



J. Phillip Bayne  
Executive Vice President  
Nuclear Generation

May 3, 1984  
JPN-84-28

Director of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. Domenic B. Vassallo, Chief  
Operating Reactors Branch No. 2  
Division of Licensing

Subject: James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
Additional Information Concerning  
Crescent Area Ventilation Surveillance Tests

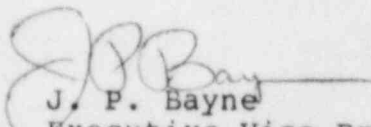
Reference: 1. PASNY letter, J. P. Bayne to D. B. Vassallo,  
dated February 25, 1983 (JPN-83-14), regarding  
Proposed Technical Specification Changes for the  
Crescent Area Ventilation Surveillance

Dear Sir:

This letter is submitted in response to a request for  
additional information concerning the crescent area ventilation  
surveillance testing (Reference 1). A comprehensive report on  
this subject is enclosed with this transmittal.

Should you require further information or clarification, please  
contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,

  
J. P. Bayne  
Executive Vice President  
Nuclear Generation

cc: Office of the Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 136  
Lycoming, New York 13093

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ATTACHMENT TO JPN-84-28  
NEW YORK POWER AUTHORITY  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

NRC Question 1:

Identify all the unit coolers and Emergency Core Cooling System (ECCS) component & equipment located in the east and west crescent areas.

NYPA Response:

There are ten (10) unit coolers in the crescent area; five (5) in the east crescent area and five (5) in the west crescent area (see fig. 1). ECCS equipment and components in each of the crescent areas are listed in Table 1 below and shown on Figure 2:

	<u>Table 1</u>	
	<u>East Crescent Area</u>	<u>West Crescent Area</u>
Unit Coolers:	UC-22B,D,F,H & K	UC-22A,C,E,G & J
Power Supply:	MCC-C-163	MCC-C-153
	(Emergency Bus "B")	(Emergency Bus "A")
ECCS Equipment and Components in each area:		
	Core Spray Pump(14P-1B)	Core Spray Pump(14P-1A)
	RHR Pumps (10P-3B, D)	RHR Pumps (10P-3A, C)
	HPCI Pump (23P-1)	

NRC Question 2:

Describe the function, operation, and power sources of these unit coolers.

NYPA Response:

The crescent area unit coolers are used to supplement the cooling capacity of the Reactor Building area ventilation systems. These unit coolers help control crescent area ambient temperatures to ensure performance and operability of ECCS components. The coolers normally are in operation.

In order to maintain crescent area temperatures, the cooling capacity of unit coolers is controlled by the service water system temperature control valve (TCV) in conjunction with an area thermostat located near the unit. Each cooler consists of a cooling coil and one (1) fan. An individual unit cooler is not associated with an individual ECCS component; the coolers collectively ensure proper temperature conditions in the east or west crescent area.

The unit coolers are supplied with electrical power from the emergency portion of the Plant Service AC Power Distribution System as shown on Table 1.

During an emergency with loss of power, TCV's will fail open and the operator can maintain temperatures manually by starting or stopping crescent area unit coolers from the control room ventilation panel.

NRC Question 3:

Discuss the surveillance requirements, nature of the tests, and reason for operator witnessing test at the area.

NYPA Response:

Present Technical Specification surveillance requirements specify that unit coolers serving the ECCS components will be checked for operability during the surveillance testing of the associated ECCS pumps. These pumps are listed below:

- High Pressure Coolant Injection Pump (23P-1)
- Low Pressure Coolant Injection Pumps (10P-3A, B, C & D)  
(an operating mode of the Residual Heat Removal System)
- Core Spray Pumps (14P-1A & B)

According to ECCS pump surveillance requirements, the pumps are individually tested once a month which means that the crescent area unit coolers (east and west) are tested on a monthly basis as well. Since there are four (4) pumps in the east crescent area and three (3) pumps in the west crescent area, the unit coolers in that specific area are tested as a group when each pump in each area is tested; thus, the coolers are tested on an average of three (3) times a month. As a result, an average of 30 tests are conducted in one (1) month.

The testing of these unit coolers involves the changing of the temperature set point which leads to the cycling of the temperature control valve (TCV) and requires an operator to observe the valve stroke to verify movement and travel. In addition, the fans are checked for operability.

NRC Question 4:

How reliable are the performances of the unit coolers based on operating history? Have the surveillance tests been successful?

