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Chief, Rules and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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25 Apr 00
(20)

Dear Sir/Ma'am:

Enclosed are comments for NRC consideration related to Draft Regulatory Guide DG-1095,
"Guidance for Implementation of 10CFR50.59, Changes, Tests, and Experiments." I am
submitting these comments as a private individual.



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1. In NEI 96-07, Section 4.3.8.2, Considerations for Determining if New Methods are Technically Appropriate for the Intended Application are discussed. This discussion should reflect the fact certain types of analyses (e.g., shielding, high energy line break compartment thermal-hydraulic analyses, offsite dose analyses) are independent of plant design. Specifically, use of ICRP30 dose conversion factors is an item which has been generically approved by the NRC by virtue of incorporation into the basis of 10CFR21 and which are independent of plant design. Thus, any licensee should be able to adopt the ICRP30 dose conversion factors with a 10CFR50.59 Evaluation and should not require NRC approval to adopt this generically approved methodology. An example to this effect should be added to Section 4.3.8.3 of NEI 96-07.

2. NEI 96-07 Section 4.3.8.2 needs to reflect the fact that many methodologies used in safety analyses (e.g., dose analyses, HELB, shielding, systems analyses) are not approved by the NRC and do not require approval by the NRC. This section is too focussed on fuels-type analyses (e.g., Chapter 15 transient event analyses) which do require explicit NRC code approval. Similarly, Generic Letter 83-11 Supplement 1 is overly focussed on high level Chapter 15 style safety analysis codes and can be overly burdensome when applied to codes which do not require the same level of NRC approval. As the NRC has pointed out numerous times, SER review of analyses performed using a specific code is not the same as NRC review and approval of the code itself.

Specifically, the second bullet of two on page 57 of NEI 96-07 needs to be revised to reflect that not all methods of evaluation documented in a SAR were approved by the NRC.

Also, the term "or new NRC-approved methodology" in the second bullet of 3 on page 57 should be replaced with "or (for methodologies previous approved by the NRC or otherwise requiring NRC approval) new NRC-approved methodology)".

Use of a qualified bias term to demonstrate conservative results should be a recognized option as part of the third of 3 bullets on page 57 of NEI 96-07.

3. The NRC comments in SECY-00-0071 Section A that "If the nature of the change is such that an engineering assessment or revised analyses is needed to determine whether an effect is adverse, the staff concludes that a 10CFR50.59 evaluation is required rather than a screening." would detract from the goal of regulatory stability implicit in the revised rule.

Concerns with this statement include the fact that many engineering assessments, evaluations, or calculations are performed to document, rather than to determine, whether an adverse affect exists. Thus, vagueness would be introduced into the rule by the reliance on whether or not an engineering assessment was performed in support of the change.

It is also the case that plant which had previously performed sensitivity studies would be able to reference those pre-existing analyses to determine that there is no adverse affect, thus the change could be supported without a full 50.59 evaluation. However, plants that had not performed such sensitivity studies would require a full 50.59 evaluation under the NRC guidance of SECY-00-0071, which is inconsistent. Also, to what extent would analyses for similar plants be able to be credited in addressing the question of if an engineering assessment is needed to determine if an affect is adverse? Past experience of the analysts, including service at other plants, would have a great impact in whether or not an engineering assessment is required to determine there is no adverse impact (vice an engineering assessment which is performed to document that there is no adverse impact).

4. Consider a plant which has an analysis performed with a relatively old, outdated computer code, albeit one which was used to generate the results reviewed by the NRC during the original plant licensing process. For example, a containment analysis code may have been written with a binary switch to control the deposition of heat transferred via revaporization in an older code rather than have a physically realistic model; however, this is the type of deep detail in the code which is not explicitly discussed in topical reports or NUREG's documenting the code or which is documented or mentioned in facility SAR's.

Consider that the plant in question has conducted detailed benchmark studies comparing the results with this old code to results with a newer, more physically accurate code, and has obtained a thorough understanding of the biases between the codes. Let us say that the utility has clearly determined that there is a bias which is no greater than, for example, 1.5 psi between the results obtained by the two different codes. If, for business reasons or for improved user interface purposes, the plant desires to use the newer code instead of the older, then there is a clear technical and logical basis to allow the use of the newer code in conjunction with an applied bias in place of the older code. NEI 96-07 should recognize that this situation is not a change in methodology since the application of the bias ensures that the newer method does not result in a non-conservative change in the results, and thus is not a departure from approved methods.

5. Regarding the definition of "design function," please clarify the thought process on if use of a system, described in the SAR only in terms of at-power conditions, under plant shutdown conditions involves a change of "design function." There should be no change in "design functions" in such a case provided that there is no adverse impact upon the system in question.

6. Regarding DG-1095 Section 1.1.4, please clarify the expectations regarding non-safety equipment in safety analyses. Specifically consider non-safety equipment (e.g., feedwater pumps) which are running at the start of an analyzed transient which does not involve the loss of offsite power. Address the acceptability of assuming that such equipment continues to run in the same manner as it was before the start of the transient, with no response of that equipment to changing conditions (unless that response would exacerbate the transient).

7. Section 1.1.4 incorrectly states that the response of non-safety equipment (e.g., turbine bypass valves) is implicitly credited in safety analyses. While the existence of such non-safety equipment, if described in the SAR, is part of the plant design, it is disingenuous to say that such equipment is credited in the safety analyses when the results of the safety analyses reported in the SAR are unchanged because that equipment is explicitly not included in the analysis.

8. In Section 3.0, the NRC needs to either endorse the NEI examples, identify the examples it disagrees with and why, or provide its own examples. To do otherwise is an abdication of responsibility and would greatly detract from the regulatory stability sought through adoption of the new 10CFR50.59 rule.

