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CRUTCHFIELD, D. Operating Reactors Branch 5

SUBJECT: Forwards addl re SEP Topic XV-16, "Radiological Consequences of Small Lines Carrying Primary Cooling Outside Containment," per NRC 800311 request. Drawings referenced in Table 1 submitted w/780912 ltr. One oversize drawings encl.

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	IE 06	[illegible]	[illegible]	[illegible]	1	[illegible]
	[illegible]	1	[illegible]	RAD ASSESS BR 15	1	1
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LEON D. WHITE, JR.
VICE PRESIDENT

TELEPHONE
AREA CODE 716 546-2700

June 18, 1980

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: SEP Topic XV-16
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

This letter is in response to a letter from Dennis Ziemann dated March 11, 1980. Mr. Ziemann requested that we provide additional information to aid the Staff in its continuing review of SEP Topic XV-16, "Radiological Consequences of Small Lines Carrying Primary Coolant Outside Containment". The requested information is presented in attached Table 1. All of the drawings referenced on the table except 33013-533 were sent with a letter dated September 12, 1978 to Mr. Ziemann. Seven copies of drawing 33013-533, Revision 0 are enclosed with this letter.

Sincerely yours,

L. D. White, Jr.

L. D. White, Jr.

Enclosure

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TABLE 1
CONTAINMENT PENETRATION LINES WHICH MAY CARRY PRIMARY COOLANT
(COMPILED FOR SEP TOPIC XV-16)

CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
141	Sump B Suction (33013-432, (33013-425)	8	0 flow - sump B normally empty, filled only following pipe breaks inside containment	Residual Heat Removal pump pit	NA	NA	NA	NA	NA
142	Sump B Suction (33013-432, (33013-425)	8	0 flow - same as 141	Residual Heat Removal pump pit	NA	NA	NA	NA	NA
143	RCDT Discharge (33013-431)	4	Not connected to the Reactor Coolant System two pumps: 150 gpm, 50 gpm - 175 ft head. Tank is 350 gal, FSAR Table 11.1-3 Therefore, maximum discharge is 350 gal. Assume no accident in containment	Residual Heat Removal pump pit to CVCS Hold-up Tanks all within the auxiliary building.	Detected by Continuous Air Monitor (CAM) on each floor reviewed at least twice each shift. Can be isolated by air operated valve (AOV) 1643	Yes, auxiliary building charcoal filter fans 1A, 1B, see drawing 33013-533	Yes	16 cells approximately 28 in. x 22 in. Each cell has two 2 inch deep filters in parallel flow paths. Air flow is <7,000 scfm.	No

TABLE 1
CONTAINMENT PENETRATION LINES WHICH MAY CARRY PRIMARY COOLANT
(COMPILED FOR SEP TOPIC XV-16)

CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
129	Primary System Vent Header from RCDT (33013-431)	2	RCDT size is 350 gal Normal maximum tank pressure is 2 psig Assume tank contains only gas and that regulated nitrogen supply will push all of the gas out. The total discharge is (350 gal) $\frac{16.7}{14.7}$ or less than 55 cubic feet.	Line goes to suction of gas compressor on intermediate level of auxiliary building	Detected by low pressure on vent header, continuous air monitor. Isolated by valve 1716 inside containment or AOV 1786 outside containment	Yes, part of line served by auxiliary building fans 1A, 1B and the rest by fan 1G. See drawing 33013-533	Yes	Filters on aux. bldg. 1A & 1B described for penetration 143. 1G fan charcoal filter is 84 cells approx. 26 in. x 24 in. Each cell has two 2 in. deep filters in parallel flow paths. Air flow is <28,000 scfm.	No
111	Residual Heat Removal - In (33013-436)	10	0 flow - 2 closed valves inside containment during power operation	NA	NA	NA	NA	NA	NA
101	Safety Injection (33013-432)	4	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA

TABLE 1
CONTAINMENT PENETRATION LINES WHICH MAY CARRY PRIMARY COOLANT
(COMPILED FOR SEP TOPIC XV-16)

CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
102	Alternate Charging (33013-433)	2	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA
113	Safety Injection (33013-432)	4	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA
107	Sump A Discharge (33013-431)	3	Not connected to Reactor Coolant System 20 gpm pump capacity - 100 ft hd	basement of auxiliary building to Waste Holdup Tank	Detected by continuous air monitor. Isolated by stopping pumps or closing manual valves inside containment or AOVs 1728 or 1723 outside containment	Yes, part of line served by auxiliary building fans 1A and 1B, rest by fan 1G (33013-533)	Yes	See penetrations 143 and 129 above	No
105	Containment Spray (33013-432)	6	0 flow - not connected to Reactor Coolant System	NA	NA	NA	NA	NA	NA
109	Containment Spray (33013-432)	6	0 flow - not connected to Reactor Coolant System	NA	NA	NA	NA	NA	NA
140	Residual Heat Removal - Out (33013-436)	10	0 flow - 2 closed valves inside containment during power operation	NA	NA	NA	NA	NA	NA

TABLE 1
CONTAINMENT PENETRATION LINES WHICH MAY CARRY PRIMARY COOLANT
(COMPILED FOR SEP TOPIC XV-16)

CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
108	Reactor Coolant Pump Seal Water Out (33013-433)	3	Normal flow is 3 gpm/pump controlled by pump seals	basement and intermediate floors of auxiliary building	Detected by continuous air monitor or sump actuation in RHR pit. Isolated by AOVs 270A or B inside containment or MOV 313 outside containment	Yes, part of line served by auxiliary building fans 1A & 1B and part by fan 1G (33013-533)	Yes	See penetrations 143 & 129 above	No
106	Reactor Coolant Pump Seal Water In (33013-433)	2	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA
110	Reactor Coolant Pump Seal Water In (33013-433)	2	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA
112	Letdown (33013-433)	2	Three letdown orifices exist; two are sized for 40 gpm flow, one for 60 gpm. Normal letdown flow is 40 gpm	Basement and intermediate floors of auxiliary building	Detected by primary system symptoms, volume control tank level, letdown pressure and flow or continuous air monitor in charging pump room. Isolated by closing letdown AOV 427 or orifice AOV inside containment.	Yes, part of line served by auxiliary building fans 1A & 1B and part by fan 1G	Yes	See penetrations 143 & 129 above	No

TABLE 1
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CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
100	Charging (33013-433)	2	0 flow - 2 check valves inside containment	NA	NA	NA	NA	NA	NA
206	Reactor Coolant Sample (33013-432)	3/8	32,000 lb/2 hours or < 50 gpm based upon choked flow, 3/8 inch tube with .065 wall thickness, 600°F fluid.	Lower level of controlled intermediate building	Detected by charging and letdown flow mismatch, charging pump maximum speed alarm, area radiation monitor. Isolated by manual or air operated valves both inside and outside containment.	Yes, area served by control access area exhaust fans (33013-533)	Yes	Filter has 18 cells approx. 26 in. x 24 in. Each cell has two 2 in. charcoal layers in parallel flow paths. Flow is < 10,500 scfm.	No
205	Reactor Coolant Sample (33013-432)	3/8	same as penetration 206	Lower level of controlled intermediate building	Same as penetration 206. Note that the loop A hot leg sample line is isolated (closed) inside containment during operation.	Yes, area served by control access area exhaust fan (33013-533)	Yes	Same as penetration 206	No

TABLE 1
CONTAINMENT PENETRATION LINES WHICH MAY CARRY PRIMARY COOLANT
(COMPILED FOR SEP TOPIC XV-16)

CONTAINMENT PENETRATION	DESCRIPTION (Flow Drawing)	LINE SIZE (in)	FLOW RATE AND ASSUMPTIONS USED TO DETERMINE FLOW RATE	PLANT LOCATIONS WHERE LINES TRAVERSE OR TERMINATE	DETECTION AND ISOLATION CAPABILITIES	PLANT AREAS SERVED BY HVAC WITH CHARCOAL?	CHARCOAL USED DURING OPERATION?	INFO ABOUT CHARCOAL FILTERS	ARE LOCATIONS OF ANY BREAKS COMPLETELY CLOSED?
207	Reactor Coolant Sample (33013-432)	3/8	same as penetration 206	Lower level of controlled intermediate building	Same as penetration 206	Yes, area served by control access area exhaust fan (33013-533)	Yes	Same as penetration 206	No
123 Bot	Reactor Coolant Drain Tank H_2 Analyzer (33013-431)	3/8	same as penetration 129	Intermediate floor of auxiliary building	Detected by CAM on intermediate floor or basement. Isolated by manual valves inside or outside containment or AOV 1789 outside containment.	Yes, area served by auxiliary building fan 1G	Yes	See penetration 129	No