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August 8, 2001

Mr. Joseph Sebrosky
Mail Stop O-11 F1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-001

Subject: Comment on Inspections, Tests, Analyses and Acceptance Criteria (ITAAC)

References:
1) Request for Public Comment on ITAAC, 66 FR 122, dated June 25, 2001.
2) Letter from M.S. Fertel (NEI) to R.A. Meserve (NRC), dated May 14, 2001
3) Letter from R. Simard (NEI) to J.M. Sebrosky (NRC), dated July 31, 2001

Dear Mr. Sebrosky:

Westinghouse Electric Company is pleased to respond to the NRC's request (Reference 1) for public comment on whether or not COL applications should contain ITAAC on operational programs such as security, training, and emergency planning (programmatic ITAAC).

Westinghouse's resolute position on this issue is that programmatic ITAAC should not be included in the COL. Programmatic ITAAC will introduce into the new-plant licensing process unpredictability and instability that would substantially undermine the Part 52 assurances that the holder of a COL will be able to operate the facility when it has been constructed in accordance with the conditions of the license.

Reflect back to why Part 52 came into being and was subsequently codified in the National Energy Policy Act of 1992. (Please refer to Attachment 1.) Under Part 50, it was possible to complete the plant construction without assurance that an operating license would be issued. Furthermore, there was no reasonable guarantee when the license would issue because it was not possible to foresee what new licensing requirements might develop during the construction phase. This lack of regulatory stability significantly contributed to long extensions of the construction phase and major cost overruns. We are concerned that, due to the long new-plant licensing inactivity, the concerns about stability that drove the NRC and the industry to adopt Part 52 in the late 1980's may no longer appear as compelling.

The Part 52 process was designed specifically to minimize those unacceptable uncertainties by putting in place -- before construction begins -- mechanisms that establish completely and exactly what acceptance criteria must be met. In this manner, once the license is issued, whether the facility is allowed to operate is completely within the control of the licensee – that is, the licensee simply has to show that it meets previously determined unambiguous acceptance

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criteria. Hence, during the design certification reviews for the ABWR, System 80+ and AP600 advanced reactors, NRC staff and applicants both agreed that every ITAAC must contain clear, unambiguous and measurable acceptance criteria. That same standard must continue for the COL ITAAC acceptance criteria as well, or the gains achieved in the design certification process could be nullified at the COL stage.

Attachment 1 of SECY-00-0092 argues that COL programmatic ITAAC are needed to ensure that the plant has met the requirements of the Commission's rules and regulations. This item has previously been debated on the Design Certification projects as well, and with one or two exceptions, the staff concurred that programmatic ITAAC were 1) not necessary and 2) not desirable.

First, ITAACs are not necessary for quality assurance or for any of the other areas where the staff continues to seek to introduce them. The case of quality assurance is exemplary. Under 10 CFR 50.57(a)(3)(i), the NRC must make a finding that there is reasonable assurance that the activities authorized by the operating license can be conducted without endangering the health and safety of the public. For three decades, the NRC has successfully relied upon compliance with the Quality Assurance Programs required by 10 CFR 50.54 and the detailed requirements for these programs set forth in 10 CFR 50 Appendix B, together with NRC oversight to provide that reasonable assurance. The holders of combined licenses also will be required to adhere to such programs during the construction of the facilities under the oversight of the NRC. As it has in the past, this will provide the assurance needed without the necessity for generic or programmatic ITAACs. The example cited in SECY-00-0092 in support of such generic or programmatic ITAACs falls squarely within the ambit of the required Quality Assurance Programs, which among other things must satisfactorily address Part 50 Appendix B Section XII and its requirement for Control and Measuring and Test Equipment.

