UNITED STATES
NUCLEAR REGULATORY COMMISSION
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March 22, 2018

MEMORANDUM TO: Anthony T. Gody, Jr., Director
Division of Reactor Safety, Region II

FROM: James A. Isom, Senior Reactor Operations Engineer **/RA/**
Reactor Inspections Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE PUBLIC MEETING ON FEBRUARY 22, 2018 TO PRESENT THE RECOMMENDATIONS FOR THE NEW SUITE OF REACTOR OVERSIGHT PROCESS (ROP) ENGINEERING INSPECTIONS DEVELOPED BY THE NRC ROP ENGINEERING INSPECTION WORKING GROUP.

On February 22, 2018, the Nuclear Regulatory Commission (NRC) management and staff conducted a meeting to present the recommendations for the new suite of Reactor Oversight Process (ROP) engineering inspections which were developed by the NRC ROP Engineering Inspection Working Group (EIWG). The purpose of the February meeting was to discuss the EIWG recommendations to the industry and members of the public to seek their feedback. Following topics were presented:

- Principle Considerations Used During the Review
- Overall Results
- Proposal of New Suite of Engineering Inspections
- Licensee Self-Assessments
- Next Steps/Milestones

Enclosure 1 contains the meeting attendance list.

Enclosure 2 contains the presentations and handouts discussed during the meeting.

Mr. Mike King, Deputy Director, Division of Inspections and Regional Support, Office of Nuclear Reactor Regulation provided the opening remarks. Mr. King described the past NRC efforts to make the design bases inspection more effective and efficient and how that effort resulted in the bifurcation of the Component Design Bases inspection into its current structure “Design Bases Assurance” inspection team and program.

Enclosures:
As stated

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The Agency recognized that the past effort did not go far enough and decided to take a fresh look at the current suite of ROP engineering inspections in an effort to create a more effective and efficient engineering inspections. Mr. King stated that the presentation NRC will be making today is a culmination of this effort which began last year.

Mr. Tony Gody, Director, Division of Reactor Safety, Region II began the presentation (slides 2 through 5) by stating that it was his goal is to have a conversation on the EIWG recommendations which would be presented today. Mr. Gody provided brief history of past public meetings and the purpose for them. The intended outcome of this February meeting was to provide awareness and understanding to the various stakeholders on the EIWG recommendations, its bases and the path forward. Mr. Gody went on to state that the statements made today are the thoughts of the working group and should, in no way, be considered NRC position or policy. The working group recommendations will be provided to the NRR Division of Inspection and Regional Support and the recommendations will be used to prepare the Commission Paper. NRC plans to implement the approved changes to the ROP engineering inspections based on the Commission approval of the NRC staff's recommended changes contained in the Commission Paper.

After Mr. Gody's remarks, Mr. Halnon of First Energy Corporation provided feedback for the nuclear industry. Mr. Halnon stated that his intention is to be in listening mode and is looking forward to giving feedback to the NRC.

Following Mr. Halnon's remarks, Mr. Gody presented power point slides on the principal considerations used for the engineering review and the overall results (slides two through five). Mr. Gody stated that the principal considerations were to:

- Consider all stakeholder input
- Increase or maintain the effectiveness of our engineering inspections through 1) providing independent oversight; 2) identification of latent conditions; 3) increase relevance to current challenges; 4) eliminate overlap between inspections; 5) and capture advantages of holistic inspection of engineering design changes.

Mr. Gody stated that 18 plus years of engineering inspection in the design area has verified that there is value added through performing independent inspections and that NRC has performed credible assessment of plant design.

Overall, Mr. Gody recommended that NRC continue performing independent engineering inspections at all sites annually through use of new suite of engineering inspections. The new suite of engineering inspections will consist of one comprehensive team inspection (CETI) and three focused engineering inspections (DEI) over a 4 year time period. These changes will result in reduction of six inspection procedures to four and overall reduction of about 16 percent in direct (onsite NRC presence) effort.

The new engineering inspections will focus on changes taken place at the facilities and inspecting engineering areas which have not been inspected for sometime. Also, the Agency will obtain increased agility in their ability to address recent operating events using the FEIs.

Mr. Marvin Sykes, Branch Chief, Engineering Branch 1, Division of Reactor Safety, Region II provided a discussion on the structure of the proposed engineering inspections (slides 6 and 7).

