



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 21, 2011

SECRETARY

COMMISSION VOTING RECORD

DECISION ITEM: SECY-10-0140

TITLE:            OPTIONS FOR REVISING THE CONSTRUCTION  
                  REACTOR OVERSIGHT PROCESS ASSESSMENT  
                  PROGRAM

The Commission (with Chairman Jaczko and Commissioners Apostolakis, Magwood and Ostendorff agreeing, and Commissioner Svinicki agreeing in part) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of March 21, 2011.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

A handwritten signature in black ink, appearing to read "Annette Vietti-Cook", written over a horizontal line.

Annette L. Vietti-Cook  
Secretary of the Commission

Attachments:

1. Voting Summary
2. Commissioner Vote Sheets

cc:     Chairman Jaczko  
          Commissioner Svinicki  
          Commissioner Apostolakis  
          Commissioner Magwood  
          Commissioner Ostendorff  
          OGC  
          EDO  
          PDR

VOTING SUMMARY - SECY-10-0140

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACZKO	X				X	12/22/10
COMR. SVINICKI	X	X			X	3/3/11
COMR. APOSTOLAKIS	X				X	3/1/11
COMR. MAGWOOD	X				X	1/14/11
COMR. OSTENDORFF	X				X	2/18/11

COMMENT RESOLUTION

In their vote sheets, Chairman Jaczko and Commissioners Apostolakis, Magwood and Ostendorff approved, and Commissioner Svinicki approved in part the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on March 21, 2011.

**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary

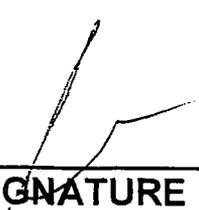
**FROM:** Chairman Gregory B. Jaczko

**SUBJECT:** SECY-10-0140 – OPTIONS FOR REVISING THE  
CONSTRUCTION REACTOR OVERSIGHT PROCESS  
ASSESSMENT PROGRAM

Approved  X  Disapproved   Abstain

Not Participating

**COMMENTS:** Below   Attached  X  None

  
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**SIGNATURE**

12/22/10  
\_\_\_\_\_  
**DATE**

Entered on "STARS" Yes  X  No

**Chairman Jaczko's Comments on SECY-10-0140,  
"Options for Revising the Construction Reactor Oversight Process Assessment  
Program"**

I approve Option 2 and Option 3. The purpose of the NRC's Construction Inspection Program is to ensure that an as-built facility (e.g., a new reactor) conforms to the conditions of the license for the facility. All three options for assessing licensee performance and processing inspection findings under the CIP developed by the staff would ensure that the purpose of the CIP is fulfilled. At this time the best of the three options appears to be Option 2, which will provide increased transparency and predictability of NRC's response concerning inspection findings.

As a near-term effort the staff, should implement the enhancements described in Option 2. Specifically, the staff should implement a construction regulatory framework, including strategic performance areas and cornerstones that uses traditional enforcement to disposition the Construction Inspection Program findings; and use the severity level of the findings as the input to the Construction Action Matrix (CAM). As a long-term effort, after at least 2 new reactors have been constructed, the staff should complete the development of the Construction Reactor Oversight Process (cROP) as described in Option 3.

In SECY-10-0140, and during the December 16, 2010, Commission Meeting, the staff pointed out that the traditional enforcement approach used to evaluate the significance of inspection findings has been used successfully during the Browns Ferry Unit 1 restart and is being effectively used to assess construction activities at Watts Bar Unit 2, the Louisiana Energy Services Gas Centrifuge Facility, and the U.S. Department of Energy Mixed Oxide Fuel Fabrication Facility. The staff has demonstrated good success implementing traditional enforcement approach and has not observed any widespread problems with its use in the construction assessment environment. The enhancements described in Option 2 will improve the transparency and predictability of this successful approach. In particular, the use of the CAM will provide increased transparency and predictability of NRC's response concerning inspection findings.

During the Commission meeting, there was discussion that while the use of traditional enforcement has been successful, there were concerns from the pre- Reactor Oversight Process (ROP) era about the consistency of using this process. The establishment by the NRC of the Center for Construction Inspection, which is responsible for implementing the construction inspection program for all new reactor construction, will ensure that inspection findings will be consistently processed for new reactor construction sites in each NRC region. Additionally, with the limited numbers of plants that may be under construction during the next five years, it will be significantly easier to ensure consistency of an appropriate NRC response to inspection findings.

I appreciate the noteworthy effort and consideration the staff has given to all the options, particularly the development of a significance determination process (SDP) and the use of performance indicators (PI) as described in Option 3. While I believe the current use of the SDP and PIs have proven to be effective regulatory tools for the Reactor Oversight Process for the existing fleet of operating reactors, the use of these tools for new nuclear plants under construction may be premature.