Second, programmatic ITAAC are not desirable because no one has been able to devise acceptance criteria that are both totally objective and meaningful. If the criteria are not clear, unambiguous and measurable, then substantial uncertainty is introduced into the process. That uncertainty is not acceptable in the unregulated electricity generation market. Unfortunately, to make the acceptance criteria for programs strictly objective is generally to make them meaningless. Such unsubstantive acceptance criteria can introduce the potential for subsequent expansive guidance that could impose new requirements not known at the outset. Despite the staff's assertion that it is "willing to work with the nuclear industry to develop COL ITAAC that are as precise and objective as practical," prior experience has shown the results will not be beneficial for one of the two reasons described. Hence, programmatic ITAAC are highly undesirable and must be avoided.

For your background information, Attachment 2 provides a brief, and not necessarily complete, history of the generic ITAAC interactions in the early 1990's. It also describes the attempts that the NRC staff and the nuclear industry made to develop a set of objective generic ITAAC for welding and how that turned out to be mutually unsatisfactory.

An argument that has been posed by the staff for the inclusion of programmatic ITAAC is that they are required by statute, in particular Section 185.b of the Atomic Energy Act. This

argument is adequately addressed in the White Paper attached to reference 2, wherein NEI explains the industry's interpretation of the applicable statutes and the NRC's regulations. Westinghouse concurs with the conclusions of the NEI paper. Furthermore, we would add what seems to us to be an irrefutable statement. There is no set of inspections, tests, and analyses that must be completed and no set of acceptance criteria that must be met prior to plant operation, that can provide reasonable assurance that the plant will be operated in accordance with the Commission's regulations -- unless the phrase "will be operated" is interpreted in terms of hardware performance requirements.

In order for the COL process to be successful, it is necessary that the NRC and the nuclear industry agree that the proposed process is viable from both a regulatory and a commercial perspective. The process must ensure that the COL applicant meets the regulations that are applicable. Equally important, the process must satisfy potential applicants that they will be allowed to operate the reactor when they have demonstrated they meet the requirements that were clearly delineated at the time the COL was issued.

Predictability and stability of the process were recognized in the 1980's to be necessary cornerstones for a successful licensing process. In the subsequent period, the massive deregulation of the electrical generation industry has permanently changed the factors that will determine what new generation sources will be constructed. In today's market and the markets of the foreseeable future, only the cost-competitive options will be pursued. Options with substantial uncertainty in the cost of construction or the timing of operation will not be viable. Programmatic ITAAC insert a significant degree of uncertainty in the licensing process and could thus inhibit the ordering of advanced reactors such as Westinghouse's AP1000 design that is currently under NRC review.

Westinghouse concurs with the assertion in Reference 3 that the record on this issue is sufficient to support a policy determination by the Commission. We further concur that the determination should be made promptly because it will impact business decisions being made in the near term, including the assessment of licensing risk associated with new nuclear plant projects. In addition, Westinghouse agrees and supports the NEI comments in Reference 3.

Please contact me at 860-731-6500 or Mr. Charles Brinkman at 301-881-7040, if you have questions or wish further interaction on this topic.

Sincerely yours,

Regis A. Matzie

Regis A. Matzie
Senior Vice President
Nuclear Systems

Attachments:

1) Quotation from Conference Report accompanying NESA of 1991
2) A Brief History of Generic ITAAC Discussions During the Early 1990's

Attachment 1 to

Excerpt from Conference Report on the National Energy Security Act of 1991

The following paragraph is from the Conference Report of the Committee on Energy and Natural Resources of the United States Senate, which accompanied the National Energy Security Act of 1991 (the forerunner of the National Energy Policy Act of 1992) (102 S. Rpt. 72, June 5, 1991):

> The Committee believes that requiring resolution of all important safety issues and establishing the licensing criteria against which the plant will be judged in the combined license before construction begins will have several major benefits. First, it will enhance public participation by airing all safety issues first, before the license is issued and the plant is built before, in the words of Justice William O. Douglas, "millions have been invested, (and) the momentum is on the side of the applicant, not on the side of the public." Power Reactor Development Co. v. International Union of Electrical, Radio & Machine Workers, 367 U.S. 396, 417 (1961) (Douglas, J., dissenting). Second, it will enhance certainty for the utility building the plant by spelling out before construction begins what conditions the completed plant must satisfy in order to operate. No longer will the rules be made up after the game is played. Finally, it will provide the NRC regulators objective safety standards with which to measure the constructed plant in deciding whether the plant is safe to operate. (Emphasis added.)