9. The NRC should delete paragraph 1.4.1 of DG-1095. In that section, NRC questions whether licensees are able to determine if differences in configuration or licensing basis would have impacted whether the NRC would have approved an evaluation method at one plant for another plant. The basis for such a determination needs to be in the NRC SER. Due to greater familiarity with its own design, analyses, and licensing basis, a licensee is as able to make this

determination to the same level of quality as the NRC would. This section should be deleted from DG-1095.

10. In NEI 96-07 section 4.2.1.1, 2nd paragraph: define "potential" as in "can have the potential to (adversely) affect SSC design functions" and thus may require a 50.59 Evaluation. Please provide examples.

11. Section 4.3.8 of NEI 96-07 does not appear to adequately address the question of utility changes in methodology when the previous methodology, assumed to be documented in the SAR, is not an NRC approved methodology.

12. Since the Maintenance Rule and its required risk screenings will be relied upon to assess the impact of short-term maintenance or construction instead of 50.59, does this mean that Maintenance Rule risk screenings will be performed in lieu of 50.59 reviews for Heavy Load Lifts? Is the new regulatory guidance in conflict with the guidance of Bulletin 96-02, which declared that all heavy load lifts over fuel or safety related equipment not previously analyzed is a Unreviewed Safety Question? Please clarify the requirements for Heavy Load Lifts under the revised 10CFR50.59 and the revised 10CFR50.65.

13. Section 4.1.5 of NEI 96-07 allows for supporting changes to the fire protection program by a mechanism other than 50.59, even if this involves a change to the SAR. NEI 96-07 states "...also applying 10CFR50.59 to fire protection program changes is redundant and not necessary because the standard fire protection license condition establishes the appropriate regulatory framework and acceptance criteria for determining when proposed changes require prior NRC approval." However, c(4) of the proposed rule states that the provisions of 10CFR50.59 do not apply when other applicable regulations establish more specific criteria for accomplishing such changes. It is unclear that a regulation exists which permits the use of GL86-10 guidance as an alternative to 10CFR50.59. It appears the NRC may need to explicitly address the use of GL86-10 fire protection program evaluations in the 50.59 rule change itself, or else document how the use of GL86-10 fire protection program evaluations meet the intent of section (c)(4).

14. Consider the case of an event analyzed for radiological consequences to the "small fraction" criteria of 10CFR100. It is found that under low probability flow conditions combined with the low probability of a pre-existing accident iodine spike, the results of the analysis exceed the "small fraction" criteria.

If it can be demonstrated that the probability of this event occurring under conditions of the low probability flow condition combined with the low probability pre-existing iodine spike condition is below 10^{-6} /year, does this particular scenario require evaluation in the SAR? What is the basis, citing sections of NEI 96-07, for the answer?

15. Consider a plant change that results in requiring an operator action post-accident. Assume that all aspects of the proposed operator action are acceptable under 50.59, with the only potentially controversial item be that the operator would receive a dose, within GDC19 limits, while performing this post-accident action.

What is the acceptance limit that are to be applied to such Vital Area Access doses under the revised 50.59 Question 2, of if there is a more than minimal increase in dose?

Is the acceptance criteria for Vital Area Access doses based on the full GDC19 limits (5 rem whole body, 30 rem thyroid)?

Or are the acceptance criteria (to be able to implement under 50.59 without NRC approval) based on 10% of the remaining margin?

In this case, if the full GDC19 limits do not apply, would the remaining margin assume an initial dose of 0 rem whole body and 0 rem thyroid?

16. It is unfortunately that risk insights have not been fully applied in the development of the revised 50.59 rule. A prime example is the change in the regulation to allow minimal increases in consequences or probability of an event, instead of the use of a consistent and clear figure of merit (i.e., SRP acceptance criteria) for all plants. The final proposed rule, while workable, is similar to enforcing a different speed limit for different vehicles on a highway. Also, since the acceptance criteria is now based on the documented analysis results in the SAR, those licensees who have made the attempt to maximize the value of the SAR by having up to date and detailed information in it, beyond the basic requirements, are those who will have the greatest burden placed upon them by this non-risk informed approach. Even the NRC, in its December 17, 1998, White Paper, "Options for Incorporating Risk Insights into 10CFR50.59 Processes," concluded that there was no impact on risk associated with the use of SRP acceptance criteria for consequences vice values as documented in licensee SAR's.

17. In any eventual movement to a risk-informed 50.59 rule, the industry and the NRC need to recognize the limitations of the PRA metrics of CDF and LERF in evaluating changes to plants or plant procedures. PRA analyses are focussed upon severe accidents, vice upon transients which could occur with greater frequency but have far less severe consequences. Since Risk is generally regarded as the product of Frequency * Consequences, the 50.59 rule may also need to consider metrics which are appropriate to higher frequency, lower consequence events, such as the various non-accident events documented in SAR Chapter 15 which have the potential to result in puff releases to the environment without any core damage. If such transients were to be considered, for example, the risk importance of diesel generators would tend to increase and that of service water or cooling water systems would tend to decrease, since these are short-term transients. In approving the staff's proposal for 50.59 rulemaking of SECY-98-171, former NRC Chairman Jackson provided some detailed comments under "Giving Definition to Minimal" concerning a tiered approach toward risk-informing the 50.59 rule. Chairman Jackson's discussion should be revisited in any large scale effort to risk-inform the rule; the philosophy (if not the detailed approach) in the ACRS proposal she references to create frequency-consequence curves for various class transients should also be considered. Such approaches would provide a more robust means of capturing risk and providing defense-in-depth by not solely focussing upon severe accident risks.