

March 1, 1988

Docket No. 50-213

LICENSEE: Connecticut Yankee Atomic Power Company
FACILITY: Haddam Neck Plant
SUBJECT: SUMMARY OF FEBRUARY 10, 1988 MEETING REGARDING MODERNIZATION
OF THE REACTOR PROTECTION SYSTEM (TAC NO. 66948)

On February 10, 1988, the NRC met with Connecticut Yankee Atomic Power Company (CYAPCO) to discuss their reply to a February 5, 1988 Request for Additional Information (RAI) regarding the Reactor Protection System (RPS). CYAPCO stated their position that the RPS modifications can be made under the provisions of 10 CFR 50.59 and do not require prior NRC approval. Additionally, CYAPCO sees no reasons why the NRC review of their 10 CFR 50.59 report should affect the scheduled plant start-up. The NRC staff stated that we will be reviewing on a generic basis if RPS modifications fall under the provisions of 10 CFR 50.59. The NRC staff stressed that the thrust of this meeting is our concerns regarding the adequacy of the plant design change record (PDCR) 861, as documented in our February 5, 1988 RAI. As a general question the NRC staff asked to what design criteria (current or plant design basis) are modifications made. CYAPCO replied that modifications made are to current design criteria as limited by the as-built plant design.

CYAPCO then described their responses to the RAI. The following are some comments regarding CYAPCO's responses and NRC staff requests for additional information made during the meeting.

Question 1

The NRC stated CYAPCO should clarify the scope for PDCR 861 as there is overlapping of modifications and the NRC wants to limit this review to those modifications performed in PDCR 861.

Question 2

The NRC agreed IEEE 384-1981 is more conservative than 1974, but the plant only needs to meet the 1974 version. CYAPCO stated while the changes have improved the design, it still does not meet the 1974 criteria. CYAPCO is reviewing the possibility of further modifications which would bring this system into compliance with the 1974 Code.

Question 3

No comments.

Question 4

CYAPCO stated that because one dedicated pressure level channel out of three is used for control and the protective action is based on 2/3 logic a potential control/protection interaction problem exists. CYAPCO using a deterministic analysis demonstrated that the consequences of this fault are acceptable. Additionally, CYAPCO believes a study has been done that reviewed this issue and found it to be acceptable. The NRC asked for this report to be provided.

Question 5

CYAPCO stated they have verified that the response time of the new equipment meets the response times required by Chapter 15 of the UFSAR by at least a factor of two. The NRC requested CYAPCO to provide a table with the Chapter 15 response times, old (if available) and new equipment response times, current response time test results for all components within each instrument channel affected by the design change.

Question 6

No comments.

Question 7

The NRC stated we would prefer the monthly functional checks in the Technical Specifications.

Question 8

CYAPCO stated that their surveillance testing complies with R.G. 1.22 and 1.118.

Question 9

CYAPCO stated Foxboro is currently preparing several reports which will address this question. The NRC requested CYAPCO to provide these reports as soon as they are available.

Question 10

The NRC expressed concern over the downgrading of the interlocks for the loop stop valves from safety grade to control grade. CYAPCO stated they improved the logic for the interlocks, but in the process could not upgrade the system to meet the single failure criteria. CYAPCO states this condition is also true of the original design but the existence of the interlocks in conjunction with administrative procedures and Technical Specifications keep the consequences acceptably low. The NRC requested a copy of the administrative procedures for controlling operation of these valves.

In addition, the staff also needs CYAPCO to address the enclosed questions.

Enclosed is CYAPCO's response to our February 5, 1988 RAI and the attendance list.

Alan Wang

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Enclosures:
As stated

cc w/enclosures:
See next page

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FEBRUARY 10, 1988 MEETING

RPS UPGRADE

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ADDITIONAL QUESTIONS AS RESULT OF
FEBRUARY 10, 1988 RPS MEETING

1. Instrument channel accuracy/safety setpoint calculation sheets (similar to IC-CALC-87-007) for all reactor trip and engineered safety feature actuation functions affected by new instrumentation installed under PDCR 861.
2. Justification/discussion of the calibration and drift errors utilized in IC-CALC-87-008 for Weed RTD's with a comparison to the values used by the licensee recently for Millstone 3 for an identical/similar RTD.
3. Tables of response times for transmitters and rack have been provided. Response time test procedures have also been provided which state that the total channel response time will be the sum of the individual components' response times that make up the channel. It is not clear at this time whether the rack response times encompass all individual components (except transmitters). A breakdown of all individual component response times should be provided if the rack times do not account for these.
4. Technical Specification 3.17.5 requires that indicated T_{cold} should be $\leq 542^{\circ}\text{F}$ with a safety analysis limit of 544.1°F . A discussion of measurement uncertainties accounting for instrumentation uncertainties should be provided if affected by PDCR 861.
5. During the February 10, 1988 meeting, we stated that a V&V audit would be conducted in the future. The licensee should be reminded that we are currently considering such an audit.

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