Attachment 2 to

A Brief History of Generic ITAAC Discussions During the Early 1990's

Initially, the industry and the NRC staff believed that there were potential benefits in adopting generic ITAACs. Thus, for a period of several years in the late 1980's and early 1990's, the industry and NRC carried on an extensive dialog concerning generic ITAACs. Numerous meetings were held on the subject, including several Commission meetings, and a series of position papers (some in draft form) were submitted by the industry to the NRC.

As the industry attempted to develop discrete examples of generic ITAACs, it became apparent that their use on a broad basis across the design spectrum was not highly beneficial. Further, serious questions arose about the feasibility of implementing generic ITTACs. In a letter to the NRC dated October 1, 1991, from the Nuclear Management and Resources Council, the predecessor to the Nuclear Energy Institute, the matter was stated as follows:

> The industry and the NRC staff initially believed that there were potential benefits in adopting generic ITAAC. As the industry has proceeded with its attempts to develop discrete examples of ITAAC, it has become apparent that invoking the philosophy of generic ITAAC on a broad basis across the design spectrum is not highly beneficial. Further, the industry, with the benefit of further study, has reservations about the feasibility of implementing generic ITAAC on such a large scale. As the lead application from General Electric (GE) on the ABWR is reviewed, the need for and feasibility of generic ITAAC should be resolved.

The letter went on to discuss the basic premise of the industry that "Part 52 builds on existing regulations, especially 10 CFR Part 50":

> In the development of its positions relating to Part 52 and ITAAC, the industry has used the basic premise that Part 52 builds on existing regulations, especially 10 CFR Part 50. As such, the industry expects the standard NRC inspection programs to be an essential part of the new licensing process. The commitments in the Standard Safety Analyses Report (SSAR) at the time of design certification will become part of the COL applicant's Safety Analysis Report (SAR) for the COL. Satisfaction of the commitments, which are considered to be Tier 2 requirements, will be verified through the licensee's quality assurance program (QAP) and the normal NRC inspection programs under Part 50. Any deviations or non-compliances would be the subject of a NRC enforcement action if appropriate. The licensee's quality assurance

> program, along with the other normal programs associated with the operations and maintenance of a nuclear facility, would be reviewed as part of the COL proceedings.

On May 7, 1992, the industry (NUMARC) sent a letter to Mr. Dennis Crutchfield, Associate Director for Advanced Reactors, NRC, forwarding a draft industry paper entitled "The Role of ITAAC and Preoperational Regulatory Requirements." The paper contrasted the matters covered by ITAAC - Tier 1 of a design - with matters covered by Tier 2. In the case of Tier 2 commitments, the industry position, as detailed in the letter, was that verification was to be by means of the Quality Assurance Program and Part 50 inspection and enforcement process.

A series of position papers dated September 4, 1992, were forwarded to the NRC in early September 1992. Those papers were entitled:

(1) "Point Paper on the Need for Generic ITAAC"
(2) "Need for ITAAC for QA"
(3) "Standardization - Necessary and Sufficient ITAAC Draft Discussion Paper"
(4) "Point Paper on Role of ITAAC After Commencement of Operation"

One month later, on October 5, 1992, a letter was sent by NUMARC to Dr. Thomas E. Murley, Director, NRR, which discussed the results of a meeting held on September 18, 1992, with NRC Senior Staff on a number of standardization issues, including generic and programmatic ITAAC. The letter states, in part, as follows:

> We are pleased at the apparent agreement that should programmatic ITAAC be determined to be necessary on operational matters such as the plant security program, quality assurance program, maintenance program, etc., these should be addressed as part of the Part 52 implementation evaluation associated with the Combined License (COL) proceeding, instead of the design certification proceeding. We look forward to interactions aimed at solidifying a common understanding with the NRC staff on this important matter.
>
> As we discussed relative to generic ITAAC, the industry's view is that verification of general plant fabrication/construction activities, such as welding, seismic qualification, etc., should be provided by procurement control and quality assurance programs and that using the ITAAC process to address these matters is not appropriate. These matters are not generally among the most significant and salient safety features of a plant design (i.e., Tier 1) and are readily verifiable via the Part 50, Appendix B, quality assurance programs (including Sign-As-You-Go) and the NRC's well-developed ongoing inspection and enforcement programs. In addition to the full regimen of quality assurance program activities, we believe satisfactory completion of Tier 1 design verification activities via

> the ITAAC process provides supplemental assurance relative to the proper implementation of general fabrication/construction activities.

On November 2, 1992, a paper entitled "Examples of Defects in Generic ITAAC" was completed by the industry and sent to the NRC Staff. In the paper, efforts to develop generic ITAAC were discussed, with a detailed discussion of the effort by GE to develop such an ITAAC (with input from the NRC staff) on welding. The paper concluded that "use of generic ITAAC will almost inevitably lead to a hearing before fuel load, thereby resulting in a two-step licensing process that Part 52 was intended to avoid." The summary of the paper was as follows:

> In summary, the GE welding ITAAC reveal all of the problems inherent in generic ITAAC: they do not distinguish between components that are critical to safety and those that are not; they contain vague and subjective acceptance criteria; and they tend to focus on issues other than the acceptability of the as-built hardware. Because these problems are inherent in generic ITAAC, they cannot be cured merely by making editorial changes at the design certification stage.
>
> Given the nature of these problems (e.g., the fact that generic ITAAC apply to thousands if not millions of items and do not contain any specific or objective acceptance criteria), it is likely that disputes will arise among of licensee, the NRC Staff, and intervenors as whether the generic ITAAC have been satisfied. Thus, the use of generic ITAAC will almost inevitably lead to a hearing before the fuel load, thereby resulting in a two-step licensing process that Part 52 was intended to avoid.

By letter from NUMARC to Dr. Murley of the NRC dated November 5, 1992, the industry forwarded a draft industry point paper entitled "Generic ITAAC." The paper began as follows:

> This paper (Sections II and III) first outline the rationale for industry's conclusion that programmatic and generic issues are adequately addressed through the Part 50 Quality Assurance program and should not be the subject of inspections, tests, analyses, and acceptance criteria (ITAAC). The paper (Sections IV and V) thereafter summarizes the industry's understanding of the NRC Staff's position on generic ITAAC and then recommends an approach for accomplishing the goal sought by the Staff. It appears to industry that the underlying Staff objective in seeking such ITAAC will be better served through other, established and effective regulatory means. The positions set forth herein apply equally to programmatic and generic ITAAC at the combined construction permit and operating license (COL) stage, as well as ITAAC at the design certification stage.

Following a meeting held with the NRC Senior Staff on November 10, 1992, another draft paper was forwarded by the industry to Dr. Murley by letter dated November 17, 1992, entitled "NRC Regulatory Authority Over COL Tier 2 Requirements." This was followed by a further draft point paper associated with EQ and welding issues in Tier 2. Both papers were for use at a meeting on standardization held by the industry and NRC Senior Staff on November 19, 1972.

The NRC Staff, in a letter from Mr. Crutchfield of the NRC to NUMARC dated November 25, 1992, commented on the status of the discussions concerning ITAAC as follows:

> During meetings with you on November 10 and November 19, 1992, the staff agreed to focus its near term efforts upon resolving the scope of ITAACs associated with design certification. We discussed an approach to quality assurance, welding and equipment qualification which appears may resolve your concerns and ensure that design certification ITAAC meet the necessary and sufficient standards.

Thus, the issue of whether to include programmatic ITAAC was deferred at the design certification stage, with the industry taking the position that they were neither needed nor appropriate, and that they would result in undermining standardization and the Part 52 process.