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April 30, 1993

William J. Cahill, Jr.  
Group Vice President

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

SUBJECT: RESPONSE TO REQUEST FOR COMMENTS ON DRAFT  
REGULATORY GUIDES DG-1017 AND DG-1018

REFERENCE: TU Electric letter logged TXX-93152  
from W. J. Cahill, Jr., to USNRC,  
dated March 30, 1993

Gentlemen:

TU Electric is pleased with the opportunity to provide comments to Draft Regulatory Guides (DRG) DG-1017 PRE-EARTHQUAKE PLANNING AND IMMEDIATE NUCLEAR POWER PLANT OPERATOR POST-EARTHQUAKE ACTIONS and DG-1018 RESTART OF A NUCLEAR POWER PLANT SHUTDOWN BY A SEISMIC EVENT. These DRGs correspond in part to the short term and long term actions discussed in the single Electrical Power Research Institute (EPRI) document NP-6695 GUIDELINES FOR NUCLEAR PLANT RESPONSE TO AN EARTHQUAKE. Consequently, the DRGs are closely related and we have elected to comment on both DRGs in a single transmittal.

These two DRGs follow related DRG DG-1016 which is the Second Proposed Revision to Regulatory Guide (RG) 1.12 NUCLEAR POWER PLANT INSTRUMENTATION FOR EARTHQUAKES. The referenced letter provided TU Electric's comments to DRG DG-1016 and expressed the understanding (and requested confirmation) that this proposed DRG would apply only to future applicants for construction permits under 10CFR50. Similarly, it is TU Electric's understanding that the final version of DRGs DG-1017 and DG-1018 (and associated proposed Appendix S to 10CFR50) will apply only to future applicants for construction permits, licenses or certifications under 10CFR50.

TU Electric has reviewed EPRI NP-6695 and DRGs DG-1017 and DG-1018 and is impressed with the balanced approach presented in assessing earthquake damage and identifying appropriate corrective actions for nuclear power plants. Particularly noteworthy was the EPRI position (adopted with emphasis by DRG DG-1017) that hasty preparations to immediately shutdown (when necessary) following a seismic event should be avoided until an inspection is conducted of systems/equipment needed for a controlled shutdown. Also noteworthy is recognition by the EPRI Guidelines and DRGs

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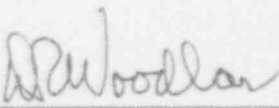
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that certain seismic events involving peak accelerations equal to or even above design Operational Basis Earthquake (OBE) levels but at high frequencies, are unlikely to do significant damage, thus precluding the need for reactor shutdown in some instances. Perhaps of greatest benefit, the EPRI Guidelines provide the basis (in the EPRI Damage Scale) to promote consistent communication on earthquake damage severity by using a scale tailored specifically to nuclear power plants. Although determination of the "OBE exceedance" criterion as defined by the EPRI Guide and DRGs cannot be calculated without the specific instrumentation discussed in DRG DG-1016, and therefore will limit the direct applicability of the procedure to future applicants or those plants that can justify the upgrades, TU Electric believes that the proposed regulations will be utilized informally to judge the adequacy of earthquake response procedures at virtually all nuclear power plants. It is partly from this perspective that TU Electric offers the comments included in the attachment.

Sincerely,

William J. Cahill, Jr.

By:   
D. R. Woodlan  
Docket Licensing Manager

JAA/vld  
Attachment

c - Mr. J. L. Milhoan, Region IV  
Resident Inspectors, CPSES (2)  
Mr. T. A. Bergman, NRR  
Mr. B. E. Holian, NRR

COMMENT: DRG DG-1017 - Suggest utilizing a different terminology for "OBE exceedance".

REASON: Use of this term will result in confusion when discussing the design OBE for currently licensed nuclear power plants that do not have the instrumentation and software necessary to calculate "OBE exceedance". In at least two places in DRG DG-1017 (5. and 6.) the word "exceedance" has been dropped and only "OBE" utilized where "OBE exceedance" was intended. For CPSES, the design OBE is lower than "OBE exceedance" as defined by the DRG. In the event of a seismic event at CPSES that slightly exceeded the peak design OBE acceleration and did no damage, a decision to remain operational, or promptly restart after a precautionary shutdown utilizing normal procedures (without the additional inspections and tests proposed by DRG DG-1017 and 1018) could appear to be non-conservative, when in fact it may actually be well within the EPRI guidelines. This mis-perception could result in adverse publicity at a critical time for public confidence. The potential for confusion is illustrated by the following note in EPRI NP-6695:

It should be noted that the criterion for determining if the OBE has been exceeded is independent of the plant's design OBE and SSE ground response spectrum. For plants with a low SSE ground response spectrum (i.e., less than 0.2 g) it is possible to exceed the OBE and even the SSE ground response spectrum and not exceed the OBE, based on the above criterion, if the damage parameters are less than the limit values (i.e., peak 5 percent damped ground motion spectra acceleration less than 0.2 g or CAV less than 0.3 g-sec.).

