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Nuclear Operations

February 26, 1993
NRC-93-0016

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

References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC Generic Letter 89-16, "Installation of a Hardened Wetwell Vent," dated September 1, 1989

3) Detroit Edison letter to NRC, "Response to Generic Letter 89-16," NRC-89-0216, dated October 20, 1989

Subject: Final Response to Generic Letter 89-16

This letter is to provide Detroit Edison's final response to NRC Generic Letter 89-16 (Reference 2). The Generic Letter encouraged all plants with Mark I Containments to voluntarily install a hardened wetwell vent under 10 CFR50.59. Detroit Edison provided the response to Generic Letter 89-16 in Reference 3 and stated that it had decided to install a hardened wetwell vent by the end of our third refueling outage.

During the third refueling outage, which ended in November 1992, Detroit Edison installed a hardened torus vent system at Fermi 2 under 10 CFR 50.59. The design of the hardened torus vent meets or exceeds the BWR Owners' Group criteria. The modification consisted of installation of a new section of pipe to allow wetwell venting directly to the environment.

A 10 inch carbon steel pipe was routed from an existing 24 inch Standby Gas Treatment System (SGTS) inlet header on the 5th floor reactor building through the reactor building siding into a new stack which discharges at an elevated location. The 10 inch pipe contains two torus vent secondary containment fail closed isolation valves. Both these valves are Air Operated Valves (AOVs) supplied by the non-interruptible air system. The solenoid valves for AOVs are powered by the Reactor Protection System.

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Controls and position indications for the AOVs are located in the control room and controls are keylocked to prevent inadvertent opening of these valves. A radiation monitor is installed on the new 10 inch pipe. The monitor is powered from the Reactor Protection System and has indication and alarm in the control room to alert the operators of a radiological release. The monitor is also interfaced with the emergency response information system .

The hardened torus vent system is a non-safety related system. It is not designed or required to prevent or mitigate any design bases accident, however, it is designed to mitigate the consequences of a severe containment overpressurization accident. Conditions leading to the need to vent requires multiple failures of non-safety related and safety related equipment and goes well beyond the original design bases of the plant. Torus venting is designed to function when the primary means of containment cooling are not available. Support systems were chosen based on the insight provided by the probabilistic risk assessment and the individual plant examination.

The function and operation of SGTS and primary containment isolation system is not changed with installation of the Fermi 2 hardened torus vent system. Both torus vent secondary containment isolation valves are normally closed to prevent in-leakage into the secondary containment.

The operation of the system is governed by the Fermi 2 emergency operating procedures. When venting through the hardened vent system is in progress, any radiological release will be monitored by the torus hardened vent radiation monitoring system which will provide a Xenon-133 equivalent response for dose assessment.

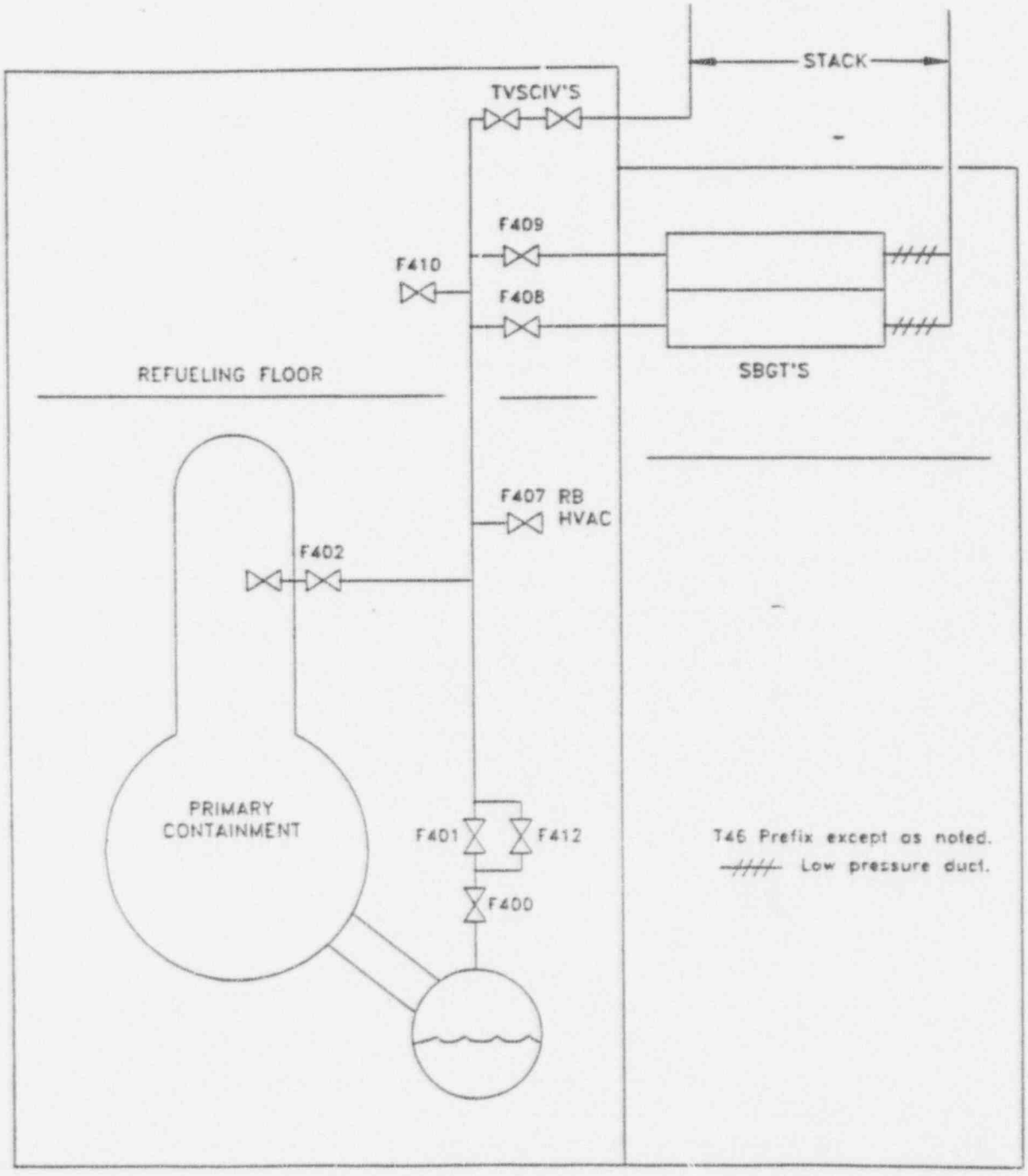
A simplified diagram of the Fermi 2 hardened torus vent system is also attached for your information.

If you have any questions, please contact Mr. Girija S. Shukla at (313) 586-4270.

Sincerely,

Attachment

cc: T. G. Colburn
A. B. Davis
W. J. Kropp
M. P. Phillips



Fermi 2
SIMPLIFIED DIAGRAM WITH
HARDENED TORUS VENT