Mr. Sykes presented the current engineering inspections over a triennial cycle. He discussed each engineering inspection and the resources NRC expends on them. Next, he presented the proposed engineering inspection which will have quadrennial periodicity. Mr. Sykes explained that the EIWG believed that the increasing the cycle to a four year periodicity was justified based on the extensive NRC inspections of these engineering areas over the last 17 years. The new inspection scheme will also allow for more agile inspections using the FEIs. The proposed engineering inspections will also allow for annual touch-points and the CETI will focus on changes to the Structures, Systems, and Components (SSCs) important to safety.

Mr. Sykes discussed the importance of having annual touch points in the engineering inspection proposal which provides assurance to the NRC that the licensees are implementing their engineering programs adequately. Additionally, the FEIs allow NRC to adjust their engineering inspection to changes in overall engineering performance and new industry challenges. The four year inspection cycle will also be short enough to adjust NRC inspections to current engineering areas of interest as well as ensuring that NRC inspectors can retain the knowledge received through training and which is necessary to accomplish any new FEIs in an effective and efficient manner. Mr. Sykes stated that the proposed recommendation balances the effectiveness and efficiency of the current engineering inspection program. He stated that proposal by industry for a five year inspection schedule challenges the NRC ability to maintain subject matter expertise in an engineering area and lessens the agility aspect of the proposed engineering inspection.

Mr. David Lochbaum of Union of Concerned Scientists asked whether the In-service Inspection (ISI) will depend on whether the plant is in an 18 or 24 month refueling cycle. The answer provided was yes, the ISI inspections are conducted every refueling outage.

Mr. Mark Jeffers, Branch Chief, Engineering Branch 2, Division of Reactor Safety, Region III, provided a description of the new comprehensive team inspection (slides 8 and 9). Mr. Jeffers stated that the NRC does not plan to continuously inspect the original licensing/design basis and that the focus of future comprehensive engineering inspections will be made to changes, aging management and operating experience. These changes include more than physical plant modifications but also includes design modifications, changes to calculations and design analysis, changes to plant procedures and other activities which could have the potential to introduce latent conditions in SSCs.

The purpose of the new comprehensive engineering team inspection (CETI) will be to 1) ensure that licensees are minimizing the occurrence of initiating events; 2) verify that SSCs can perform as designed; and 3) identify latent design issues that may only manifest themselves during events. Mr. Jeffers stated the importance of performing inspections like the CETI which identify latent conditions which may only manifest themselves during events and may not be identifiable through conduct of routine surveillance tests. CETI allows positive validation periodically that SSCs will function as designed. Also, it verifies aspects of the initiating events, mitigation systems, and barrier integrity cornerstones for which there are no indicators to measure performance. Additionally, the CETI allows NRC inspection of control of interdisciplinary interfaces and coordination among licensee organizations.

Mr. Halnon questioned if the sample used in the CETI will be focused on modifications made to risk-significant SSCs only. Mr. Gody replied that sampling requirements for the CETI can't be overly restrictive so that we will not be able to perform adequate number of samples. Mr. King agreed that we do not plan to limit the scope of the CETI review but the NRC will look for ways to make the information request more efficient and not so burdensome on the licensee staff.

Mr. Glenn Dental, Branch Chief, Engineering Branch 2, Division of Reactor Safety, Region I made a presentation (slides 10 and 11) of the focused engineering inspections (FEIs) and why these engineering inspections are part of the new proposed suite of engineering inspections.

Mr. Dental discussed how the three focused engineering area were selected based on risk insights, operating experience, potential for latent conditions, and recent engineering challenges. The three chosen were 1) fire protection; 2) external events (flooding, B.5.b, seismic and flex equipment); and 3) power-operated valves (motor-operated and air-operated valves). Mr. Dental agreed with the external stakeholder comment that the stand alone fire protection inspection which is currently in effect should be changed based on having inspected the fire protection design area during the last 17 years. He disagreed with external stakeholder comment that resident inspectors can perform inspection of fire protection system design. Mr. Dental stated that fire remains a high risk-significant contributor for many plants and operating experience demonstrates that fire initiation rate has remained relatively constant. The structure of the new focused engineering inspection will be three inspectors onsite for two weeks. In addition, the In-service inspection will be add a periodic oversight of 10-year ISI program implementation inspection and will continue to be conducted during outages.

NRC review of and replay to recent public comments made on the current NRC inspection on Environmental Qualification (EQ) will be addressed in a separate meeting.

