

June 18, 2001
NG-01-0790

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station 0-P1-17
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Response to Request for Additional Information (RAI) to Technical
Specification Change Request TSCR-042 – Extended Power Uprate
(TAC # MB0543)

References: 1. NG-00-1900, "Technical Specification Change Request (TSCR-042):
'Extended Power Uprate'," dated November 16, 2000.
2. NG-01-0700, "Response to Request for Additional Information (RAI)
to Technical Specification Change Request TSCR-042 – Extended
Power Uprate. (TAC # MB0543)," dated May 22, 2001.

File: A-117, SPF-189

Dear Sir(s):

On June 8, 2001, a conference call was held with the NRC Staff regarding the Reference 1 amendment request to increase the authorized license power level of the Duane Arnold Energy Center. In order to complete their review, the Staff requested additional information to that previously supplied by Reference 2. The Attachment to this letter contains that additional information, as requested in that conference call.

No new commitments are being made in this letter.

Please contact this office should you require additional information regarding this matter.

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This letter is true and accurate to the best of my knowledge and belief.


NUCLEAR MANAGEMENT COMPANY, LLC

By *Gary Van Middlesworth*
Gary Van Middlesworth
DAEC Site Vice-President

State of Iowa
(County) of Linn

Signed and sworn to before me on this 18th day of June, 2001,

by Gary Van Middlesworth.

Nancy Franck
Notary Public in and for the State of Iowa

Commission Expires

Attachment: DAEC Response to NRC Probabilistic Safety Assessment Branch
Second Request for Additional Information Regarding Proposed
Amendment for Power Uprate

cc: T. Browning
R. Anderson (NMC) (w/o Attachment)
B. Mozafari (NRC-NRR)
J. Dyer (Region III)
D. McGhee (State of Iowa)
NRC Resident Office
Docu

DAEC Response to NRC
Probabilistic Safety Assessment Branch
Second Request for Additional Information
Regarding Proposed Amendment for Power Uprate

NRC Question:

In Section 10.5.3.4 you stated that a cutoff value of Risk Achievement Worth (RAW) of 1.06 was used to screen operator actions for significance. Were there any operator actions with RAW values of less than 1.06, which when adjusted for changes due to power uprate, would have made a significant impact on Core Damage Frequency (CDF) or Large Early Release Frequency (LERF) values?

DAEC Response:

As a check on the residual human performance effects below the RAW cutoff value of 1.06, a review of all events with a RAW value less than 1.06 was performed to identify any “near misses” that, after considering the impact of the Power Uprate, could have made the cut at 1.06 for detailed evaluation. Only one event involving human performance was identified with the potential to be a “near miss.” The “Failure to recover River Water Supply” event had an original RAW value of 1.05. We arbitrarily set this failure probability to 1.0 and recalculated the CDF and LERF values. The change in CDF was $5.0 \text{ E-}07$ over the baseline value ($1.29 \text{ E-}05/\text{yr}$) and there was no change in the LERF value over the baseline value ($9.94 \text{ E-}07/\text{yr}$). (NOTE: subsequent to the original submittal, a small error in the reported value of LERF of $9.93 \text{ E-}07/\text{yr}$ in PUSAR Section 10.5.4 and Table 10-3 was found. The error was less than $1 \text{ E-}09$ and had no material impact on our results or conclusions.)

As a second check, all human performance events with a RAW value less than 1.06 (including the one above) had their probability estimates arbitrarily adjusted by a factor of 2, i.e., they were doubled. The resulting change in CDF was $1.4 \text{ E-}06$ and the change in LERF was $9.3 \text{ E-}08$, over the baseline values. These changes are not considered to be significant.

Based upon the above review, the cutoff value in RAW of 1.06 used in the initial screening was deemed appropriate.