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Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Additional Information Regarding the Arkansas Nuclear One - Unit 1
Proposed Technical Specification Change For Sodium Hydroxide Tank Limits

Gentlemen:

In letter dated August 6, 1998 (1CAN089801), Entergy Operations submitted a proposed technical specification (TS) change to modify the sodium hydroxide (NaOH) tank limits for Arkansas Nuclear One - Unit One (ANO-1). The proposed change revises the minimum concentration limit from the current value of 15 wt% to 5.0 wt%. The maximum concentration limit is revised from the current value of 20.8 wt% to 16.5 wt%. The proposed change also revises the minimum specified tank volume to refer to the parameter used in the analysis with no allowance for instrument uncertainty and deletes the maximum specified tank volume. The maximum concentration is based on a sump pH of <10.5 to minimize the potential for equipment degradation from caustic attack.

The maximum post-LOCA reactor building sump level calculation in our August 6, 1998, letter assumes a NaOH tank volume of 13,054 gallons for sump flooding. This value exceeds the physical capacity of the NaOH tank (T10), which is approximately 12,500 gallons. Since the maximum volume assumed exceeds the physical capacity of the NaOH tank, no maximum limit was proposed for the ANO-1 NaOH volume. As a result, the upper tank volume limit would no longer be controlled in the ANO-1 TSs. Additionally, 10CFR50.36(c)(2)(iii) would not require ANO to reinstate the upper tank volume limit if the NaOH tank volume were increased due to a modification. Therefore, if the NaOH tank is ever modified to enlarge its volume above the upper analytical pH limit, Entergy Operations commits to submit a license amendment which will establish a NaOH concentration upper limit in the ANO-1 technical specifications.

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During the NRC review two additional items in the letter were determined to need clarification. The first item involved a minor error in the NaOH concentration table on page 3 of 7 in the attachment to the submittal. The minimum and maximum tank concentration values were transposed. The proper values in the table should be 16.5 wt% for maximum concentration and 5 wt% for the minimum concentration of NaOH. The second item involved a question on why a non-conservative change in the offsite dose assumptions did not appear to change the offsite dose consequences. On page 6 of 7 of the attachment to the August 6, 1998 submittal, Entergy Operations discusses a change in the assumed NaOH discharge to the reactor building for sump pH calculations. The assumed NaOH tank minimum volume changed from 10,600 gallons to 9,000 gallons with a reduction in total NaOH discharge to the reactor building sump from 10,048 gallons to $\geq$ 4,000 gallons. It would be expected that the offsite dose consequences would increase due to a reduction in sump volume and a lower pH. However, due to existing conservatisms in the ANO-1 dose calculations, which already bound any minor changes in these assumptions, there is no increase in the calculated offsite dose. Therefore, Entergy Operations did not reflect any change in the calculated offsite dose consequences.

Please contact me regarding any additional questions on this matter.

Very truly yours,

Jimmy D. Vandergrift
Director, Nuclear Safety

JDV/sab

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