TU Electric would suggest a term such as "Required Shutdown Earthquake" to convey "OBE exceedance" as defined by DRG DG-1017.

COMMENT: DRG DG-1017 Section 5. and 5.2 - The word "damage" in section 5.2 should be qualified.

REASON: Section 5. states that the plant must be shutdown if significant damage occurs. Section 5.2 states that the plant should be shutdown for damage. Since section 5.2 is intended to apply when "OBE exceedance" has not occurred, some level of damage to non-safety related systems should be permissible without prompting a shutdown recommendation from the RG.

COMMENT: DRG DG-1017 APPENDIX B - The definition of Safe Shutdown Earthquake (SSE) has been omitted from the appendix. It would seem appropriate to include all the definitions used in EPRI NP-6695 or adopt them by reference.

REASON: Editorial

COMMENT: DRG DG-1017 - The POST-SHUTDOWN INSPECTION AND TESTS of EPRI NP-6695 recommended performance of all Technical Specification Surveillances prior to restart for seismic events <1 on the EPRI damage scale (see Figure 3-2 of EPRI NP-6695). TU Electric believes performance of confirmatory surveillances on selected systems/components would be adequate under these conditions.

REASON: Damage levels <1 on the EPRI scale would indicate that the pre-shutdown inspections and post shutdown inspections have confirmed no damage to seismically designed structures and equipment. Under these circumstances the performance of selected surveillances, expanded in scope if necessary based on results, would seem more than adequate.

COMMENT: DRG DG-1017 Section 3.2.1 - EPRI NP-6695 recommends the use of "... engineers experienced in the observation and evaluation of earthquake related damage to industrial and power facilities.", for the initial level of post-shutdown inspections i.e., "Focused Inspections". TU Electric believes this is unwarranted.

REASON: The "Focused Inspections" are the initial level of inspections performed after shutdown following a seismic event, with provisions for "Expanded Inspections" if results of the initial "Focused Inspections" warrant. TU Electric believes that these inspections can be performed exclusively by utility engineers who have site specific knowledge of systems, structures and components and the applicable design criteria. The recommendation for utilizing engineers with experience in observation and evaluation of earthquake damage in industrial power facilities should be reserved for "Expanded Inspections" if required.

COMMENT: DRG DG-1018 Regulatory Position C. - The words "after a plant has been shutdown by an earthquake..." should be changed to "after shutdown of a nuclear power plant following a seismic event greater than OBE Exceedance criteria or causing significant damage...".

REASON: The current wording could be interpreted to apply to a nuclear power plant that underwent a spurious trip during a seismic event, but suffered virtually no damage to even non-safety related systems/structures. It could also be interpreted to apply to a nuclear power plant that was shutdown as a conservative measure following a seismic event, even though none of the shutdown criteria in DRG DG-1017 apply. In general, DRG DG-1018 should have a specific applicability statement indicating that the actions are a requirement for those plants meeting the shutdown criteria of DRG DG-1017 and are guidance only for plants experiencing spurious trips or performing precautionary shutdowns.

COMMENT: DRG DG-1018 Regulatory Position C - The wording in this section could be interpreted to mean that the long term corrective actions of Section 6.3 of EPRI NP-6695 are required prior to restart of a nuclear power plant. This wording should be clarified to make the regulatory intent clear.

REASON: EPRI NP-6695 intended the long term corrective actions to be performed following restart, except for those earthquakes approaching SSE limits (>2 on the EPRI Damage Scale). TU Electric believes this approach is reasonable and should be clearly adopted by the DRG.

COMMENT: DRG DG-1018 Regulatory Position C - Coincident with the long term corrective actions of EPRI NP-6695, the NRC has added that "the plant should be restored to its current licensing basis". These words need clarification.

REASON: There is currently no consensus within the nuclear industry of what "current licensing basis" means for an operational plant at some point in its designed life. TU Electric would propose elimination of this wording in favor of wording that is currently well understood by the industry. For example the DRG could require the utility to certify that the material condition of the power plant (as restored) and subsequent operation of the facility, do not represent an unreviewed safety question as defined by 10CFR50.59.