

December 23, 2005

Mr. Kenneth Wade  
Office of Nuclear Energy  
U.S. Department of Energy, Forrestal Building  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Dear Mr. Wade:

In response to the Department of Energy's notice of inquiry (NOI) in regard to standby support for certain advanced nuclear facilities pursuant to section 638 of the Energy Policy Act of 2005, the U.S. Nuclear Regulatory Commission is pleased to comment on selected aspects of implementing the program. As requested in the NOI, three copies of the Commission's comments and an original are enclosed. If you have any questions about the comments, or seek further information to assist the Department in implementing section 638, please contact Robert M. Weisman in the NRC Office of the General Counsel. Mr. Weisman can be reached by telephone at (301) 415-1696, by e-mail at [rmw@nrc.gov](mailto:rmw@nrc.gov), or by writing to him at USNRC, MS O 15D-21, Washington, D.C., 20555.

Sincerely,

/RA/

Luis Reyes, Executive Director  
for Operations  
U.S. Nuclear Regulatory Commission

Enclosures: As stated

## NRC STAFF COMMENTS ON STANDBY SUPPORT

The staff of the Nuclear Regulatory Commission (NRC or Commission) hereby submits its comments in response to the Department of Energy's (DOE) request for comments regarding standby support for certain advanced nuclear facilities published in the *Federal Register* on November 25, 2005. See "Standby Support for Certain Advanced Nuclear Facilities," notice of inquiry, request for comments and public workshop (NOI), 70 Fed. Reg. 71107. The NOI posed several questions in regard to how DOE might best implement Section 638 of the Energy Policy Act of 2005.

### **BACKGROUND:**

At the outset, it must be recognized that establishment of the risk insurance provisions of Section 638 and DOE's implementing regulations arises in the context of NRC licensing and scheduling involving both first-of-a-kind nuclear facilities and first-of-a-kind implementation of a licensing regime in Part 52. Thus, an "actuarial"-kind of risk assessment based on development of solid scheduling and predictability is simply not possible. In addition, the triggering provisions of this program cannot be allowed to influence determinations that the Commission must make with respect to public health and safety or common defense and security or regarding the due process rights of persons with respect to participation in NRC licensing matters. Moreover, there is no safety basis for requiring a licensee to complete the inspections, tests, analyses, and acceptance criteria (ITAAC) in its license on any particular schedule, as called for by the statute, nor is there a safety basis for requiring the NRC staff to complete its reviews of ITAAC completion on a set schedule. None of these matters is addressed in the Energy Policy Act of 2005.

Section 638 of the Energy Policy Act of 2005 states, among other things:

(c) Covered delays.—

(1) Inclusions.—Under each contract authorized by this section, the Secretary shall pay the costs specified in subsection (d), using funds appropriated or collected for the covered costs, if full power operation of the advanced nuclear facility is delayed by—

(A) the failure of the Commission to comply with schedules for review and approval of inspections, tests, analyses, and acceptance criteria established under the combined license or the conduct of preoperational hearings by the Commission for the advanced nuclear facility; or

(B) litigation that delays the commencement of full-power operations of the advanced nuclear facility.

The NRC staff's comments in response to the DOE questions are rooted in the Commission's processes defined in 10 C.F.R. Part 52. In essence, Part 52 provides for Commission issuance of a combined license (COL) upon a finding that the COL application contains sufficient information to support the issuance of a combined license and the Commission determines that there is reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act of 1954, as amended (Act), and the Commission's regulations. A COL must contain the inspections, tests, and analyses that the

licensee shall perform and the acceptance criteria (the ITAAC to which Section 638(c) refers) that, if met, are necessary and sufficient to provide reasonable assurance that the facility has been constructed and will be operated in conformity with the license, the Act, and the Commission's regulations. In short, a COL application will contain, *inter alia*, all the design information required by NRC regulations, and the ITAAC necessary to verify that the licensee constructs the plant in accordance with the approved design. A COL holder must comply with the ITAAC, and may not load fuel into its nuclear power plant upon the completion of construction until the Commission finds that the acceptance criteria in the ITAAC are met.

A licensee will perform inspections, tests, and analyses throughout plant construction, and will inform the NRC by letter when various acceptance criteria have been met. The NRC staff will review each such letter, and, if the staff determines the acceptance criteria described in the letter have been met, will publish notice in the *Federal Register* of the successful completion of the inspections, tests, and analyses. The NRC staff will have inspected licensee activities throughout plant construction, and intends to review the documented results of inspections, as well as documentation referenced in the licensee letters, in making the staff determinations. The ability of the NRC staff to make expeditious determinations depends, in large measure, on whether the licensee letters contain a reasonably complete list of the documentation or other information that establishes that the acceptance criteria have been met, and the location where that documentation or information is available for audit. Even if the staff ultimately finds the acceptance criteria met, a licensee's failure to provide adequate information in an ITAAC determination letter will almost certainly result in delay in the NRC staff's issuing the associated *Federal Register* notice.