In SECY-10-0140 and during the December 16, 2010 Commission Meeting, the staff made clear that experience from significant construction work is needed for the development of meaningful construction PIs. These PIs would be the means to assess licensee performance and are

important inputs to any cROP. Without a set of meaningful PIs, it is difficult to see how Option 3, at this time, would be any more objective than Option 2. Without a set of meaningful PIs, the desired objectivity gain to be provided by Option 3 over Option 2 would only be a perception, fostered by the use of ROP-like language and not based on reality.

The planned construction of the first 2 new reactors in the coming years should provide the necessary construction experience the staff and industry needs to truly inform the use of a future SDP and PIs. Therefore, the staff should collect data and construction experience needed to develop these tools for future use.



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Grégory B. Jaczko

12/22/10

Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary  
FROM: COMMISSIONER SVINICKI  
SUBJECT: SECY-10-0140 – OPTIONS FOR REVISING THE  
CONSTRUCTION REACTOR OVERSIGHT PROCESS  
ASSESSMENT PROGRAM

Approved XX In part Disapproved XX In part Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_ Attached XX None \_\_\_

  
SIGNATURE

03/ 3 /11  
DATE

Entered on "STARS" Yes  No \_\_\_\_\_

**Commissioner Svinicki's Comments on SECY-10-0140**  
**Options for Revising the Construction Reactor Oversight Process Assessment Program**

I approve the staff's recommended Option 3 to develop a construction assessment program that includes a regulatory framework as described in SECY-10-0140, to use a construction significance determination process (SDP) to determine the significance of findings identified during the construction inspection program, and to use the construction action matrix to determine the appropriate NRC response to items found. This framework for construction oversight will provide an objective, risk-informed, and replicable assessment of performance. I disapprove, however, the plan to pilot the new construction assessment program for 12 months. Rather, the staff should move immediately to using a significance determination process to assess the significance of inspection findings, without a pilot.

In recent experience, construction findings have generally been of little to moderate safety significance. If the staff should find that its new SDP does not result, in some cases, in an appropriate assessment of safety significance, the staff should default to traditional enforcement, on a case-by-case basis (which is what they would likely do under a pilot, in any event). Instituting this new process uniformly (as opposed to a pilot), and from the early stages of construction at all new units, will allow for the application of lessons learned so that a robust and scrutable process will be in place for any potential uptick in construction activity in the years to come. The use of both significance determination and traditional enforcement processes is already very familiar to the staff. A pilot approach seems overly cautious given this well-trod ground.

Currently, staff estimates that each construction unit will be subject to 35,000 hours of direct inspection (or about 50 FTE) and that about 40 percent of inspections, tests, analyses, and acceptance criteria (ITAAC) will be directly inspected. Staff should assess these estimates in the annual construction reactor oversight process self-assessment and inform the estimates, up or down, on the basis of experience in the field. I also support Commissioner Ostendorff's view that the ITAAC process provides assurance against any latent condition being present in the operating plant and that this mitigation should be credited accordingly in any SDP evaluation, and publicly acknowledged.

Finally, I compliment the staff on the extensive engagement with stakeholders, which resulted in a high degree of alignment on salient aspects of this proposal.

  
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Kristine L. Svinicki                      03/ 5 /11

**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary  
**FROM:** Commissioner Apostolakis  
**SUBJECT:** SECY-10-0140 – OPTIONS FOR REVISING THE  
CONSTRUCTION REACTOR OVERSIGHT PROCESS  
ASSESSMENT PROGRAM

Approved XX Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below XX Attached \_\_\_\_\_ None \_\_\_\_\_

I approve the staff's recommended Option 3. I agree with the staff that Option 3 includes elements that provide for the most objective approach to the Construction Reactor Oversight Process. After ACRS review of the pilot results, the staff should inform the Commission of the pilot results and proposed changes, if any, to the program before implementation of the revised Construction Reactor Oversight Process.

  
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3/4/11  
\_\_\_\_\_  
DATE

Entered on "STARS" Yes X No \_\_\_\_\_

**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary  
**FROM:** COMMISSIONER MAGWOOD  
**SUBJECT:** SECY-10-0140 – OPTIONS FOR REVISING THE  
CONSTRUCTION REACTOR OVERSIGHT PROCESS  
ASSESSMENT PROGRAM

Approved  Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_\_ Attached  None \_\_\_\_\_

  
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14 January 2011  
\_\_\_\_\_  
DATE

Entered on "STARS" Yes  No \_\_\_\_\_

**Commissioner Magwood's Comments on SECY-10-0140,  
"Options for Revising the Construction Reactor Oversight Process Assessment Program"**

I approve Option 3 subject to the additional comments and clarifications noted below. I appreciate the staff's efforts to develop a regulatory framework for oversight and assessment of the construction of new nuclear power plants that will allow NRC actions and conclusions to be more objective, predictable, repeatable, and transparent to all stakeholders and focused on the more safety-significant aspects of construction performance and compliance. The proposed framework and significance determination process (SDP) approach should provide the most effective path to accomplish these objectives and the purpose of the construction Reactor Oversight Process (cROP) assessment program.

