

DUKE POWER COMPANY  
OCONEE UNIT 1

Report No.: AO-269/74-5

Report Date: October 23, 1974

Occurrence Date: October 8, 1974

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: Gaseous waste release to the Auxiliary Building

Conditions Prior to Occurrence: Unit 1 at 30 percent full power, Unit 2 shutdown

Description of Occurrence:

On October 8, 1974, Oconee Unit 1 reactor coolant system letdown flow to the "A" bleed holdup tank resulted in increasing vent header pressure. The "A" gaseous waste compressor and the "B" gaseous waste decay tank (GWD) were operating while the contents of the "A" GWD tank were being released. At 2033, a high vent header pressure alarm (+2 inches H<sub>2</sub>O) was received and the control operator started the "B" waste gas compressor and stopped the reactor coolant letdown flow to decrease vent header pressure. Vent header pressure immediately returned to normal. At 2040 the Unit 2 vent gas radiation monitors 2RIA-45 and 2RIA-46 alarmed and the auxiliary and turbine building exhaust fans were stopped. Further radiation monitors alarmed in the auxiliary building and the Unit 1 vent. The "B" gaseous waste compressor was stopped.

Health physics personnel sampled the Unit 2 vent, auxiliary building hallway and the gaseous waste compressor room. The release from the "A" GWD tank was stopped, and a negative pressure was established on the vent header. At 2130, Operations personnel entered the auxiliary building with respiratory protection, made visual inspections, and placed the "A" GWD tank in service and isolated the "B" tank. At 2204, the auxiliary building fans were started and the Unit 1 and 2 vent alarms cleared. At 2310, health physics personnel cleared the auxiliary building for entry. At 2315, it was discovered that an instrument line for the "B" gaseous waste separator tank unloading valve was disconnected. The loose tubing was reconnected and the compressor was tagged out until it could be checked.

Designation of Apparent Cause of Occurrence:

A station modification was performed during the day shift on October 8, 1974 to both "A" and "B" waste gas compressors. The vibration on the waste gas compressors was causing excessive wear on the unloading valve (GWD-78 and 79) controllers. The modification moved the controllers to the wall behind the

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compressors and utilized an existing tubing tray for rerouting the instrument piping. Apparently, the piping was not fully connected, and when the "B" gaseous waste compressor was started, the contents of the "B" GWD tank emptied to the auxiliary building.

Analysis of Occurrence:

Oconee Nuclear Station Technical Specification 3.10, "Release of Gaseous Radioactive Waste," provides objective limits as to the quantities of radioactive gas which may be released. In this instance, the quantities of gas released can be calculated based upon the decrease in pressure in the "B" GWD tank during the release and the known activity at the beginning of the release. The total gaseous activity released was 25.8 Ci which was 0.05 percent of the annual objective limit. The total iodine released was  $2.377 \times 10^{-4}$  Ci which was 0.06 percent of the annual objective limit. The maximum release rate averaged over a one-hour period was not exceeded and personnel on site did not receive any significant radiation exposure. The health and safety of the public was not affected.

Corrective Action:

A meeting was held on October 15, 1974 with the station Manager and all supervisors which stressed the necessity for attention to detail and completeness in any maintenance action.