The NRC staff has met with stakeholders, including those from the industry, in several public meetings to discuss ITAAC resolution, and industry representatives have indicated that licensees would share their detailed construction schedules, which contain proprietary commercial information, with the NRC staff on an informal basis. Such schedule information will assist the staff to inspect critical licensee construction activities, including inspections, tests and analyses, without causing delay in these activities. The staff understands that licensee schedule information may change on a daily basis, in a licensee's discretion, depending on various considerations, such as labor matters, vendor and supplier issues, severe weather or other natural events, etc., that can affect large construction projects. The staff intends to adjust the schedule for NRC activities in response to licensee schedule changes. In addition, the NRC staff has already begun coordinating how it will review licensee ITAAC determination letters so that the staff can make timely determinations on them, particularly during the last few months before fuel load is projected.

In this regard, industry representatives have indicated that a licensee should inform the NRC of its schedule for loading fuel well before six months before the scheduled date. This would enable the NRC to publish in the *Federal Register* the notice of intended operation in the time required by 10 C.F.R. § 52.103(a). As set forth in that section, the notice must be published at least 180 days before the date scheduled for initial fuel loading.

The NRC believes that approximately 80% of ITAAC will be completed during about the last 20% of construction, and the industry has indicated general accord with this supposition. Accordingly, a significant proportion of ITAAC will likely remain for resolution when the notice of intended operation is published at least 180 days before scheduled fuel load. Whether fuel can be loaded by the scheduled date will depend on the licensee's schedule for completing the

remaining inspections, tests, and analyses, and, significantly, the nature and complexity of the remaining ITAAC. For example, some ITAAC (e.g., on pipe welding) involve many pieces of information and many documents, and could involve a significant NRC review time, while other ITAAC (e.g., for pump flowrate) may be reviewed in a very short time. If a licensee leaves large numbers of ITAAC for resolution in the last few days or weeks before scheduled fuel load, the time necessary for reviewing the licensee's ITAAC determination letters may result in a delay in fuel load, especially if the ITAAC are substantively complex. Under no circumstances will the NRC cut short its review if it has not obtained the information needed to demonstrate that the ITAAC have been met, and there is reasonable assurance that the public health and safety and common defense and security will be adequately protected. The schedule as to when various items of construction are completed, of course, is entirely up to the licensee. Historically, external factors, for example allegations material to completion of the facility, have also affected timely completion of scheduled licensing activities.

If the staff determines that all ITAAC have been satisfactorily completed and all acceptance criteria met, the staff will inform the Commission of the staff's views, and recommend that the Commission find that the acceptance criteria in the COL have been met. In accordance with 10 C.F.R. § 52.103(g), the Commission must make such a finding before the licensee can load fuel. The Commission will have to meet in public to make this finding, and will likely pose questions to the staff with regard to various ITAAC. While this process will take a much shorter time than the completion of the staff's ITAAC review process, it will, nevertheless, take some time, which would be immediately before fuel load.

In light of the above description of the Part 52 process, the NRC staff offers the following comments on the DOE's NOI. The staff is not commenting on all portions of the NOI, but only those matters that might affect the NRC.

#### **NRC STAFF COMMENTS:**

##### **A. Definitions**

As an initial matter, DOE, in its NOI, solicits comments on, among other things, whether the Department should clarify the definition of a number of terms, including the term "combined license." See NOI, II.B. "Definitions."

#### **STAFF COMMENT:**

The term "combined license" is a term established in NRC regulations and it would not, in our view, be appropriate to alter the definition of that term in any respect through the Department's current rule making effort regarding standby support. There are, however, three terms in Section 638(c)(1) that do warrant clarification. First, in subsection (c)(1)(A), the "preoperational hearing" has reference only to the non-mandatory hearing provided by the Commission's regulations in 10 C.F.R. § 52.103. Second, the "litigation" contemplated by subsection (c)(1)(B) should be understood to have reference only to judicial challenges to licensing and not to any administrative adjudication before an NRC tribunal. And third, with respect to "full power operation" it should be recognized that issuance of a COL itself authorizes full-power operation, subject to a Commission finding that the acceptance criteria have been met. It should be noted that full power operation, of course, depends on various startup testing matters, including the

“warranty run” for the turbine/generator set, which have nothing to do with ITAAC.

