRC Safety Evaluation Reports...</i>," which then includes a listing of SERs including those that approved the station's compensatory measures. The FPP is either included directly in the Updated Final Safety Analysis Report (UFSAR), or included in the UFSAR by reference. Contained within the FPP are the licensee commitments, that have been approved by the NRC, concerning compensatory</p>

Petition for Rulemaking Assertion	Exelon Comment
	<p>measures. Failing to implement the compensatory measures would therefore be a violation of the plant's License Condition and contrary to the UFSAR requirements, and would be enforceable.</p> <p>The NRC has communicated their expectations that licensees develop compensatory measures for fire detection and protection features in numerous documents, and required licensees to docket a response to one or more of these documents. The NRC then based their approval of the FPP on that response. Some examples include:</p> <ul style="list-style-type: none"> • Branch Technical Position (BTP) 9.5-1 (numerous versions) • Regulatory Guide (RG) 1.120 • Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance (FRACQA letter), dated August 8, 1977 <p>In particular, each document discusses the potential need to perform testing, impairment, or maintenance on FP features, and the need for compensatory measures to be in place during those periods where FP Structures, Systems, and Components (SSC) are not operable.</p> <p>In addition, the NRC revised Regulatory Guide (RG) 1.33 in 1977 to require administrative procedures for the plant's FPP, thereby making RG 1.33 agree with the policies described above.</p> <p>These controls are required since they are contained in the licensees' FPP, and may also be incorporated into the licensees' Quality Assurance Program (QAP) which also includes administrative controls, both of which are enforceable.</p>
(2) <i>They create confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes an acceptable</i>	Exelon believes that licensees and the NRC have a clear understanding of what constitutes the requirements. The NRC has written violations when infractions occur.

Petition for Rulemaking Assertion	Exelon Comment
<p><i>substitute for compliance with fire protection regulations following identification of a deficiency, as well as the permissible durations of the substitutions; and...</i></p>	<p>Testing, impairment, and maintenance are all anticipated conditions, originally foreseen and explicitly discussed by the NRC when their FP policies were developed. Having a FP feature out-of-service is generally not a violation of a NRC regulations, provided that the compensatory measures specified in the site's administratively controlled processes (e.g., Technical Requirements Manual (TRM)) are implemented.</p> <p>Some Technical Specifications (TS) are time-limited because the plant will no longer meet some single-failure design criteria while an SSC is inoperable. For others, no time limit is applied because a compensatory measure is judged to provide equivalent protection. There are many conditions where a time limit on the compensatory measure is not necessary to be included in the plant's current TS (e.g., a periodic grab sample is an acceptable compensatory measure for some inoperable radiation monitors, with no time limit).</p> <p>In the case of FP requirements, the NRC has concluded that the compensatory measure does not require a time limit (except for the unique case of no operable fire pumps). This is reflected in the model FP TS NRC transmitted to all licensees in December 1976 (ex., NRC letter to Dresden and Quad Cities, December 2, 1976). This is also reflected in numerous editions of NRC's Standard Technical Specifications issued throughout the 1980's.</p> <p>In Generic Letter (GL) 86-10 and GL 88-12, the NRC encouraged licensees to relocate FP requirements from the plant's TS to a licensee-controlled FPP document, and enforced compliance with these controls via a License Condition. The NRC chose this approach because they agreed that the safety-significance of individual FP SSCs was very low, and did not warrant control via TS (refer to NRC TS Improvement Program (TSIP) Commission Interim Policy Statement, dated February 1987, which indicated FP requirements should no longer be included in the TS).</p>

Petition for Rulemaking Assertion	Exelon Comment
	<p>The question of long-term impairments has previously been raised in numerous 10 CFR 2.206 petitions, and in each case, the NRC's Director's Decision has found that long-term compensatory measures are legally permissible (reference Director's Decision DD-96-03 dated April 3, 1996).</p>
<p>(3) <i>They were not developed through an open process, so the public did not have opportunities to weigh in on the acceptability of various compensatory measures.</i></p>	<p>Exelon does not agree with the position. The NRC has for a long period provided the opportunity for public interaction related to licensee's licensing actions (e.g., license amendment requests, exemptions, etc.).</p> <p>Nuclear Steam Supply System (NSSS) vendor's Standard TS revisions issued in the 1980s appear to have been processed via open processes (all NUREGs). These Standard TS also contained the NRC's model FP TS.</p> <p>The removal of FP requirements from TS was based on a 1987 Commission Policy statement. Subsequently, each licensee would have needed to process a TS change via the license amendment process pursuant to 10 CFR 50.90, which would have also provided the public an opportunity to comment.</p> <p>The fundamental point of the removal of FP requirements from the TS was that the safety significance was deemed low.</p>

