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Carolina Power & Light Company Raleigh, N. C. 27602 E. E. Utley	2-9-73	2-14-73	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Mr. Schemel	2 signed			X	X

CLASS: (U) PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	X	40	50-261

DESCRIPTION:
Ltr re our 12-20-72 ltr & their 1-23-73 ltr.. requesting change to Tech Specs, & trans the following:

ENCLOSURES:
Addl Info to Tech Specs Change & supersedes changes previously submitted.

(40 cys rec'd)

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ACKNOWLEDGED

PLANT NAMES: H. B. Robinson Unit No. 2

FOR ACTION/INFORMATION 2-14-73 AB

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1-R. CATLIN, E-256-GT
1-CONSULANT'S
NEWMARK/BLUME/AGABIAN

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1-AGMED(WALTER KOESTER, Rm C-427, GT)
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Regulatory File Cy.

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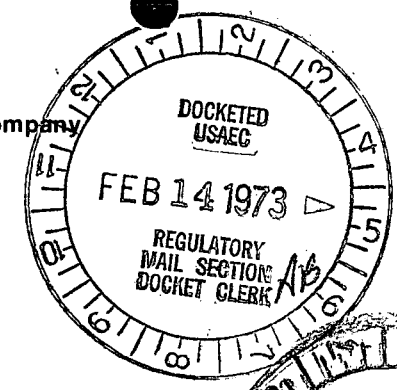
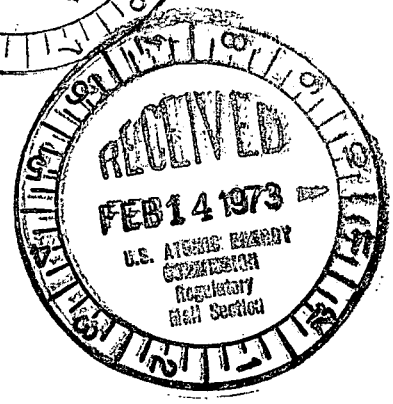
Carolina Power & Light Company





February 9, 1973

Mr. Robert J. Schemel
Chief, Operating Reactors Branch #1
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

H. B. ROBINSON UNIT NO. 2
LICENSE DPR-23
REFUELING OPERATIONS

Dear Mr. Schemel:

Upon further review of the containment purge system modification for the H. B. Robinson Unit No. 2 plant, which was outlined in our previous submittal of January 23, 1973 regarding refueling operations, we have decided to eliminate the bypass line around the filter box area. Thus, the exhaust from the containment will always pass through a particulate and iodine filter whenever the containment is being purged. Information pertaining to this change is attached in the form of a revised answer to Question 1 of your December 20, 1972 request for information. Also attached is a revised answer to Questions 5 and 6, which changes and clarifies the proposed Technical Specification change that was requested. This information supersedes that contained in our previous submittal.

In light of the above system change, Section 3.8 of the Technical Specifications must be further revised. In addition continuous operation of the containment purge system during refueling operations, as previously requested, may not be prudent if the quantity of unfilterable airborne activity, such as tritium, is significant. If a refueling accident should occur while the purge system is secured, evacuation of personnel through the personnel air lock would not result in a significant activity release to the environment, since the volume ratio of the air lock to the containment is very small (approx. 5×10^{-4}) and the fission products would be well mixed with the containment volume before they would reach the lower level at which the air lock is located. In order to provide for the above modifications, we request that the following changes be made to the Technical Specifications and that these changes supersede those requested in our previous submittal:

Section	
Specifications 3.8.1.i	Delete this paragraph and replace with the following: "The Spent Fuel Building ventilation system shall be operating when handling irradiated fuel in this area. Prior to moving individual irradiated fuel assemblies in the spent

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fuel pool, the ventilation system exhaust shall be aligned to discharge through charcoal filters. When in operation, the exhaust flow of the Containment Purge System shall discharge through charcoal and particulate filters."