**STAFF CONCLUSION: The definition of “combined license” should be identical to that in 10 C.F.R. Part 52, the “preoperational hearing” should be defined as that offered pursuant to 10 C.F.R. § 52.103(a), and “litigation” under subsection (c)(1)(A) should include only judicial challenges to licensing.**

B. Covered delays (schedules)

In its NOI, DOE, recognizing that there is no regulatory requirement for the Commission’s conduct or timing of auditing the licensee’s performance of ITAAC, requests comments on how to address this situation either through DOE regulations or through the standby support contracts. In this regard, DOE suggests that NRC regulations or guidance could address such matters. DOE also asks if there are any objective, unambiguous triggers that DOE could include in a regulation or in individual contracts to better ascertain whether a delay should be attributable to the Commission, and thus covered by the contracts. See NOI, II.E. “Covered and Excluded Delays.”

STAFF COMMENT:

As summarized in the NOI, NRC regulations do not require any schedule for completing ITAAC review. Further, it is expected that licensee schedules (and corresponding staff review schedules) will be highly facility-specific. The licensee is not bound to any schedule for completion of an ITAAC, nor is the NRC staff bound to any schedule for review of a licensee statement that an individual acceptance criterion has been met or that all ITAAC have been met. Since the licensee’s schedule for performing the inspections, tests, and analyses in the COL are within the licensee’s discretion and rest in no small part on business factors, among others, that have no effect on public health and safety, neither NRC regulations nor a COL need contain any such schedule requirement.

As indicated above, the NRC staff intends to coordinate its schedule for ITAAC review with the licensee’s schedule for performing the inspections, tests, and analyses and submitting ITAAC determination letters. In order to do so, the NRC would have to develop guidance on the length of ITAAC reviews, particularly those reviews occurring during the final 20% of construction and the six months before scheduled fuel load. The review time would, as discussed above, depend on when the licensee plans to perform the remaining inspections, tests, and analyses, and whether the nature of the ITAAC involved are simple or complex.

The staff believes this process could be used for setting the schedules for ITAAC review to which Section 638 refers. The staff envisions that a licensee would submit its schedule for meeting the ITAAC to be completed in the final 20% of the construction schedule as soon as the licensee develops such a schedule. Without comment on the licensee’s schedule or otherwise reviewing it, the NRC would determine the review time for each ITAAC in accordance with the guidance and issue a schedule for ITAAC review that could be referenced by the insurance contract. Schedules developed in this manner would necessarily need to allow for changes initiated by the licensee should the licensee seek to change or be unable to meet its original schedule, or changes initiated by the NRC should the licensee fail to meet its schedule. The NRC could document a licensee failure to meet its schedule in a letter to the licensee and

DOE. Since this letter (and any schedule) would contain proprietary schedule information, it would not be publicly available.

Such a process would allow the NRC staff to give due consideration to the licensee's schedule and need for quick action, and allow sufficient time for the NRC staff to perform an adequate review of the licensee's ITAAC determination letters. While such a process could include the entire construction schedule, in no event should the licensee submit its schedule for performing inspections, tests, and analyses later than its schedule for loading fuel, as doing so would materially affect the NRC staff's ability to perform its reviews expeditiously. The NRC notes that the review time for any particular ITAAC would be keyed to receipt of the licensee's ITAAC determination letter. In the event the NRC staff determined that an acceptance criterion was not met or the licensee's documentation was inadequate, the staff would reject the licensee's ITAAC determination letter, and the schedule reset to the licensee's resubmission of its ITAAC determination letter upon curing any deficiencies.

Any proposed schedule would also need to include provisions to account for delay attributable to *force majeure*, such as strike, weather delay or other delay beyond a licensee's control which could have a corresponding effect on the NRC's ability to conduct and complete its review. It must also be recognized that the NRC's ability to complete ITAAC reviews is dependent on certain external factors, for example, the need for input from other federal agencies such as the Department of Homeland Security/Federal Emergency Management Agency, and budgetary constraints – availability of adequate staff and financial resources. Said otherwise, it must be recognized that the NRC's schedule may need to be adjusted in response to changes attributable to licensee scheduling or external factors beyond the NRC's control.

The staff notes that in any event, a Commission determination on ITAAC would be a finding on whether all the ITAAC were met, and would likely not identify individual ITAAC except to the extent the Commission determined that such ITAAC were not met. Moreover, the time for the Commission to review the staff's recommendation on this matter would be expected to be relatively short, in comparison with the process for licensee submission of ITAAC determination letters and staff review of those letters. Therefore, Section 638(c)(1)(A) should not be interpreted to imply that the Commission will set a schedule for its determination under 10 C.F.R. § 52.103(g) as to whether the acceptance criteria have been met. Accordingly, any time for the Commission to review the staff's recommendation on the § 52.103(g) finding should not be considered a covered delay. Alternatively, every schedule could be deemed to include an additional period of time from the last NRC notice of successful completion of ITAAC. The staff recommends 25 days for this time to allow for the exigencies of scheduling a public Commission meeting to make the determination.