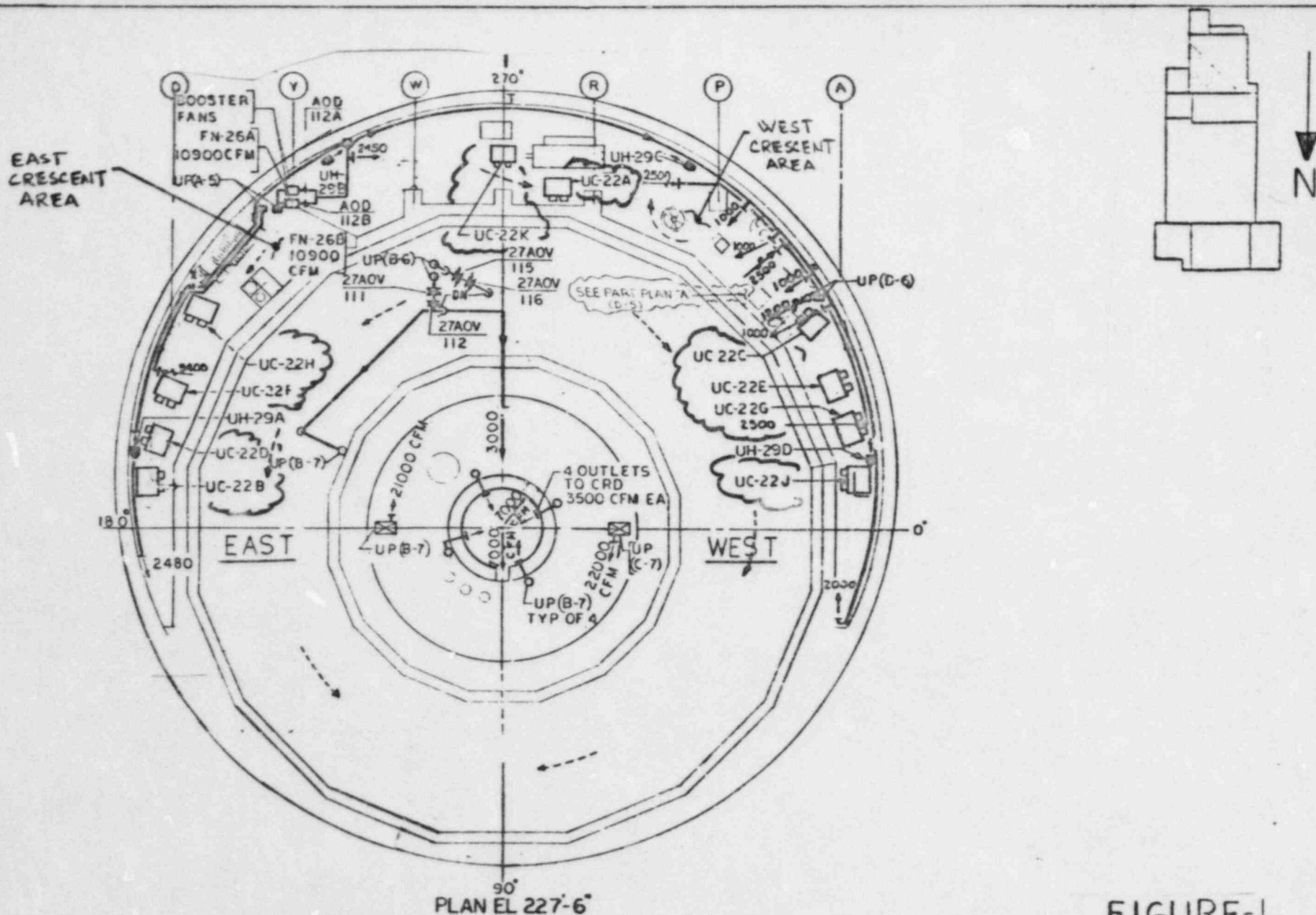
NYPA Response:

Surveillance tests for the unit coolers have been successful and convincing. Since the start of commercial operation (July 1975), approximately eleven (11) tests have revealed the need for minor repairs, such as; sticky auxiliary contacts in fan

motors; no output on temperature indicator control instruments; and circuit breakers requiring repairs. These unit coolers have demonstrated an excellent performance record with no major breakdowns. They are considered highly reliable and rarely in need of repairs.

#### Summary

Excessive testing of the unit coolers is inconsistent with ALARA and does not improve reliability. The proposed test frequency, as outlined in Reference 1, of once every three (3) months conforms to the Inservice Inspection Valve Test Program requirements and will not degrade the reliability of the equipment. This will reduce personnel radiation exposure while maintaining a high level of equipment reliability. Therefore, the proposed revisions to the Technical Specifications, which will require that unit coolers serving the ECCS components be checked for operability once per three (3) months, are justified.



