

VERMONT YANKEE NUCLEAR POWER CORPORATION



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REPLY TO:
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June 11, 1993
BVY 93-59

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

References: a) License No. DPR-28 (Docket No. 50-271)
 b) Letter, USNRC to VYNPC, Inspection Report 93-10, dated
 5/12/93

Subject: Reply to a Notice of Violation - Inspection Report 93-10

Dear Sir:

This letter is written in response to Reference b), which indicates that one of our activities was not conducted in full compliance with NRC requirements. The Violation was identified during an inspection conducted on April 6-8, 1993. Our response to this item is provided below. In addition, Reference b) required Vermont Yankee inform the NRC of our "plans to improve the documentation, evaluation and correction of trends and deficiencies associated with the emergency diesel generators".

VIOLATION:

"10 CFR Part 50, Appendix B, Criterion XVII - Quality Assurance Records, and the licensee's accepted quality assurance program, requires that sufficient records shall be maintained to furnish evidence of activities effecting quality. The records shall include the results of reviews.

Contrary to the above, sufficient records were not maintained to furnish evidence of reviews in that Equivalency Evaluation 92-036, dated April 4, 1992, stated that improved heat transfer was a critical characteristic of replacement liners for the "A" emergency diesel generator (EDG) but no record of the review was made concerning the effect on emergency diesel generator support systems or fuel consumption.

This is a severity level IV violation (Supplement I)."

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RESPONSE TO THE VIOLATION

The cylinder liner upgrade, as proposed by Coltec in a 1990 letter, "provides improved liner-to-water-jacket sealing" and "improved heat transfer characteristics". This allows increased horsepower only if installed as part of the total series conversion upgrade package. An evaluation of both of these characteristics was conducted and is included in the original equivalency evaluation. The cylinder liner upgrade, as described by the vendor, makes no mention of the impact on fuel consumption, exhaust gas temperature or jacket coolant temperature since they are not changed.

Although installation of the entire series conversion modification would realize a 3-8% reduction in fuel usage (due to the improved fuel injector design and air flow), implementing the liner upgrade alone would result in no change. Therefore, the impact on fuel consumption was not considered to require formal analysis. Vermont Yankee's practice was¹ that obvious improvements or fundamental engineering judgements do not require specific documentation.

A physical modification was made to the cylinder liner to produce improved heat transfer characteristics. The improved characteristics result in a smoother, less localized, transfer of heat. Because of this fact, and since the amount of heat being produced within the new cylinder design would remain unchanged, the Procurement Engineer concluded that the amount of heat being transferred to the service water system via the cylinder water jacket coolers would not increase, and any localized increase in heat transfer rate caused by the configuration changes would have no effect on the support systems.

Vermont Yankee agrees that the discussion of the heat transfer effect on the jacket water cooling system and the service water system should have been more thoroughly documented in the equivalency evaluation by adding clearer statements that overall transfer of heat would not change. However, the conclusions that the "fit, form, function or materials of the cylinder assembly" is not affected and that the upgrade is equivalent to the original is unchanged. The Vermont Yankee equivalency evaluation procedure (VYP:329) requires the Procurement Engineer to consider the impact of any proposed alteration or substitution of replacement parts and components on interrelated systems ("system interaction"), although it does not presently require this evaluation to be specifically documented.

Regarding the applicability of FSAR Section 8.5.3 to the conditions addressed in this equivalency evaluation, Vermont Yankee does not consider this reference to be relevant since the cylinder liners do not change the amount of heat being produced or the amount of heat being transferred to the service water system via the cylinder water jacket coolers.

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Finally, Vermont Yankee was aware that the part number of the cylinder liners supplied by Detroit Edison was not identical to that of the liners previously installed. However, the part number of the improved cylinder liner design was endorsed by Coltec in the 1990 letter as being the correct product for implementation of the diesel generator upgrade program. This was confirmed by telecon with Coltec prior to the installation of the new cylinder liners.

VIOLATION CORRECTIVE ACTION

Immediate corrective actions taken to rectify this deficiency involved providing supplemental written justification to support the original equivalency evaluation worksheet. In addition, formal retraining of the Procurement Engineering staff in the requirements of VYP:329 and the need to thoroughly document the impact of any proposed alteration or substitution of replacement parts and components in performance of equivalency evaluations has occurred.

An additional corrective action was identified to revise VYP:329 to provide for specific documentation of the required system interaction review. This revision to the Equivalency Evaluation Procedure (VYP:329) is expected to be issued for use by June 30, 1993. Additionally, Vermont Yankee is performing an independent review of other selected equivalency evaluations to ensure the documentation packages are complete.

ADDITIONAL CORRECTIVE ACTIONS

As stated previously, Reference b) requires Vermont Yankee to inform the NRC of our "plans to improve the documentation, evaluation and correction of trends and deficiencies associated with the emergency diesel generators". Vermont Yankee has thoroughly reviewed the concerns of the NRC in the areas of documentation, evaluation and correction of trends and deficiencies associated with the emergency diesel generators. In response to the specific issues raised by the Inspection Report we have identified appropriate commitment items via our commitment tracking system to resolve these individual items. These will be resolved by November 1993. Any additional actions and improvements resulting from our review of these specific issues will be tracked and dispositioned via our corrective action process. In addition, we have implemented several management controls that will ensure deficiencies are adequately reviewed, documented and resolved in the future. A few of the more noteworthy changes are discussed below:

- 1) Work Order procedure (AP 0021) has been revised, as of May 21, 1993, to include a new form that establishes management's expectations with regard to Work Order documentation. This form requires work parties to

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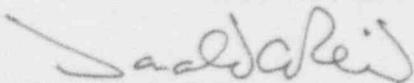
- identify discrepancies, make recommendations for resolution, and ensures that the repair department supervisor dispositions any identified discrepancies.
- 2) Vermont Yankee issued the Vermont Yankee Observation Program on May 1, 1993. As part of this program 'Material Condition' inspections are conducted by management. These inspections require the identification and prompt disposition of material condition deficiencies, as well as, identification of any additional actions required for follow up.
 - 3) Effective May 10, 1993 on an interim basis, work orders will receive a closeout review by a Maintenance Engineer. This review includes reviewing all supporting documentation and field notes and data. As part of the review the Maintenance Engineer will ensure any discrepancies are resolved by the responsible foreman and documented. In addition, any long term resolution of identified deficiencies or discrepancies will be tracked. The Maintenance Engineer will also review to ensure that appropriate failure cause is identified to allow accurate trending via the Maintenance Planning and Control (MPAC) system.

Additionally, Vermont Yankee remains confident that the initiatives identified by the Emergency Diesel Generator Reliability Improvement Team will meet the goal of improving EDG reliability. The initiatives of improving performance monitoring and trending and the introduction of Reliability Centered Maintenance concepts will respond directly to the NRC's concerns in the area of "documentation, evaluation and correction of trends and deficiencies associated with the emergency diesel generators".

We trust the information provided is adequate; however, should you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORP.



Donald A. Reid
Vice President, Operations

cc: USNRC Regional Administrator, Region 1
USNRC Resident Inspector, VYNPS
USNRC Project Manager, VYNPS