ATTACHMENT

NEI Backfit Comments
Draft Regulatory Guide DG-1240
Condition Monitoring Program for Electric Cables Used in Nuclear Power Plants

I. Draft Guide-1240 Represents a New Staff Position on Maintenance Rule Implementation.

Draft Guide 1240 articulates a new staff position interpreting the maintenance rule, as applied to electric cables at nuclear power plants. Through this new position, the NRC staff is recommending that licensees modify existing maintenance rule procedures required to operate nuclear power plants by adopting component-level condition monitoring programs for electric cables.

For over 17 years, the maintenance rule (codified at 10 C.F.R. § 50.65) has been implemented pursuant to NRC-endorsed industry guidance: NUMARC 93-01 "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The approach specified in NUMARC 93-01 was originally endorsed by the NRC in 1993 through issuance of Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Regulatory Guide 1.160 contains guidance on scoping maintenance rule programs; assigning risk significance levels to structures, systems and components; establishing and monitoring *performance criteria* under § 50.65(a)(2); and establishing and monitoring *performance goals* under § 50.65(a)(1). The approach to maintenance rule implementation provided in NUMARC 93-01 and Regulatory Guide 1.160 is well understood by both industry and NRC, and has been successfully implemented for nearly two decades.

In Draft Guide 1240, the NRC staff articulates a new position with respect to application of the maintenance rule to electric cables. Without applying the existing NRC-endorsed maintenance rule guidance, Draft Guide 1240 concludes that "it is necessary to monitor the condition of electric cables throughout their installed life through the implementation of a cable condition monitoring program."[1] As a general matter, this type of component-level monitoring of electric cables has not been required under the maintenance rule in the past. Instead, cables have been addressed primarily through monitoring the performance of the trains and systems that they service pursuant to § 50.65(a)(2), or through monitoring of plant-level performance where appropriate. This approach is supported by Reg. Guide 1.160, which states:

> Some monitoring at the component level may be necessary; however, it is envisioned that most of the monitoring could be done at the plant, system, or train level. SSC's with high safety significance and standby SSC's with low safety significance should be monitored at the system or train level. Except as noted in the Regulatory Position of this guide, normally operating SSCs with low safety significance may be monitored through plant-level

[1] Draft Guide-1240, at 3.

> performance criteria, including unplanned scrams, safety system actuations, or unplanned capability loss factors.[2]

Further, when § 50.65 was added to Part 50 in 1991, it was clear that the Commission viewed electric cables as a component that was "inherently high reliability and availability" and, thus, not subject to the monitoring regime required by § 50.65(a)(1). Specifically, the Supplementary Information published with the final rule states:

> The purpose of paragraph (a)(2) of the rule is to provide an alternate approach for those SSCs where it is not necessary to establish the monitoring regime required by (a)(1). *For example, this provision might be used where an SSC, without preventive maintenance, has inherently high reliability and availability (e.g., electrical cabling)* or where the preventive maintenance necessary to achieve high reliability does not itself contribute significantly to unavailability (e.g., moisture drainage from an air system accumulator). The licensee is encouraged to consider the use of reliability-based methods for developing the preventive maintenance programs covered under this section of the rule; however, the use of such methods is not required.[3]

In Draft Guide 1240, the NRC staff has modified this position and now asserts that a comprehensive, component-level monitoring program is necessary in order to achieve compliance with the maintenance rule. Indeed, most of Draft Guide 1240 is devoted to describing the attributes of a cable monitoring program that the NRC staff would find acceptable under its modified interpretation of the maintenance rule.[4] The staff seems to base its new interpretation on operating experience, stating:

> The integrity of electric cables is monitored, to some extent, through periodic inservice testing of the equipment to which they are attached; however, this testing does not specifically focus on the cables and may not be sufficient to detect all of the aging and other degradation mechanisms to which a particular cable is susceptible. While these tests can demonstrate the function of the cables under test conditions, they do not verify the continued successful performance of cables when called upon to operate fully loaded for extended periods, as they would under anticipated normal service operating conditions or under design-basis conditions. Nor does inservice testing of a cable provide specific information on the status of aging degradation processes or the physical integrity and dielectric strength of its insulation and jacket materials. Consequently, a cable circuit with undetected damaged or degraded insulation could pass an inservice functional test but still fail unexpectedly when called upon to operate under anticipated environmental conditions or

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[2] Reg. Guide 1.160, at 3.
[3] 56 Fed. Reg. 31306, 30308 (July 10, 1991)(emphasis added).
[4] No detailed discussion of the maintenance rule or the associated guidance is provided in Draft Guide 1240. The document simply states that "the programmatic approach and condition monitoring may be used to demonstrate compliance with wither paragraphs (a)(1) or (a)(2) of the Maintenance Rule." Draft Guide-1240, at 1.

