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ADD: Joseph Sebrosky; Robert Roche-Rivera; Bridget Curran; Michael Orenak; Christopher Cauffman, Mary Neely

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Advanced Reactor Content of Application Project Chapter 11, "Organization and Human-System Considerations"

Comment On: NRC-2022-0078-0001
Draft Interim Staff Guidance: Advanced Reactor Content of Application Project Chapter 11, ''Organization and Human-System Considerations"

Document: NRC-2022-0078-DRAFT-0003
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Submitter Information

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General Comment

Comments on DANU-ISG-2022-05, Human System, see attached letter

Attachments

Hybrid PWR to NRC July 3 2023 Human Systems

Michael F. Keller
President
Hybrid Power Technologies LLC

July 3, 2023
Regulations.gov NRC-2022-0074 thru 0082

Mr. John W. Lubinski
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Hybrid Power Technologies LLC Input; DANU-ISG-2022-05 (NRC-2022-0078)
Organization and Human-System Considerations

Mr. Lubinski:

The NRC recently (June 21, 2023) issued revised due dates (to August 10, 2023) for Federal Register notices soliciting comments on various draft Interim Staff Guidance (ISG) documents involving advanced reactors. This letter provides general and specific comments.

As a general remark, we are of the opinion that the Nuclear Modernization Act of 2019 (Act) clearly reinforces earlier Congressional direction that industry codes and standards are lawful mechanisms for compliance with Code of Federal Regulations (CFR) considerations involving the design, construction, and operation of advanced nuclear power plants in this country. These codes and standards reflect the collective wisdom of thousands of professionals, typically over the course of over ½ century. Theses codes and standards, which in general are quite extensive, are developed in a free and open manner, with all issues openly resolved. The NRC staff has been a part of these development activities.

In light of the Act, remains unclear why the staff insists that codes/standards (of which there are legions) must be endorsed by the staff, absent unambiguous support for such a claim in the CFRs. The actual expertise lies embedded in the industry codes/standards, not the Monday-morning quarterbacking. Undue overregulation needlessly stifles advanced nuclear energy development while being a threat to the country's long-term strategic needs.

In general, ISG should require the applicant identify the applicable industry codes and standards while clearly stating that staff reviews shall be based on the applicants' conformance with the subject industry code/standard. The depth of the reviews must be commiserate with the level of risk determined by the licensee using industry codes/standards. The primary emphasis must be on safety related items. If summary information from code/standard implementation elements are considered necessary for inclusion in licensing submittals, then such needs should be succinctly and clearly identified in the guidance documents while being commiserate with the level of risk.

The staff appears to be manufacturing new licensee obligations based on reading into the CFR's enhanced requirements that are not there or outside the Act's intent. Citing the unapproved 10CFR53 is inappropriate, including speculation on potential new requirements. Also, NRC lower tier regulatory documents such as the SRP represent guidance that cannot be used to coerce applicant compliance with staff desires, particularly those counter to Congressional direction.

In general, we question the validity of the staff's proposed approach. However, legal challenges are obviously counterproductive for all parties, at this time.

The staff needs to seriously consider the Congressional direction of the Modernization Act and move away from the highly prescriptive regulatory methods of the past. Simplify the process.

Michael F. Keller
President
Hybrid Power Technologies LLC

July 3, 2023
Regulations.gov NRC-2022-0074 thru 0082

Attachment (1) provides comments on the proposed REF. [1] interim staff guidance involving human factors considerations. In our view, the ISG needs to be rebuilt or abandoned because of major shortfalls involving codes/standards and a lack of risk proportionality, both defects being at odds with the Modernization Act.

Regards,

Michael F Keller

Michael F. Keller Professional Engineer – State of Kansas
President
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A small business of the state of Kansas developing patented advanced reactor energy plants.

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References

[1] Regulations.gov docket NRC-2022-0078

Attachments:

(1) HybridPwr Comments (rev 0) on DANU-ISG-2022-05.