Mr. Jim Isom, Senior Operations Engineering, Reactor Inspection Branch, Nuclear Reactor Regulations, Division of Inspections and Regional Support provided the impact on the inspection resources resulting from implementing the new suite of engineering inspections (slide 12). He described the reduction to 2.75 weeks onsite per year from the current 3.66 weeks onsite per year if the proposed 4 year inspection cycle is approved by the NRC Commission. The total number of NRC engineering inspections will be reduced from seven to six inspections. Mr. Isom stated that the average inspection hours per year would be reduced from 293 hour to 245 hours for a reduction of about 16 percent.

Mr. Isom concluded by stating that the EIWG believes that the changes will maintain reasonable assurance of safety and that current engineering inspections can be improved through new suite of engineering inspections conducted annually. The new suite of engineering inspections will provide a holistic, agile, flexible and relevant inspections.

At this point in the meeting, there were several comments and questions as follows:

- Will the entire fleet get the same focused engineering inspections?
- Will fire protection inspection become on the focused engineering inspections?
- Does the NRC plan to panel the inspection findings resulting from the CETI and FEI inspections?

Mr. Lochbaum commented that he is not sure if we will be maintaining safety because he does not know yet how many samples will be completed in the new inspection procedures.

After a short break, Mr. Dental provided information (slides 17 – 22) on the EIWG recommendations with respect to using licensee self-assessments in the future. Mr. Dental stated that NRC plans to continue dialogue on self-assessments with the industry and that the industry will need to develop standards which could be used to perform self-assessments consistently and with quality. Additionally, NRC would like to observe a project demonstration of

the licensee self-assessments and the use of licensee self-assessment maybe limited to licensees who have been in column one for three consecutive years.

The industry standard on self-assessments should address independence, clarity and reliability (i.e., be self-critical), be open and efficient. A project demonstration would be subject to NRC oversight, and be conducted in a same area as one of the FEIs so we can compare the self-assessment results with the NRC FEI inspection in the same area.

Mr. Dental presented a slide on how the licensee self-assessments might be incorporated into the proposed ROP engineering inspection proposal (slide 21). He stated that licensee self-assessments will not replace the engineering suite of inspections or the CETI. The self-assessment, if approved, can replace one of the FEI.

There were several comments from members of the public on Me. Dental's presentation. Mr. Halnon commented that movement between column one and two of the NRC Action Matrix can be for reasons other than inspection findings associated with an engineering area. For example, a security white finding can place the licensee in column two while the licensee's performance in the engineering area would by themselves still have the licensee placed in column one of the NRC Action Matrix.

Mr. Lochbaum stated in his view the licensee's performance period to determine whether self-assessments should be allowed should not be less than the proposed 4 year inspection cycle.

Mr. Halnon stated that NRC should have opportunities to audit three licensee self-assessments prior to year 4 of the proposed engineering inspection so that they could get an idea of the quality of these self-assessment efforts. Mr. Halnon also stated that the quality of licensee self-assessments can only be controlled so much using the industry guidance document. Also, Mr. Halnon suggested that a plant exhibiting good performance in the cross-cutting area may also be a good candidate for licensee self-assessment.

Mr. Lochbaum questioned whether we will implement the fixed FEI inspection or will implement a library approach in which the NRC Regional Offices will have the ability to implement any of the FEI in the NRC library of FEI inspections.

Mr. Wheat from Southern Nuclear suggested that lack of enforcement action could also be used as a tool to determine self-assessment can be performed at a site.

Mr. Lochbaum stated that a plants "X," "Y," "Z" can go and inspect plant "A" and plants "X," "Y," and "Z" can received benefits. Mr. Lochbaum asked whether these changes to the ROP engineering inspection will affect the inspections of dry cask storage containers. Mr. Lochbaum also stated that the inspection process will be improved by having the agility to perform inspections in different areas. There also was a question on how cyber inspection can be part of the FEIs in the future.

Mr. King provided a recap of the meeting and stated that he is interested in getting feedback on when to implement these changes; the library versus the defined FEI approach and use of licensee self-assessments.

Mr. Halnon replied that use of the library approach makes NRC inspection less predictable and the industry would like to have additional discussion on the use of the library approach.

In any case, there was agreement that FEIs for the first cycle was fixed. Additionally, there was a question from Region II inspection staff on whether contractor can be used in FEIs. Mr. Halnon stated that the industry's view of the use of contractors is that they are technically competent but needs to stay in bounds.