Petition PRM-50-115 (ML17146A393)

Petition for Rulemaking Assertion	Exelon Position
<p><u>Cover Letter</u></p> <p>Requests NRC promulgate regulations "that establish acceptable conditions for use of compensatory measures..."</p>	<p>Exelon believes that a "regulation" (rulemaking) would likely not be the appropriate regulatory process to address this issue.</p> <p>The regulations governing TS (i.e., 10 CFR 50.36) do not warrant this level of detail, so it would seem logical that the NRC would not need to promulgate a regulation for issues of less safety significance.</p>
<p><u>Page 1</u></p> <p>Request for final rule that defines the compensatory measures that are authorized and under what conditions, when fire protection regulations are not met.</p>	<p>Having a FP feature out-of-service is not a violation of a FP requirement or regulation.</p> <p>The NRC's regulatory requirements mandate that licensees have a FPP. Included within that program is a requirement to provide provisions for testing, impairment, and maintenance. These features were all foreseen and explicitly discussed by the NRC when their policies were developed.</p>
<p><u>Page 1</u></p> <p>Request that a maximum duration for compensatory measures, and they be defined as shown in Table 1. Table 1 contains quotations from NUREG/CR-7135.</p>	<p>The question of long-term impairments has previously been raised in numerous 10 CFR 2.206 petitions, and in each case, the NRC's Director's Decision has found that long-term compensatory measures are legally permissible (reference Director's Decision DD-96-03, dated April 3, 1996).</p> <p>Table 1 taken from NUREG/CR-7135 is a contractor report and may not represent official NRC or industry policies or positions, although it may provide beneficial information.</p>
<p><u>Page 2</u></p> <p>Chronology</p>	<p>Exelon believes that the chronology presented is incomplete. The following milestones are presented:</p> <ul style="list-style-type: none"> September 1976 – NRC requests sites submit FP TS.

Petition for Rulemaking Assertion	Exelon Position
	<ul style="list-style-type: none"> • December 1976 – NRC transmits model FP TS to sites (containing compensatory measure provisions, surveillance requirements, etc.). • 1977 revision to RG 1.33 to require administrative procedures for the plant FPP. • Early to mid-1980s – NRC performs Fire Probabilistic Risk Assessment (PRA) (using simplified, conservative methodologies) • 1987 Commission Policy Statement to remove FP requirements from TS. • GL 88-20 related Individual Plant Examination of External Events (IPEEE) (Fire IPEEEs performed in early 1990s via GL 88-20, Supplement 4).
<p><u>Page 8</u></p> <p>The term "adverse to safe shutdown" is not clearly defined.</p>	<p>The types of FP changes a licensee can make without prior NRC approval is clearly articulated in GL 86-10, which forms the basis for licensees that have adopted the standard FP License Condition. Subsequently, following revisions to the NRC's 10 CFR 50.59 process, this guidance for making FP changes was reiterated in the Nuclear Energy Institute's (NEI's) guidance document NEI 02-03, which was submitted to the NRC for endorsement.</p>
<p><u>Page 8</u></p> <p>Compensatory measures guidance documents were not developed via an open process.</p>	<p>The petitioners do not specify what requirements or policies should have been in place when the guidance for compensatory measures was developed and implemented.</p> <p>The historical evidence suggests that NRC followed the process that was in effect at the time their expectations were communicated.</p> <p>NSSS-vendor Standard TS revisions issued in the 1980s appear to have been processed via open processes (all NUREGs). These Standard TS also contained the NRC's model FP TS.</p>

Petition for Rulemaking Assertion	Exelon Position
	<p>The removal of FP requirements from TS was based on a 1987 Commission Policy Statement. Subsequently, each licensee would have needed to process a TS change via the license amendment process pursuant to 10 CFR 50.90, which should have also provided the public an opportunity to comment.</p> <p>The fundamental point of the removal of FP requirements from the TS was that the safety significance was deemed low.</p>
<p><u>Page 8</u></p> <p>The public has never had a chance to weigh in on the acceptability or the duration of fire protection compensatory measures.</p>	<p>Exelon does not necessarily agree with this position. The NRC has and continues to solicit stakeholder comments on its regulatory processes including those pertaining to FP requirements and guidance. The NRC also provides the opportunity for stakeholder interaction through the 10 CFR 2.206 petition process. There have been a number of 2.206 petitions on this topic.</p>
<p><u>Page 11</u></p> <p>The petition matters because "fire risk is roughly equal to all other core damage risks combined."</p>	<p>Exelon does not consider the analogy equivalent.</p> <p>Fire risk as reported in site Fire PRAs, is the summation of numerous discrete scenarios. The risk significance of any particular FP feature (e.g., barrier, seal, sprinkler, detector, etc.) is very small, since that feature is only relevant to a very small subset of all the scenarios that make up the summation.</p> <p>The NRC already had the benefit of very conservative early Fire PRAs when they made the decision in GL 86-10 and GL 88-12 to remove FP from TS. As the NRC has already concluded, the risk significance of any one specific FP feature being out-of-service is too low to justify elevating it to the controls required by 10 CFR 50.36. Current refinements in Fire PRA methodologies have removed unnecessary conservatisms in risk calculation methods, lowering Core Damage Frequency (CDF) values even further than those that existed when the NRC made their decision in 1987.</p>