**STAFF CONCLUSION: The NRC staff recommends that DOE require, as a provision of any standby support agreement, that the licensee provide its schedule for performing inspections, tests, and analyses to the NRC when no less than 20% of construction remains, that the contract incorporate by reference the resulting NRC schedule for ITAAC review, and that the contract automatically incorporate changes to the schedule requested by the licensee or resulting from NRC staff rejection of an ITAAC determination letter, licensee failure to meet its schedule, and *force majeure*.**

C. Preoperational hearing

DOE indicated in the NOI that subsection (c)(1)(A), which pertains to delays caused by “the conduct of preoperational hearings by the Commission[,]” is subject to two different interpretations: (1) It may be interpreted to allow coverage for delays associated with such hearings only if the Commission has failed to comply with applicable schedules, or (2) it may be interpreted to allow coverage for delays associated with any such hearings, regardless of who requested or caused the hearing and regardless of whether there was any “failure” of any kind by the Commission. See NOI, II.E. “Covered and Excluded Delays.”

**STAFF COMMENT:**

As noted above, the scope of any "preoperational hearing" concerns only whether the ITAAC have been or will be satisfied, as provided in 10 C.F.R. § 52.103. In addition, a person seeking such a hearing must meet the standards of 10 C.F.R. § 52.103(b), *i.e.*, the petitioner must show, *prima facie*, that one or more of the acceptance criteria have not been, or will not be met, and the specific operational consequences of nonconformance that would be contrary to providing reasonable assurance of adequate protection of the public health and safety. Accordingly, a preoperational hearing will not be lightly granted. At the same time, petitioners are entitled to procedural safeguards provided by law, and their rights should not be affected by the possibility of recovery under a standby support insurance contract. The staff also notes that after a contention is admitted, the Commission must determine, pursuant to 10 C.F.R. § 52.103(c), whether to allow operation during an interim period during which any admitted contentions will be resolved. Under § 52.103(c), the Commission will allow interim operation if there will be reasonable assurance of adequate protection of the public health and safety during that period.

Under interpretation (1), the Commission would have to set a schedule for the conduct of the hearing upon admission of a contention. Such a process would entail the considerations enumerated with respect to ITAAC determinations above, such as how to adjust the schedule and incorporate any such changes into the standby support insurance contract, and would also involve the uncertainties associated with litigation schedules. Since the insurance recovery would be tied to the schedule, it might appear that the Commission could be influenced to set an unreasonably short schedule for the hearing. Moreover, if this interpretation were adopted, and a hearing on whether an ITAAC was met stretched significantly beyond the established date for fuel load, coverage would be denied if the Commission maintained the hearing schedule, even if the licensee prevailed. This would appear contrary to the purpose of the statute. If the Commission determines that the licensee failed to meet an ITAAC, then the delay would be excluded from recovery under the standby support agreement.

Under interpretation (2), the schedule for the preoperational hearing could not affect recovery under any standby support insurance contract. While it might appear that insurance considerations could influence a Commission determination with respect to interim operation under § 52.103(b), which, if allowed, would obviate the need for insurance, this would also be true under interpretation (1). Accordingly, adopting interpretation (2) would serve to avoid the appearance that insurance considerations might somehow affect the conduct of a preoperational hearing.

**STAFF CONCLUSION: Section 638(a)(1)(A) should be interpreted to provide for coverage of any delay in fuel load resulting from hearings held under 10 C.F.R. § 52.103 without**

**regard to the Commission's meeting the schedule for such a hearing or any other "failure" by the Commission.**

D. Exclusions

The NOI also seeks comment on how to determine whether delay in full-power operation is attributable to the Commission in whole or in part. In a somewhat related vein, DOE also seeks comment regarding mechanisms that might be employed to resolve factual or legal disputes with respect to identification of the party-at-fault for any delay. See NOI, II.E. "Covered and Excluded Delays," and II.G. "Disagreements and Dispute Resolution."

STAFF COMMENT:

The NRC's statutory obligations are to ensure that licensed activities do not endanger public health and safety or adversely affect the common defense and security, with due regard for their impact on the environment. In discharging these responsibilities, the NRC of course recognizes the need to act efficiently and effectively on a timely basis, and to avoid unnecessary delay. The NRC's resources are devoted to the foregoing objectives, and any distraction of these limited assets to externally justifying our actions because of economic issues could have an adverse effect on our ability to fulfill our mission.

**STAFF CONCLUSION: The dispute resolution process should be structured so that the Commission and its employees need not appear before any tribunal or decision maker, or otherwise need to justify the basis for the actual time needed to complete its licensing activities. Documents generated through the course of setting schedules and conducting preoperational hearings should speak for themselves.**