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Comment On: NRC-2010-0230-0001
Construction Reactor Oversight Process; Request for Public Comment

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Comment on FR Doc # 2010-15321

Submitter Information

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General Comment

NEI Comments on Construction Reactor Oversight Process Request for Public Comment

Attachments

NRC-2010-0230-DRAFT-0003.1: Comment on FR Doc # 2010-15321
NRC-2010-0230-DRAFT-0003.2: Comment on FR Doc # 2010-15321

SUNSI Review Complete
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Add = K. Mattern (KSM)

NUCLEAR ENERGY INSTITUTE

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August 6, 2010

Ms. Cynthia K. Bladey
Chief, Rules, Announcements and Directives Branch
Division of Administrative Services
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Construction Reactor Oversight Process - Request for Public Comment: Docket ID NRC-2010-0230

Project Number: 689

Dear Ms. Bladey:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)[1] offers the following comments in response to the June 24, 2010 *Federal Register Notice* (FRN) (*75 Fed. Reg. 36124*) regarding the construction reactor oversight process. The industry has appreciated the opportunity to participate in public meetings since December 2009 in the development of a construction reactor oversight process which the NRC staff is considering proposing to the Commission for the oversight of construction at new nuclear power plants.

The attachment to this letter provides our response to the seven specific questions posed in the FRN.

The industry first suggested a new approach to construction oversight to the NRC in a letter and white paper dated July 2, 2009 from Russ Bell to Glenn Tracy. Following a public "Construction Assessment Panel" meeting on November 16, NRC and industry each formed a working group. These groups have been meeting frequently in public to discuss aspects of the proposed new approach, which is based on

[1] NEI is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

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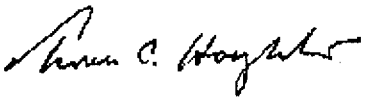
the key principles inherent in the reactor oversight process for operating reactors. The key objectives of the approach are to assess whether the plant has been built in accordance with the licensed design and that the operational programs are ready for operation. The process must be predictable and consistent in its oversight of the licensee, and must be transparent and understandable for the public.

Again, the industry appreciates the opportunity to provide comments for NRC's consideration as it proceeds in the development of a construction reactor oversight process which can be used to asses licensee performance during nuclear power plant construction.

If you have any questions, please contact me at (202) 739-8107; tch@nei.org.

Sincerely,



Thomas C. Houghton

Attachment

c: Mr. Luis A. Reyes, R-II, NRC
Mr. Glenn M. Tracy, NRO/DCIP, NRC
Mr. Timothy J. Frye, NRO/DCIP/CAEB, NRC
Mr. Thomas J. Kozak, NRO/DCIP/CAEB, NRC

Regarding
Construction Reactor Oversight Process:
Request for Public Comment
***75 Fed. Reg. 36124*, June 24, 2010**

Questions for Which NRC Is Seeking Input

(1) The staff has developed a draft of a new cROP regulatory framework, including cornerstone objectives, attributes and areas to measure (ADAMS Accession Nos. ML101050249; ML101050247). Are there important aspects of new reactor construction licensee performance that are not captured by the draft cROP regulatory framework?

We believe that the framework, cornerstone objectives, attributes and areas to measure provided in the referenced ADAMS documents are appropriate and sufficient for assessing the licensee's construction program and activities; in particular, the licensee's ability to construct the plant in accordance with the licensed design and the operational programs are satisfactory for operation. The framework provides a platform for the NRC to communicate with licensees and the public on the status of the construction program and the areas which NRC has assessed.

(2) Is there a role for construction performance indicators as an input into the assessment of licensee construction activities? If so, what aspects of licensee activities during construction could be objectively measured by a PI? What should be considered in determining performance indicators and their thresholds?

In the Reactor Oversight Program, the performance indicators complement inspection findings and provide objective evidence of performance. For example, they measure numbers of initiating events which could lead to core damage and the availability and reliability of mitigating systems equipment. We believe that there are significant differences between the mature operating industry, with its extensive data bases of operating experience and events, and new construction, which make the use of performance indicators problematic at this time. For example, there are no sets of data on construction performance. Without historical data, thresholds of performance, which would dictate points at which increased NRC inspection activity is warranted, cannot be set. Another problem is that without fuel on site, performance indicators are basically indications of cost and schedule, which are not relevant to the construction reactor oversight objectives or cornerstones. Despite these problems, industry supports the concept of using performance indicators to inform the oversight process. To that end, the industry recommends that the NRC defer the use of performance

indicators until sufficient new reactor construction data is available to support the establishment of a meaningful performance indicator program.