CRESCENT AREA UNIT COOLER LOCATION

FIGURE-1

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK  
NUCLEAR POWER PLANT

AREA PLAN  
REACTOR BLDG  
EL 227' & 242'



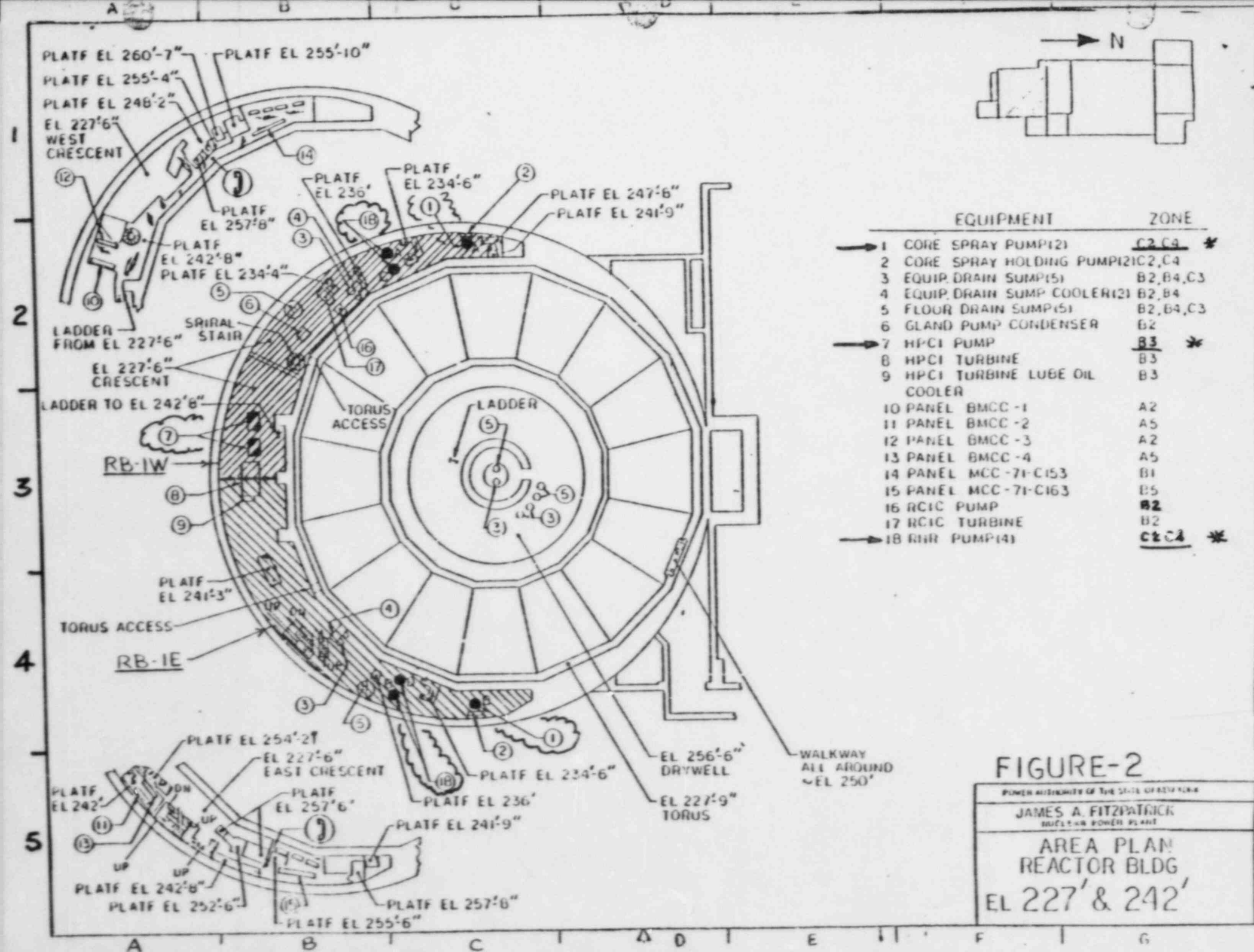


FIGURE-2

POWER AND INFLUENCE OF THE STATE OF NEW YORK

**JAMES A. FITZPATRICK**  
NUCLEAR POWER PLANT

AREA PLAN  
REACTOR BLDG  
EL 227' & 242'