> the more severe stresses encountered in emergency operation during a design-basis event (i.e., fully loaded equipment, more extreme environmental conditions, extended operation in a heavily loaded state). Recent operating experience indicates inservice failures of several power cables.
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> Operating experience reveals that the number of cable failures is increasing with plant age, and that cable failures are occurring within the plants' 40-year licensing periods. These cable failures have resulted in plant transients and shutdowns, loss of safety functions and redundancy, entries into limiting conditions for operation, and challenges
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> to plant operators. While in many cases the failed cables were identified through current testing practices, some of the failures may have occurred before the failed condition was identified (i.e., on cables that are not normally energized or tested). Therefore, it is necessary to monitor the condition of electric cables throughout their installed life through the implementation of a cable condition monitoring program.[5]

II. Backfit Analysis or Clarification of Implementation Section of Draft Guide-1240 is Required.

While NEI does not agree that existing operating experience on cable failure warrants a generic change to maintenance rule implementation for electric cables, we recognize that in certain circumstances operating experience could provide a basis for a change in regulatory position. However, when changing position, the staff must appropriately address the agency's obligations under 10 C.F.R. § 50.109 (i.e., backfit rule).

As the NRC's General Counsel recently articulated:

> As a general matter . . . NRC staff "guidance" must be subject to the Backfit Rule if either: (i) the NRC staff intends the positions presented in the proposed interpretive guidance become (through further NRC action) legally binding upon a licensee; *or (ii) the NRC staff's expectation that licensees "voluntarily" adopt the "guidance" constitutes the basis (or a part of the bases) for resolution of a safety or regulatory issue.* In these limited circumstances, the NRC's policy is that compliance with the Backfit Rule's provisions should not await the imposition of "guidance," but should be addressed as part of the preparation and issuance of such "guidance."[6]

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[5] Draft Guide-1240, at 2-3.

[6] Letter From Stephen G. Burns (NRC) to Ellen C. Ginsberg (NEI), July 14, 2010, at 1 (emphasis added)(internal footnotes omitted)(Burns Letter).

In contrast, the General Counsel explained that backfitting need not be addressed in situations where guidance will only be applied prospectively. That is, in situations where guidance will be applied only to: (i) future applicants; and (ii) applications from existing licensees for license amendments, requests for exemptions, and other requests for dispensation from compliance with otherwise-applicable legally binding requirements (e.g., code relief requested pursuant to 10 C.F.R. § 50.55a).[7]

In the section entitled "Implementation," Draft Guide 1240 states:

> The NRC has issued this draft guide to encourage public participation in its development. The NRC will consider all public comments received in development of the final guidance document. In some cases, applicants or licensees may propose an alternative or use a previously established acceptable alternative method for complying with specified portions of the NRC's regulations. *Otherwise, the methods described in this draft guide will be used in evaluating compliance with the applicable regulations for license applications, license amendment applications, and amendment requests.*[8]

This paragraph indicates that Draft Guide -1240 will only be used to determine compliance with the maintenance rule when evaluating applications for new licenses or license amendments. This limitation, however, is inconsistent with NEI's understanding of the purpose of the Draft Guide. Specifically, based on extensive interactions with the NRC staff through efforts to pilot the Regulatory Issue Resolution Protocol (RIRP Cable Pilot), NEI understands that NRC staff intends to use Draft Guide -1240, at least in part, to resolve regulatory issues related to cable management at operating nuclear power plants. Importantly, the issues relevant to the RIRP Cable Pilot came to light primarily during inspections at operating nuclear power plants in situations where licensees *were not* seeking to modify their existing licensing bases through license amendment requests or exemptions. Further, through its work with the NRC staff on the RIRP Cable Pilot, NEI understands that the NRC staff intends to propose the final version of Draft Guide-1240 as "durable guidance," which will serve to "close" the Cable Pilot. NEI believes that relying on Draft Guide -1240 as such "durable guidance" would necessarily mean that the staff will expect licensees to voluntarily adopt the guidance to resolve the regulatory issues presented in the RIRP Cable Pilot. The NRC's November 3, 2010, letter on closure of the RIRP Cable Pilot supports NEI's understanding of Draft Guide-1240. Specifically, this letter states:

> With regard to the long term actions for industry . . . NRC believes that implementation of a cable's monitoring program that is consistent and complies with the Maintenance Rule will help ensure the long-term performance of inaccessible cables. NRC Draft Regulatory Guide, DG-1240 . . . describes a method that the staff considers acceptable for condition monitoring for electric cables for nuclear power plants. Implementing an NRC approved cables

[7] Burns Letter, at 2. While NEI does not necessarily agree with this interpretation, we cite it here in order to obtain clarity as to how Draft Guide-1240 will be used if it is finalized.
[8] Draft Guide-1240, at 9 (emphasis added).

> monitoring program and ensuring all cables are maintained in an environment for which they were designed, will provide the reasonable assurance that the intended functions of inaccessible or underground power cables are maintained consistent with the current licensing basis.[9]

Consistent with the NRC General Counsel's statements quoted above, if the NRC intends to use Draft Guide -1240 to evaluate the adequacy of licensees current maintenance rule programs in situations that do not involve license amendment requests or other voluntary requests by the licensee to modify its licensing basis, then the requirements of the NRC's backfit rule (10 C.F.R. § 50.109) must be addressed as part of the preparation and issuance of the guidance.