It is important to recognize the impetus for creating the Reactor Oversight Process (ROP) for operating reactors when considering construction oversight. Some of the concerns about the Systematic Assessment of Licensee Performance, which was the oversight process that preceded the ROP, were that, at times, it was not clearly focused on issues most important to safety, consisted of redundant actions and outputs, and was frequently subjective, as demonstrated by NRC actions taken in a manner that was, at times, neither scrutable nor predictable. To address these concerns, the NRC staff developed the ROP, which introduced the application of risk-informed and performance-based regulation. The proposed construction oversight framework and use of SDPs for construction should provide for a more seamless transition from the cROP to the ROP, enable a common understanding among all stakeholders of significance, and enable the staff to more effectively focus inspection effort and resources on issues most important to safety.

In light of these considerations, I approve Option 3 to be implemented with the following additions and clarifications:

- Prior to implementing the proposed pilot under Option 3, the staff should provide a plan and schedule describing the draft SDPs, plans for pilot implementation, including how the pilot will be conducted and evaluated, and an overall schedule of anticipated activities.
- The ACRS should review the pilot results.
- The staff should keep the Commission informed of its progress on the pilot plans and execution via routine (*i.e.*, every 6 months) Commission Assistants briefings.

  
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William D. Magwood

1/14/11  
\_\_\_\_\_  
Date

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary  
**FROM:** COMMISSIONER OSTENDORFF  
**SUBJECT:** SECY-10-0140 – Options for Revising the  
Construction Reactor Oversight Process Assessment  
Program

Approved  X  Disapproved   Abstain

Not Participating

COMMENTS: Below   Attached  X  None

   
SIGNATURE

2/18/11   
DATE

Entered on "STARS" Yes  X  No

## **Commissioner Ostendorff's Comments on SECY 10-0140**

### **"Options for Revising the Construction Reactor Oversight Process Assessment Program"**

I approve Option 3 to develop a construction assessment program that includes a regulatory framework, the use of a construction significance determination process (SDP) to determine the significance of findings, and the use of a construction action matrix. I believe it is appropriate and prudent to harmonize our regulatory programs with risk-informed and performance-based approaches. Option 3 is an innovative approach that affords numerous benefits consistent with those afforded under the agency's Reactor Oversight Process (ROP). A revised construction ROP (cROP) allows for further advancement of efficient and reliable regulatory oversight practices that are beneficial to the United States and may benefit our international regulatory counterparts. However, there are several areas that I believe the staff should further develop during the pilot of a new cROP as indicated below. The staff should inform the Commission of the pilot results and proposed final program before implementation of the revised cROP.

First, the staff should ensure that the new reactor cROP is also applicable to construction oversight of plants that are under 10 CFR Part 50 process, including applicability to potential small modular reactor activities. There continues to be an active Part 50 process. I do not believe it would be efficient or prudent for the NRC to run both a traditional construction oversight process for future plants licensed under Part 50 and a revised cROP for those licensed under Part 52.

Second, I believe it is important that the NRC appropriately characterize and publicly communicate the potential risk significance of a construction finding. Specifically, the staff should factor into the SDP whether a licensee's inspections, plant tests, or other means would have revealed and allowed for correction of the deficiency before any actual risk could have been incurred (i.e., during operations with irradiated fuel). An aim of the NRC's inspection oversight program is to minimize the chance that a significant latent condition resides in the plant and is undetected presenting undue risk. A safety net such as the ITAAC process could mitigate the potential for a latent condition being present in the operating plant and should be credited accordingly in an SDP evaluation and publicly acknowledged.

Lastly, for the SDP in the cROP, the staff should assess using risk importance measures with selected thresholds that are comparable and technically consistent with risk threshold levels used in the ROP. The staff proposed a simplified risk matrix approach comparing hypothetical risk versus degree of non-conformance and provided illustrative thresholds for significance that would be further developed using an expert panel. I support this simplified concept for purposes of construction performance assessment. However, the method the staff has noted to determine risk significance could create inconsistencies with the ROP approach and hence could be confusing to the public. Under the proposed cROP SDP, hypothetical risk is determined by use of risk importance measures for a particular structure, system, or component. Although this approach may be adequate for cROP purposes to keep the SDP simple, the illustrative thresholds noted in SECY 10-0140 could imply a particular issue is risk significant but under an ROP styled approach would not be significant (e.g., below  $1 \times 10^{-6}$  /year change in core damage frequency).