September 17, 2009

LICENSEE: Nebraska Public Power District

FACILITY: Cooper Nuclear Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JULY 23, 2009, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND NEBRASKA PUBLIC POWER DISTRICT, RELATED TO CLARIFICATIONS ON REQUEST FOR ADDITIONAL INFORMATION, FOR COOPER NUCLEAR STATION LICENSE RENEWAL

The U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Nebraska Public Power District held a telephone conference call on July 23, 2009, to discuss clarifications for the severe accident mitigation alternative documented in the NRC request for additional information letter dated May 1, 2009 (Accession Number ML091240344).

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a brief description of the telephone conference call.

The applicant had an opportunity to comment on this summary.

/RA/

Bennett Brady, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
As stated

cc w/encls: See next page

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Memorandum to Nebraska Public Power District from B. Brady dated September 17, 2009

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TELEPHONE CONFERENCE CALL
COOPER NUCLEAR STATION
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
July 23, 2009

PARTICIPANTS	AFFILIATIONS
Bennett Brady	U.S. Nuclear Regulatory Commission (NRC)
Bob Palla	NRC
Jon Young	Pacific Northwest National Laboratories (PNNL)
Steve Short	PNNL
Dave Bremer	Nebraska Public Power District (NPPD)
Steve Nelson	NPPD
Alan Cox	Entergy

ENCLOSURE 1

TELEPHONE CONFERENCE CALL
COOPER NUCLEAR STATION
LICENSE RENEWAL APPLICATION

BRIEF DESCRIPTION
July 23, 2009

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Nebraska Public Power District (NPPD) held a telephone conference call on July 23, 2009, to discuss the Cooper Nuclear Station (CNS) responses to NRC requests for additional information (RAIs) on the CNS license renewal application Environmental Report severe accident mitigation alternatives (SAMA) in a letter dated July 1, 2009 (Accession Number ML091880319).

Discussion:

1. RAI 2.c

It is still not clear to the staff why the three cited success events in the large early release probability risk reduction worth (LERF RRW) table (Table E.1-5) have such high RRW values (2.181). While it appears that the complement events were considered in the computation of the RRW values, it does not seem logical that reducing a success event likelihood to zero would reduce risk. If that were the case, a severe accident mitigation alternative (SAMA) eliminating containment inerting should have been considered. Additional discussion is needed to clarify how RRW for success events is calculated. After discussion, the staff was satisfied that the applicant's assumptions were correct. Below is a brief summary of the basis for closure of this question:

Clarification

NPPD responded that:

The first part of this question is discussing events with RRW values of 2.181 from Table E.1-5:

- These are failure events (not success events) with high probability of failure (as already described in response to RAI 2.c).
- These 3 basic events are under "and" gates feeding a drywell shell melt through gate. Due to their high probabilities they show up in a large number of cutsets for a LERF model.
- The original RAI 2.c response discusses how these events are utilized in the model.

The second part of this question is concerned with the method for RRW calculation:

- RRW was calculated and reported for both failure and success events from the CAFTA output for the LERF model - RRW for success events would be calculated the same way as failure events, but wouldn't mean any actual risk reduction would occur by reducing these event probabilities.
- Table E.1-5 is LERF model importance measures extracted from the CAFTA Level 2 one top model results.

- Success events were included in the table for completeness, not to imply a risk reduction by lowering their likelihoods. The handling of SAMAs for success events was addressed in response to RAI 5.a.

RAI 6.h

The staff notes that the RAI response indicates that SAMA 70 reduces release frequency but does not reduce core damage frequency (CDF). The staff asked that NPPD:

a. Explain what is meant by reducing release frequency, since implementation of a SAMA would generally result in a reallocation of release frequency among the release categories rather than a reduction in release frequency. Clarify if this relates to the accident frequency that is reallocated to release category NCF.

b. Describe the process for calculating the reduction factors for SAMA 70 (i.e., 11.59% reduction in release frequency, 40.19% reduction in population dose, and 40.66% reduction in OECR). Explain the significance of the estimated reduction in release frequency for this SAMA since the reduction in population dose and in OECR would seem to be all that is needed to quantify the benefit for this SAMA.

c. Based on independent calculations, it appears that the estimated Internal and External Benefit for SAMA 70 ($227K) assumes an 11.59% reduction in CDF. Explain why any reduction in CDF was assumed since the RAI response states that this SAMA does not reduce CDF. Identify any other SAMAs that are impacted by this same assumption/treatment. Confirm inputs and outputs to SAMA-70 and why it produce this apparent reduction.

d. Discuss how the reduction in CDF reported in Table E.2-2 was calculated for other SAMAs. Specifically address the estimation of benefits (reduction in CDF, population dose, and OECR) for SAMAs that affect sequences which result in core damage but no containment release (i.e., release category NCF). Confirm that all averted onsite costs (including cleanup and replacement power costs) are appropriately treated for these SAMAs.

Clarification

The staff was satisfied that the correct methodology appears to have been applied and achieved results appear conservative. Concerns persist regarding the anomaly on SAMA-70 and its potential impact on the evaluation of other SAMAs. However, these concerns do not or would not necessarily result in altering the final analysis.

Additional clarifications requested

It was agreed that NPPD would respond electronically to a slightly revised form of the question "2c" above for consideration in the SAMA review:

Regarding the estimated Internal and External Benefit for SAMA 70 ($227K) which assumes an 11.59% reduction in CDF.

a. Explain why any reduction in CDF was assumed since the RAI response states that this SAMA does not reduce CDF.

b. Confirm inputs and outputs to [the evaluation of] SAMA-70 and [determine] why it produce[s] this apparent reduction [in CDF].

c. Identify any other SAMAs that are impacted by this same assumption/treatment and provide an assessment of the impact on the cost-benefit evaluation results of each identified.

Following the telephone conference, NPPD determined that the applicant would need at least two weeks and up to 30 days to respond.