

Washington Public Power Supply System

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July 14, 1983
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Responds to: -

Response required by: -

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Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Attention: D.M. Sternberg, Chief,
Reactor Projects Branch No. 1

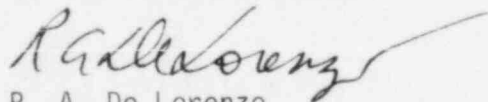
Subject: NUCLEAR PROJECTS NOS. 1 AND 4, DOCKET NOS. 50-460 AND
50-513, REPORTABLE CONDITION 10CFR50.55(e)
EMERGENCY DIESEL GENERATOR CURRENT TRANSFORMERS

Reference: A) Telecon ME Rodin, Supply System to PP Narbut; Same
Subject, dated November 13, 1981
B) G01-81-417, DW Mazur to RH Faulkenberry; Same Subject,
dated December 15, 1981
C) G01-82-0119, RW Root to RH Faulkenberry; Same Subject,
dated April 2, 1982
D) G01-82-0407, DW Mazur to RH Faulkenberry; Same
Subject, dated June 6, 1983.

In reference A) the Supply System informed your office of a reportable deficiency under 10CFR50.55(e) and references B), C), and D) were interim reports on the subject condition.

Attachment "A" includes a statement of the identified condition and a brief updated description of our planned actions to correct the identified deficiency. As you will see in our discussion under Corrective Action, we have selected a supplier for replacement of the defective current transformer; however, we are unable to provide a firm date by which all actions, including installation of the new current transformer, will be completed. Based on the current WNP-1/4 delay in construction, the Supply System will not be able to replace the components and issue a final report. As a result, the Supply System will provide the next interim report at construction restart.

If you have any questions or desire further information, please advise.



R. A. De Lorenzo
Program Director WNP-1

RAD:LCO:ts

Attachment

cc: TA Mangelsdorf, Bechtel (861)
V Mani, United Engineers (897)
Document Control Desk, NRC

ATTACHMENT A
WNP-1/4
DOCKET NOS. 50-460 AND 50-513
REPORTABLE CONDITION PER 10CFR50.55(e)
EMERGENCY DIESEL GENERATOR CURRENT TRANSFORMERS

BACKGROUND

The Supply System purchased Emergency Diesel Generators, two per plant, from Transamerica Delaval. The electrical generation equipment portion of the package was subcontracted to Parsons Peebles - Electric Products, Inc., who in turn subcontracted a portion of their scope of work to Portec, Inc. Parson Peebles has reported under the requirements of 10CFR50 Part 21, a deficiency associated with specific current transformers, which are described in detail under "Description of the Deficiency", which were used in the manufacturing of the Emergency Diesel Generators.

The equipment involved in this report was designed, manufactured, and tested by Portec, Inc., Electric Products Controls Division; Highland, Illinois 62244, during the period from 1975 to 1979.

Following receipt of the 10CFR part 21 notification from Transamerica Delaval, Supply System Contract 53, it was determined that this deficiency was reportable under the requirements of 10CFR50.55(e).

DESCRIPTION OF THE DEFICIENCY

The design deficiency consists of an improper application of Westinghouse Type ECT current transformer, Part No. 7524A68G16, in the paralleling circuit of the static exciter voltage regulatory system. As presently applied, this transformer will operate outside of its rated temperature range whenever the ambient temperature at its location in the generator control panel exceeds 30°C. While no immediate malfunction of the equipment will result from such operation, the transformer will age thermally at an excessive rate leading to its premature failure at around 14% of its normal life expectancy.

SAFETY IMPLICATIONS

Although parallel operation of the Class 1E design generator systems is not included among the postulated functions during the DBE, it is routinely performed as a part of mandatory exercises of the safety related systems (Regulatory Guide 1.108) during which the current transformer failure would result in a loss of the systems capability to share the reactive load. However, a potential hazard exists that a severe thermal degradation of this transformer may go unnoticed, its failure impending, when the paralleling circuit is inactive. Since the current transformer cannot be de-energized, it remains under load at all times when the generator is loaded. Thus, its thermal degradation progresses even when its secondary winding output is short circuited and the paralleling deactivated. Ultimately, the current transformer failure may result in a failure of the diesel generator system to fulfill its Class 1E mission due to a line to ground fault, in the worst case, or it may cause different levels of degradation of adjacent components of the Class 1E circuits.

CORRECTIVE ACTION

The Supply System and UE&C Engineering both agree with the Parsons Peebles recommendation that the Westinghouse current transformers be replaced by an interchangeable current transformer manufactured by Norlake Manufacturing Company of Elyria, Ohio. The Norlake current transformer, model CD 1408, has been selected to replace the Westinghouse current transformer and has completed the required qualification testing, however, the qualification test report has yet to be reviewed by UE&C. It is expected that this task will be completed by January 1984, after which the replacement parts will be procured. However, installation will not take place until after restart of construction activities. We will provide an update status report at construction restart.