Basis of Section 3.8, p.3.8-3

Delete the last paragraph and replace with the following: "The restriction of not moving fuel in the reactor for a period of 100 hours after shutdown reduces the consequences of a fuel handling accident by providing for the decay of short-lived fission products and the reduction of fission gas inventory in any potentially failed fuel. Fuel handling accidents in the Containment and Spent Fuel Building have been evaluated by postulating that the failure of all fuel rods in one assembly occurs 100 hours after shutdown. (4) During movement of individual irradiated fuel assemblies in the spent fuel pool, ventilation exhaust is diverted through HEPA and charcoal filters. During movement of individual irradiated fuel assemblies in the containment, the purge system will be either operable, with exhaust flow passing through HEPA and charcoal filters, or isolated. Isolation of the purge system while fuel is being moved will not hinder personnel movement through the air lock since the volume of containment atmosphere released by operation of the air lock is insignificant."

Very truly yours,

E. E. Utley
Vice President
Bulk Power Supply

DBW/za
Enclosures
cc: Mr. C. D. Barham
Mr. N. B. Bessac
Mr. B. J. Furr
Mr. D. V. Menscer

Question 1

The Robinson safety evaluation of fuel handling accidents appears to assume that activity released into the upper half of the containment vessel:

a. undergoes perfect mixing with the atmosphere in the upper half of the containment vessel, and

b. is released to the atmosphere in a quantity determined by one containment exhaust fan operating at a flow rate of 35,000 cfm for five minutes.

The first assumption appears nonconservative because 8000 cfm of the 35,000 cfm exhaust air flow is drawn directly from above the refueling water surface before mixing can occur. The second assumption seems conservative, but it is not clear that the two assumptions taken together yield conservative results. Please justify the conservatism of the results, or, if this is not possible, provide a new evaluation which you show to be conservative.

Response

The postulated fuel handling accident within the containment has been reanalyzed with the following assumptions:

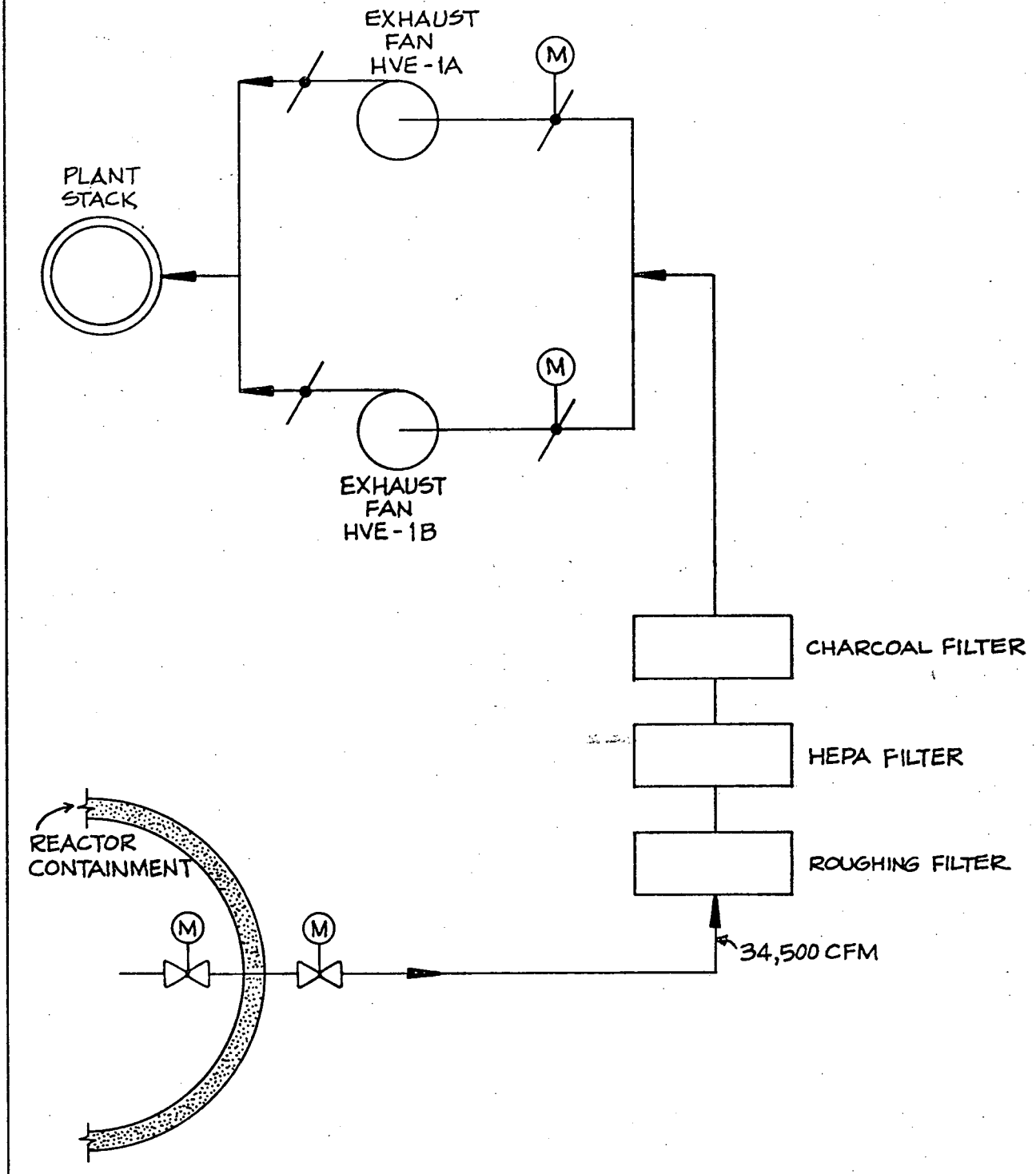
1. All activity released from the pool as a result of the postulated accident is drawn directly from the refueling water surface, into exhaust ducting which connects directly to the containment purge exhaust system.

