CONNECTICUT YANKEE ATOMIC POWER COMPANY

BERLIN, CONNECTICUT
P. O. BOX 270 HARTFORD, CONNECTICUT 06101

TELEPHONE
203-666-6911

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Docket No. 50-213

Director of Nuclear Reactor Regulation
Attn: Mr. D. L. Ziemann, Chief
Operating Reactors Branch #2
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: (1) D. L. Ziemann letter to W. G. Counsil dated December 20, 1979.

Gentlemen:

Haddam Neck Plant
Fuel Storage Building

In Reference (1), the NRC Staff issued a safety evaluation regarding a postulated Fuel Handling Accident (FHA) inside containment at the Haddam Neck Plant. In recent verbal telephone conversations, the Staff indicated that, as part of the SEP, it was expanding its review to consider a postulated FHA in the new and spent fuel storage building. The Staff requested additional information which would be relevant to this evaluation. Accordingly, the following information is provided.

Although not mentioned in Section 10.3.7 of the FDSA, a New and Spent Fuel Building (SFB) ventilation system has been in existence since the plant was built. To facilitate your understanding of this system, a ventilation flow diagram is attached.

Ventilation for the SFB consists of two supply units, two filtered exhaust units, associated supply and exhaust ducting, and necessary controls. The ventilation flow paths are independent, in that exhaust unit F-16-1A exhausts the area supplied by supply unit F-26-1A and exhaust unit F-35-1A exhausts the area supplied by unit F-34-1A. Design flows are such that exhaust capacity exceeds supply capacity by 1,000 cfm, maintaining a small continuous infiltration into the SFB, ensuring that contamination is not released outside the building. In the event of high airborne contamination levels in the SFB, as measured by the Primary Vent Stack radiation monitor (R-14), the supply units may be shutdown and exhaust diverted through a charcoal and particulate filter bank.

The ventilation system is designed to maintain 10°F above ambient with a maximum of 95°F and minimum of 80°F in the spent fuel area. The mean design temperature is 90°F in the decontamination area. The mean temperatures

are based on 88°F summer dry bulb temperature. The flow rate provides 6 air changes per hour in the fuel storage area and, when exhaust fan F-35-1A is operating, 35 air changes per hour in the decontamination area.

Supply unit F-26-1A provides 12,000 cfm of tempered outside air at El. 47.0 to the new and spent fuel storage areas of the New and Spent Fuel Building. The unit is located on the low roof at the south end of the New and Spent Fuel Building, and draws air through an intake in the west wall of the unit enclosure. Supply air temperature is regulated to minimize condensation on the interior surfaces of the walls and roof due to the high moisture conditions above the Spent Fuel Pit. Supply air is directed to prevent disturbing the Spent Fuel Pit surface which would hamper visibility and increase contamination levels. Air is exhausted at 13,000 cfm from the new and spent fuel storage area by exhaust unit F-16-1A. Ducting is arranged so that the general flow of air is from the new fuel to the spent fuel area. Exhaust capacity exceeds supply capacity to create a slight negative pressure which causes a planned 1,000 cfm infiltration rate.

Supply unit F-26-1A consists of a ventilation enclosure with prefilter FL-58-1A, filter FL-26-1A, heating coils E-35-1A and E-35-1B, face and bypass damper VS-MOD-476, and fan F-26-1A. Necessary ducting, supply registers and controls complete the system. The system is started by starting fan F-26-1A from MCC-2 and operates automatically under electro-pneumatic control to regulate temperature until shutdown.

Exhaust unit F-16-1A removes 13,000 cfm from the new and spent fuel areas of the SFB. Exhaust duct inlets are located about the periphery of the Spent Fuel Pit, causing flow to be from the new fuel area to the spent fuel area. The exhaust ductwork combines in a common header which passes through the north wall of the SFB, to the PAB where tube ductwork passes through the south wall above El. 35 ft. 6 in. and terminates at the inlet of fan F-16-1A. At El. 35 ft. 6 in. in the PAB, a charcoal filter system consisting of prefilter FL-29-1A, particulate filter F-18-1A, and charcoal filter FL-30-1A, is available to be used in the suction duct of fan F-16-1A if the contamination level of the exhaust air is unacceptable for release, and during fuel movement operations. The filter is put in service by proper positioning of manual dampers in the filter suction and the filter bypass line. Use of the filter reduces the capacity of the exhaust unit to 4,000 cfm. To compensate, supply units F-26-1A and F-34-1A, and exhaust unit F-35-1A, are shut down causing a negative pressure within the SFB which prevents unmonitored release of contaminants to the atmosphere. The prefilter, particulate and charcoal filter banks are checked daily when in use. The charcoal filters are seismically designed and have a filter bed thickness of 2".

Supply unit F-34-1A provides 5,000 cfm of either recirculated or tempered outside air to the decontamination area of the SFB, functioning automatically to maintain the desired room temperature. The unit is located along the inside west wall of the decontamination area at El. 21 ft. 6 in., and is provided with outside air damper VS-MOD-477, located in the west wall and recirculation damper VS-MOD-478. The supply unit operates in conjunction with exhaust unit F-35-1A, which is used to exhaust 6,000 cfm during decontamination operations. When exhaust unit F-35-1A is started, supply unit F-34-1A shifts automatically to 100 percent outside air supply. The exhaust capability exceeds supply capacity by 1,000 cfm, which is made up by infiltration into the area.