Item #. Section	Comment	Basis for Comment
1. Background, p1	Industry standard NEI 18-04, "Risk-Informed Performance-Based Technology-Inclusive Guidance for Non-light water Reactor Licensing Development" is a proper key driving consideration for the ISG, particularly in light of the Nuclear Modernization Act of 2019 whereby Congress has re-enforced the legality of the use of industry codes/standard. These codes/standards have higher precedence than NRC guidance documents. In our view, NEI 18-04 does not contain any material defects associated with risk-informed, graduated elements involving safety-related or safety significant considerations. Unclear why the staff considers it necessary to go "well beyond" the industry standard. Please provide an explanation as to why such a detailed ISG, "well beyond" NEI 18-04 is necessary.	
2. Back-fitting, p17	Delete all requirements in the ISG that rely on speculation of prospective elements in the proposed and unapproved 10CFR53.	Appears the NRC staff is attempting to use the ISG for back fitting, considering that a number of new requirements are apparently being proposed that are outside the existing Code of Federal Regulations and industry codes/standards. Citing the unapproved 10CFR53 as a justification for new requirements, even on an interim basis, is of doubtful validity.
3a. General, pp 3 thru 16	Delete the entire ISG or modify as suggested by comments 3b and 4	The staff appears to be using portions of 10CFR50 and 52 as a basis for manufacturing new requirements that appear outside the current CFR and/or at odds with various industry codes and standards that technically govern these types of activities. Parts of the ISG involve safety-related items, some may involve safety significant areas while others have no significant bearing on nuclear safety. Risk-informed (graduation of in importance) considerations appear to be absent, thus running afoul of the Modernization Act. The ISG major sections have little in common while being rather disjointed: - 11.1.1 Design, Construction, and Operating Organization - Key Management Positions, *(unclear why 10CFR50 Appendix B is not sufficient)* - 11.1.2 Basis/number of Operating Shift Crews, their Staffing, and Responsibilities", *(see comments 3b and 4)* - 11.1.3 Human Factors Engineering *(appears to create open-ended, nebulous requirements not previously seen)* The proposed ISG is overly complicated, confusing and a likely springboard for open ended, (and unproductive) never-ending staff requests for information. Comments 3b and 4 suggests an alternative approach. In passing, the ISG appears to be an attempt to justify the creation of a new staff "Human Factors" organization. Unclear why the creation of such complexity is necessary.

Item #. Section	Comment	Basis for Comment
3b. pp 3 -16 References, p18	Highlight key considerations clearly derived from 10CFR50 using the topic associated with the referenced CFR50.34xx entries.	The simple reference to just 50.34xx numbering is too difficult to follow and inevitably creates confusion if only an alpha/numeric designation is used. Just say what topic is meant. Might be easier to use some form of table in the main body of the SRP, with clear linkage to CFR50.34xx topic. Also, minimizes "mission creep". See comment #4 below for a more efficient and less confusing approach.
4. PP 3-16 References, p18	Incomplete list of references	We note various industry standards are applicable. As examples, ANS 3.1-2014 "Selection, Qualification and Training of Personnel for Nuclear Power Plants"; ANS 3.2-2012 "Managerial, Administrative, and Quality Assurance for Operational Phase of Nuclear Plants". There are undoubtedly more potentially applicable industry codes/standards associated with a particular topic area. The point of this comment lies with a simpler method to construct the ISG. Namely, 1. Identify the key topic area, as suggested in comment 3b (clearly linked back to 10CFR50.xx source topic). 2. Require the applicant to identify the industry code/standard intended for use with the key topic area **And** require the applicant summarize their general approach for conformance with the part of the referenced code/standard linked to the subject topic area. The reviewer can then assess whether or not compliance with the key topic area is being achieved relative to the industry code/standard, recognizing that reviewer efforts must be commiserate with the risk involved, as tied to the applicant's identification of the safety significance (importance to safety) being employed by the applicant for the items in question. This approach greatly lessens the burden on all parties while placing the fundamental onus on the applicant. Further, the exceptionally prescriptive methods of the past are avoided