Thus, NEI requests that the NRC staff explicitly and meaningfully address the backfit rule and republish the Draft Guide – including the requisite backfit analysis – for public comment. This analysis should include either:

- An explanation of the Commission's determination that the proposed backfit will result in a substantial increase in the overall protection of the public health and safety or the common defense and security, and that the direct and indirect costs of implementation for that facility are justified in view of this increased protection.[10]
- A documented evaluation including a statement of the objectives and reasons for the modification and the basis for invoking one of the exceptions to the backfit rule.[11]

Alternatively, if Draft Guide-1240 will, in fact, only be applied in situations where the staff is evaluating applications for new licenses or license amendments, NEI requests that the NRC staff provide an unambiguous statement to that effect in the Implementation Section of the final guidance document. [12] Specifically, if this is the case, NEI recommends that the Implementation

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[9] Letter from Timothy J. McGinty (NRC) to Jeannie M. Rinckel (NEI), November 3, 2010 (internal quotations omitted).

[10] 10 C.F.R. § 50.109(a)(3).

[11] 10 C.F.R. §§ 50.109(a)(4), (a)(6). Notably, the 1985 final rule promulgating the modern Backfit Rule explicitly states that the Commission intended the "compliance exception" described in § 50.109(a)(4)(i) to be construed narrowly:

> The compliance exception is intended to address situations in which the licensee has failed to meet known and established standards of the Commission because of omission or mistake of fact. *It should be noted that new or modified interpretations of what constitutes compliance would not fall within the exception and would require a backfit analysis and application of the standard.*

Revision of Backfitting Process for Power Reactors, 50 Fed. Reg. 38,097, 38,103 (Sept. 20, 1985).

[12] According to the NRC General Counsel's July 10 letter, such guidance would escape consideration under the backfit rule *only if*: (1) the new or revised guidance relates directly to the licensee's voluntary request; and (2) the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff's determination of the acceptability of the licensee's voluntary request. Burns Letter, at FN 2.

Section of Draft Guide -1240 be revised to include the following language, which is consistent with language included in several other recently issued regulatory guides:[13]

> **Applicant and Licensees' Use**
> Applicants and licensees may (i.e., voluntarily) use the information in this regulatory guide to develop applications for initial licenses, amendments to licenses, or other requests for NRC regulatory approval (e.g., exemptions). Licensees may use the information in this regulatory guide for actions which do not require prior NRC review and approval (e.g., changes to a facility design under 10 CFR 50.59 which do not require prior NRC review and approval). Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by committing to comply with provisions in the regulatory guide).
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> Current licensees may continue to use the guidance that was found acceptable for complying with specific portions of the regulations as part of their license approval process, which may be a previous version of this Regulatory Guide.
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> A licensee who believes that the NRC staff is inappropriately imposing this Regulatory Guide as part of a request for a license amendment or request for a change to a previously issued NRC regulatory approval may file a backfitting appeal with the NRC in accordance with applicable procedures.
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> **NRC Staff Use**
> The NRC staff does not intend or approve any imposition or backfitting of the guidance in this Regulatory Guide. The staff does not expect any existing licensee to use or commit to using the guidance in this Regulatory Guide in the absence of a licensee-initiated change to its licensing basis. The NRC staff does not expect or plan to request licensees to voluntarily adopt this Regulatory Guide to resolve a generic regulatory issue. The NRC staff does not expect or plan to initiate NRC regulatory action which would require the use of this regulatory guide (e.g. issuance of an order requiring the use of the Regulatory Guide, requests for information under 10 CFR 50.4(f) as to whether a licensee intends to commit to use of this regulatory guide, generic communication, or promulgation of a rule requiring the use of this Regulatory Guide) without further back-fit consideration.
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> During inspections of specific facilities, the staff may suggest or recommend that licensees consider various actions consistent with staff positions in this regulatory guide. Such suggestions and recommendations would not ordinarily be considered backfitting even if prior versions of this Regulatory Guide are part of the licensing basis of the facility with respect to the subject matter of the inspection. However, the staff may not represent to the

[13] *See, e.g.*, *ASME Code Cases Not Approved for Use*, Regulatory Guide 1.193, Rev. 3 (Oct. 2010); *Service Level I, II, and III Protective Coatings Applied to Nuclear Power Plants*, Regulatory Guide 1.154, Rev. 2 (Oct. 2010).

licensee that: (i) the licensee's failure to comply with the positions in this Regulatory Guide constitutes a violation; (ii) the licensee may avoid the violation by agreeing to comply with this Regulatory Guide; or (iii) the only acceptable way for the licensee to address the NRC-identified non-compliance or violation is to commit to this Regulatory Guide (i.e., including this Regulatory Guide in the facility's licensing basis).