Exhaust unit F-35-1A is located on a platform at El. 35 ft. 6 in., drawing air through the south interior wall of the decontamination room and exhausting through the east wall near El. 47 ft. 0 in. to atmosphere.

Exhaust unit F-35-1A consists of fan F-35-1A, prefilter FL-42-1A, particulate filter FL-43-1A, and exhaust ducting. Supply unit 34-1A consists of fan F-34-1A, face and bypass damper VS-MOD-479, heating coil E-56-1A, outside air supply damper VS-MOD-477, filter FL-41-1A, recirculation supply damper VS-MOD-478 and associated controls, ducting and supply registers. Fans F-34-1A and F-35-1A receive power from MCC-2.

It is also noted that power to the SFB ventilation fans can be switched to the emergency power source if desired.

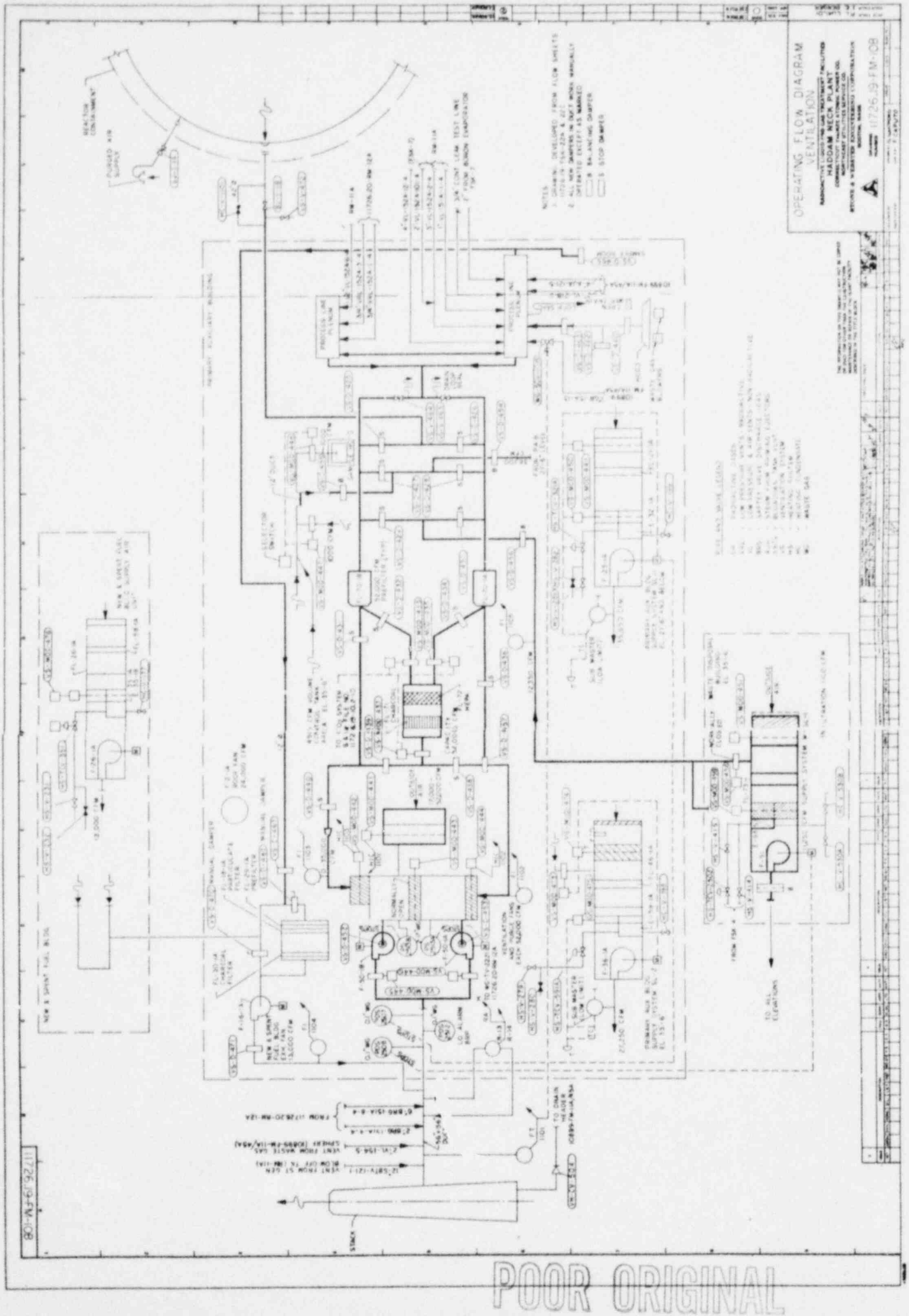
We trust you find the above information useful in completing your assessment.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY

W. G. Counsil
Vice President

Attachment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