Mr. Gody concluded the meeting by thanking everyone for their feedback and stating that the statements made today are the thoughts of the working group and should, in no way, be considered NRC positions or policy. The working group recommendations will be provided to the NRC Division of Inspection and Regional Support to ultimately be part of a Commission Paper, which, if approved, will become changes to the NRC baseline inspection program.

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DATE	03/22/18	

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ATTENDANCE LIST FOR RECOMMENDATIONS FOR THE NEW SUITE OF REACTOR OVERSIGHT PROCESS (ROP) ENGINEERING INSPECTIONS DEVELOPED BY THE NRC ROP ENGINEERING INSPECTION WORKING GROUP
FEBRUARY 22, 2018

Anthony Gody	NRC	Greg Halnon	First Energy
Michael King	NRC	David Lochbaum	Union of Concerned Scientists
James Isom	NRC	Steve Tipps	Certrec Corporation
Glenn Dental	NRC	Beth Wetzel	TVA
Marvin Sykes	NRC	Justin Wheat	Southern Nuclear
Mark Jeffers	NRC		
Greg Warner	NRC		
CJFong	NRC		
Robert Williams	NRC		
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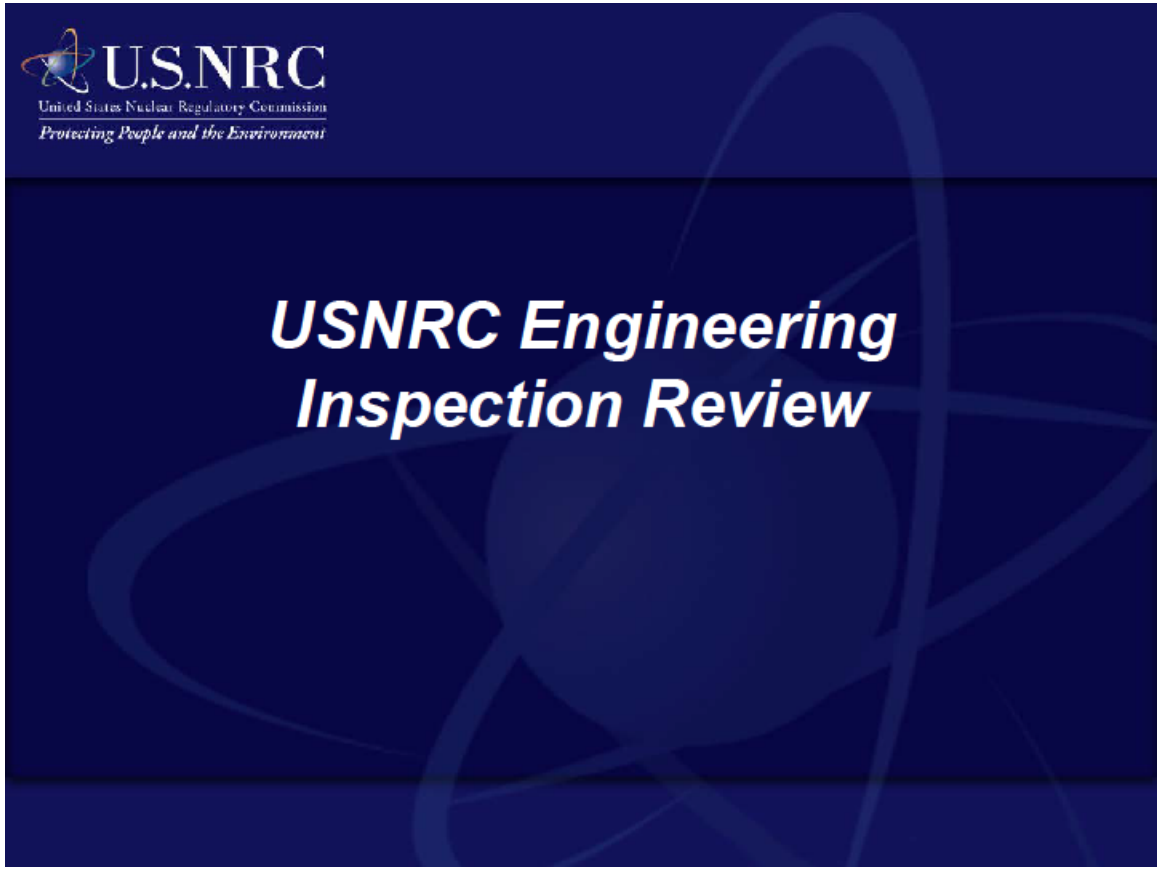
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Enclosure 2