2. All activity is released to the plant vent before the automatic isolation of the containment purge system occurs.

Use of the above assumptions necessitated the installation of a charcoal filter in the containment purge exhaust ducting. This new arrangement is shown on Figure 1.1. When irradiated fuel assemblies are handled in the containment, all containment purge exhaust passes through the charcoal filter. The charcoal filter is Mine Safety Appliances Company, Type MSA 85851, and has a minimum depth of 2 inches and minimum residence time of 0.25 seconds. The total capacity through the charcoal filter is 34,500 scfm, with a flow velocity through the bed of 40 fpm.

In addition to the above assumptions, the assumptions recommended in Safety Guide 25, as amplified by our responses to questions 2 and 3, were used in evaluating the postulated accident. The resultant 2-hour exposures at the site boundary were:

Thyroid:	29.3 rem
Whole Body:	3.17 rem



CAROLINA POWER & LIGHT CO.
H.B. ROBINSON STEAM ELECTRIC PLANT
UNIT NO. 2

REACTOR CONTAINMENT PURGE SYSTEM

FIGURE 1.1

Question 5

Propose Technical Specifications which establish performance levels for the ventilation system, including filter performance.

Question 6

Propose Technical Specifications which establish surveillance requirements for the ventilation system and filter.

Response

Carolina Power & Light requests that the following changes be made to the Technical Specifications to establish performance levels for the ventilation system, including filter performance, and to establish surveillance requirements for the ventilation system and filter:

Section	Requested Change
4.1, Table 4.1-3, Item 14.	Delete the paragraphs in the first three columns and replace with the following: (Column 1) "Fans and Associated Charcoal and HEPA Filters for Control Room, Residual Heat Removal Compartments, Spent Fuel Building and Containment Purge Exhaust System;" (Column 2) "Fans functioning. DOP and freon tests at design flows on filters to show $\geq$99.5% DOP removal and $\geq$99.0% freon removal. Carbon sample analysis shall demonstrate $\geq$99.0% elemental Iodine removal." (Column 3) "Prior to movement of fuel during each refueling shutdown."