

2.9 Radioactive Waste Management

2.9.1 Liquid Waste Management System

Design Description

1.0 System Description

The liquid waste management system (LWMS) collects and treats radioactive liquid effluents from several systems throughout the plant. If the total activity indicated by activity sensors exceeds predetermined limits, the LWMS discharge valves automatically close.

2.0 Arrangement

2.1 The functional arrangement of the LWMS is as described in the Design Description of Section 2.9.1, Tables 2.9.1-1—LWMS Equipment Mechanical Design and 2.9.1-2—LWMS Equipment I&C and Electrical Design.

3.0 I&C Design Features, Displays, and Controls

3.1 Displays listed in Table 2.9.1-2 are indicated on the PICS operator workstations in the MCR.

3.2 Controls on the PICS operator workstations in the MCR perform the function listed in Table 2.9.1-2.

4.0 Equipment and System Performance

4.1 The LWMS processing equipment contains the proper types and amounts of filter media or treatment media.

4.2 The LWMS discharge valves close upon receipt of a high radiation signal from the activity monitors.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.9.1-3 lists the liquid waste management system ITAAC.

Table 2.9.1-1—LWMS Equipment Mechanical Design

Description	Tag Number ⁽¹⁾	Location	ASME Code Section III	Function	Seismic Category I
Discharge valves	30KPK29AA001 30KPK29AA002	Radioactive Waste Processing Building	No	Close	No
Radiation monitors	30KPK29CR001 30KPK29CR002	Radioactive Waste Processing Building	No	Measure activity levels	No

- Equipment tag numbers are provided for information only and are not part of the certified design.

Table 2.9.1-2—LWMS Equipment I&C and Electrical Design

Description	Tag Number ⁽¹⁾	Location	IEEE Class 1E ⁽²⁾	EQ – Harsh Env.	PACS	MCR Displays	MCR Controls
Discharge valves	30KPK29AA001 30KPK29AA002	Radioactive Waste Processing Building	No	No	No	Position	Open-Close
Radiation monitors	30KPK29CR001 30KPK29CR002	Radioactive Waste Processing Building	No	No	No	Radiation activity levels	N/A

- Equipment tag numbers are provided for information only and are not part of the certified design.
- ^N denotes the division equipment is normally powered from. ^A denotes the division equipment is powered from when alternate feed is implemented.

Table 2.9.1-3—Liquid Waste Management System ITAAC

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.1	The functional arrangement of the LWMS is as described in the Design Description of Section 2.9.1, Tables 2.9.1-1 and 2.9.1-2.	An inspection of the as-built LWMS functional arrangement will be performed.	The LWMS conforms to the functional arrangement as described in the Design Description of Section 2.9.1, Tables 2.9.1-1 and 2.9.1-2.
3.1	Displays listed in Table 2.9.1-2 are indicated on the PICS operator workstations in the MCR and the RSS.	Tests will be performed to verify that the displays listed in Table 2.9.1-2 are indicated on the PICS operator workstations in the MCR by using test input signals to PICS.	Displays listed in Table 2.9.1-2 are indicated on the PICS operator workstations in the MCR.
3.2	Controls on the PICS operator workstations in the MCR perform the function listed in the MCR as listed in Table 2.9.1-2.	Tests will be performed using controls on the PICS operator workstations in the MCR.	Controls on the PICS operator workstations in the MCR perform the function listed in Table 2.9.1-2.
4.1	The LWMS processing equipment contains the proper types and amounts of filter media or treatment media.	An inspection and analysis will be performed to verify the as-built LWMS processing equipment contains filter/treatment media capable of maintaining offsite doses to members of the public within 10 CFR 20 limits and effluent concentrations below the annual average concentration limits of 10 CFR 20.	A report concludes that the LWMS processing equipment contains filter/treatment media capable of maintaining offsite doses to members of the public within 10 CFR 20 limits and effluent concentrations below the annual average concentration limits of 10 CFR 20.
4.2	The LWMS discharge valves close upon receipt of a high-radiation signal from the activity monitors.	Tests will be performed to verify that the LWMS discharge valves close upon receipt of a high-radiation test input signal from the activity monitors.	The LWMS discharge valves close upon receipt of a high radiation test input signal from the PACS module.