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Writer's Direct Dial Number

June 4, 1980  
TLL 261

TMI Program Office  
Attn: J. T. Collins, Deputy Program Director  
U. S. Nuclear Regulatory Commission  
c/o Three Mile Island Nuclear Station  
Middletown, Pa. 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit II (TMI-2)  
Operating License No. DPR-73  
Docket No. 50-320  
Plant Vent Stack Cap

The purpose of this letter is to inform you that we intend to remove the cap on the plant ventilation stack and discontinue use of the supplemental ventilation system atop the Auxiliary Building on or about June 10, 1980. This letter discusses briefly the current ventilation system and discusses the work that is in progress and which has been completed in connection with uncapping the stack.

Shortly after the incident at TMI-II on March 28, 1979, several plant modifications were made. One of these modifications included the addition of the supplemental ventilation system atop the Auxiliary Building. This system provided additional fans and filter banks for the processing of ventilation system effluent prior to its release to the atmosphere. In addition to the additional filter banks and fans, a cap was installed on the top of the ventilation stack, the normal ventilation system effluent point, as a further precaution to ensure that the entire ventilation system flowrate passed through the supplemental filters.

At the time of installation of this supplementary system it was considered appropriate and prudent to add the additional filtering capability offered by this system. Since that time, however, airborne radioactivity levels, both gaseous and particulate, have decreased to the point that continued operation of the supplemental ventilation system is no longer justified.

Furthermore, you are aware of the existence of potential bypass paths in the ventilation system that may preclude HEPA filter treatment of the effluent gas stream prior to atmospheric release if the supplemental ventilation system were taken out of service. These potential bypass paths were identified incident to occasional indication "spikes" on AM-5, the inlet flow stream radiation monitor to the supplementary ventilation system filters.

With the present ventilation system configuration, pressure in the ventilation ductwork is negative with respect to the Auxiliary Building and Fuel Handling

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atmospheres, including the ductwork and penthouse located on the exhaust fan discharge sides. Therefore, in the current mode of operation, any openings (leakage paths) in that ductwork downstream of the exhaust filters has the potential to allow particulate contamination to enter the system and bypass the in-plant filters. In the current mode, any bypass leakage would be trapped in the supplementary filters.

After uncapping the vent stack, however, with the supplementary ventilation system out of service, the ventilation duct pressure on the exhaust fan discharge will become positive with respect to sources of airborne contamination and will no longer represent a leakage path with the potential for bypassing the ventilation system filters. However, the ventilation ductwork from the outlet of the filters to the inlet of the exhaust fans could remain as a source of potential bypass leakage flow since it will continue to be negative with respect to Auxiliary Building and Fuel Handling Building atmosphere. In order to minimize the possibility of the existence of leakage flow paths between the filters and the fans, work is currently underway to inspect the ductwork, to identify potential leakage paths, and to repair them. This work will be completed prior to removing the plant vent stack cap.

The Service Building ventilation system incorporates a potentially contaminated exhaust system that is serviced by a HEPA filter bank (AH-F-28) prior to input to the plant vent stack. One area exhausted by this system is the hot instrument shop. This shop is physically located over an area that communicated directly with the Auxiliary Building 280 ft. elevation. Floor penetrations in the shop for piping represent potential flow paths for the Auxiliary Building air to pass to the Service Building. Even though this potential communication of the atmospheres exists, the HEPA filters will remove any particulate airborne radioactivity prior to atmospheric release.

In addition to the ductwork inspection program addressed previously, additional precautions have been taken prior to the removal from service of the supplemental ventilation system and the removal of the cap from the stack. These additional precautions have included the re-balancing of the ventilation system to ensure proper operation and correct ventilation system flow rate. The Auxiliary Building and Fuel Handling Building exhaust filters have been successfully re-tested with DOP to the requirements of the TMI-II Technical Specifications. Testing was completed on May 20, 1980. In addition, the Service Building HEPA filter bank was successfully tested with DOP. Testing on this filter bank was completed on May 28, 1980.

Should you desire to discuss this matter further, please contact either Mr. E. D. Fuller or Mr. L. J. Lehman, Jr. of my staff.

Sincerely,

/s/ G. K. Hovey

G. K. Hovey  
Director, TMI-II

GKH:LJL:hah

cc: B. J. Snyder

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