Petition for Rulemaking Assertion	Exelon Position
Attachment 1 – List of Licensee Event Reports (LERs)	<p>The petitioners have provided a listing of LERs showing that inoperable FP features were at one time reportable per TS, and that fire watches were used as compensatory measures.</p> <p>NRC authorized the removal of FP requirements from the TS based on its 1987 Commission Policy Statement. This decision recognized that the low safety significance of individual FP features did not justify regulation via 10 CFR 50.36. Once a site relocated FP operability requirements from TS to a licensee-controlled document, inoperable FP equipment was no longer a reportable condition that would necessitate an LER due to TS inoperability. This was part of the NRC's intention in encouraging licensees to remove FP requirements from TS.</p> <p>Additionally, the list of LERs in Attachment 1 shows that licensees were following their FPP requirements by instituting fire watches when inoperable FP features occurred or were discovered. This is an illustration of the process working as intended.</p>

Additional Comments

1. If the NRC is required to follow Executive Order 13563, then it is not clear how this rulemaking request would meet the stipulations of the Executive Order. As noted, the petitioners are requesting that the NRC promulgate regulations for establishing acceptable conditions for use of compensatory measures during periods when fire protection regulations are not met. There does not appear to be sufficient justification supporting a rulemaking that would justify the cost of its implementation. There are alternative regulatory approaches that have been utilized to communicate NRC expectations regarding the timely repair of impaired fire protection SSCs and implementation of compensatory actions.
2. The petitioners state that the compensatory measure guidance is deficient because:

- The guidance documents are not regulations and, therefore, convey unenforceable expectations.
- The guidance documents are not clear, creating confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes an acceptable substitute for compliance with fire protection regulations as well as the permissible duration of the substitutions.
- The guidance documents were not developed through an open process, thus depriving the public opportunities to weigh in on the acceptability of various compensatory measures.

Exelon does not agree with the three (3) positions described above and offers the following additional information to support our position:

- As part of a licensee's Operating Experience (OE) review process these types of documents (e.g., RGs, NUREGs, GLs, Regulatory Information Summaries (RISs)) are reviewed and applicable information is incorporated into the site's FPP. This provides a regulatory basis which is reviewed and, therefore, the FPP requirements are enforced by the NRC. In addition, the licensee's timeliness of corrective actions and use of industry and NRC OE is evaluated under NRC Inspection Procedure (IP) 71152.
- Compensatory measures for out-of-service, degraded, or inoperable FP equipment are evaluated under NRC IPs 71111.05-01, 71111.05-01XT, and 71111.05AQ-01. There are examples in which the NRC identified items of non-compliance during its inspection activities under these IPs. The results of these inspections are available to the public for their review.
- Exelon believes that based on the early examples provided by the petitioners, it could be construed that there were constituents that needed further guidance. However, over the years the NRC has addressed issues by publishing several documents that provide additional guidance regarding compensatory actions such as:
 - RIS 2005-07, *"Compensatory Measures to Satisfy the Fire Protection Program Requirements,"* dated April 19, 2005
 - NUREG/CR-7135, *"Compensatory and Alternative Regulatory Measures for Nuclear Power Plant Fire Protection,"* dated August 2015
- In addition, NEI published a white paper on alternative fire protection compensatory measures which is captured in ADAMS (ML33381055).

- NRC guidance documents (e.g., RGs and NUREGs) are made publicly available so that interested stakeholders have an opportunity to review and comment on the documents, when applicable. This provides an acceptable approach for stakeholder feedback pertaining to the NRC's expectations for acceptable methods in implementing its regulations.
3. The petitioners seem to be expressing a concern about individuals being fire watches and expected to use fire extinguishers without receiving training and there being no consequences if the site's procedures do not require the training. Exelon does not agree with the petitioners' position regarding this issue. Individuals whose job duties require them to use fire extinguishers are required to be trained by insurance company standards and the Occupational Safety and Health Administration (OSHA) requirements under 29 CFR 1910.157(g) and any consequences would be imposed by these organizations, if applicable.