(3) In the ROP, inspection findings are evaluated and given a color designation based on their safety significance using a risk-informed approach (the Significance Determination Process). What processes could be used to effectively and efficiently evaluate the safety significance of construction inspection findings?

Because there is no potential for core melt during new construction until fuel is loaded and criticality has been achieved, the ROP's core damage frequency significance determination process is not appropriate. However, work has been proceeding on two promising approaches to assessing performance based on the importance of the system, structure or components (SSC), and the degree, or extent, of deficiency with respect to (1) repeat items in the corrective action program, (2) the need for repair or replacement, and (3) to what extent the licensee has accepted the SSC. One approach uses a flowchart, similar in concept to several of the ROP SDPs; the other approach uses a matrix, one axis of which consists of the importance of the SSC and the other axis the degree of deficiency. At this point, the matrix approach may be preferable, but additional analysis and table top exercises are needed to confirm this position. Additional work is necessary to determine the appropriate metric for the importance of the SSC.

(4) For the cROP, the staff intends to use a Construction Action Matrix similar to the ROP to assess licensee performance. Is there a more effective and efficient alternative approach that could be taken? If not, what inputs should be considered in the Construction Action Matrix?

The construction action matrix, similar to the ROP action matrix, will allow NRC to predictably and transparently determine what level of additional inspection beyond the baseline inspection program is appropriate. It does this by considering both multiple performance deficiencies within a cornerstone, and individual more significant performance deficiencies. As in the ROP, this allows for a broad spectrum of NRC response for gradual, unchecked decline in performance, and for very significant individual performance deficiencies. Thus, each performance deficiency is assessed using the SDP to determine its unique importance, and a growing weakness in a particular cornerstone can trigger additional actions. For example, with only one white in a cornerstone, or only one white in multiple cornerstones, the licensee moves from the licensee response band to the regulatory response column. If there are multiple whites in a cornerstone, one moves to the degraded cornerstone column. We believe that the ROP structure is appropriate for use in the cROP.

(5) In the ROP, the NRC currently assigns safety culture component aspects to findings when appropriate. Substantive cross-cutting issues are identified when certain thresholds are crossed. Should the NRC treat findings in a similar manner in the construction environment?

A strong nuclear safety culture at a construction site, as at an operating plant, is essential. However, it is not clear that the current approach used in the ROP is appropriate for two reasons. First, industry has concerns whether the current ROP approach is effective. The industry has proposed an alternate approach to the NRC for operating plants. We will in the future present an alternative approach for new construction. The essence of the industry approach is that it should place the licensee in the lead role with NRC providing effective oversight. Second, the components and aspects of safety culture at an operating plant may not be a complete match with those at a construction site. Following the Commission's actions regarding a safety culture policy statement and accompanying traits, we will explore the specific traits (components and aspects) which are applicable to a construction site as opposed to an operating plant.

(6) When is the appropriate time to transition from the cROP to the ROP? What is the basis for this proposed transition point?

This is a complicated question which requires consideration of multiple issues. For example, at what point is the plant in a more operational and hence risk of core damage mode, as opposed to a construction and hence "is the plant being constructed in accordance with its design" mode? Is it more appropriate to transition at fuel load, or after being declared in commercial operation? (System testing and turnover, startup testing, etc. all require oversight; however, the purpose of this testing is to determine readiness, much like a post maintenance check, and failures, while not desired, are not unexpected and should not necessarily be considered performance deficiencies in the ROP sense. Another issue in determining the transition point is what works best for the efficiency and experience of inspection staff. Yet another is when will there be adequate data to implement the performance indicator program. In summary, we believe additional analysis and discussion is necessary to determine the answer to this question.

(7) In addition to the previously mentioned issues, commenters are invited to give any other views on the NRC assessment process that could assist the NRC in improving its effectiveness.

The industry appreciates NRC's thoughtful approach to developing the construction assessment process and its willingness to work with stakeholders to create the new approach. While we believe the approach chosen will reflect thoughtful analysis, it will continue to evolve due to unforeseen situations as we experience the new wave of construction. Thus, as the ROP, it will be a continuous improvement process. Therefore, we recommend that ongoing public meetings continue on some appropriate periodicity to address new issues.