TABLE 3.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line	1 DELETE	100
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Service Water System Effluent Line	1	101
b. RHR Service Water System Effluent Line	1/loop	101
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line DELETE	1	102
b. Discharge Canal	1	102

*The monitor is required to be OPERABLE when liquid radwaste is being discharged or the channel shall be declared inoperable. The monitor, including the sample pump, is required to be in operation at all times if any discharge valve interlock is in an off-normal condition or is not functioning, i.e., sample pump flow low, high radiation alarm; radiation monitor failure; Unit 1 cooling tower blowdown low flow or Unit 2 cooling tower blowdown low flow. DELETE

SEE NEXT PAGE FOR REVISIONS

TABLE 3.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line* (ADD)	1	100
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Service Water System Effluent Line	1	101
b. RHR Service Water System (ADD) Effluent Line	1/loop	101
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	102
b. Cooling Tower Blowdown** (ADD)	1	102

*OPERABILITY of this monitor includes the proper functioning of the discharge valve interlocks (sample pump low flow, high radiation alarm, and radiation monitor failure).

**OPERABILITY of this device includes the proper functioning of the Liquid Radwaste Effluent Line discharge valve interlock (i.e. cooling tower blowdown low flow).

TABLE 3.3.7.10-1 (Continued)

TABLE NOTATION

ACTION 100 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 101 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcurie/mL.

ACTION 102 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves generated in situ may be used to estimate flow.

SEE NEXT PAGE FOR REVISION TO ACTIONS 100 & 102

TABLE 3.3.7.10-1 (Continued)

ACTION STATEMENTS

ACTION 100 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

a. If effluent releases are necessary, they may continue for up to 14 days provided that prior to initiating a release:

1. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

2. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

b. If effluent releases are not occurring and the cause of the inoperable channel is a discharge valve interlock in an off-normal condition or not functioning, maintain at least one isolation valve closed between each source of release and the liquid radwaste discharge valves.

ACTION 101 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcurie/mL.

ACTION 102 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

a. If effluent releases are necessary, they may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves generated in situ may be used to estimate flow.

b. If effluent releases are not occurring and the cause of the inoperable channel is the discharge valve interlock in an off-normal condition or not functioning, maintain at least one isolation valve closed between each source of release and the liquid radwaste discharge valves.

TABLE 4.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	P DELETE	P	R(3)	Q(1)
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line	D	M	R(3)	Q(2)
b. RHR Service Water System Effluent Line	D	M	R(3)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	N.A.	R	Q
b. ~~Discharge Line~~ DELETE	D(4)	N.A.	R	Q

~~*Perform CHANNEL CHECK at least once per 24 hours if discharge valve interlocks referenced in Table 3.3.7.10-1 are not functioning.~~ DELETE

SEE NEXT PAGE FOR REVISION

TABLE 4.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	P	P	R(3)	Q(1)
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line	D	M	R(3)	Q(2)
b. RHR Service Water System Effluent Line	D	M	R(3)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	N.A.	R	Q
b. Cooling Tower Blowdown ADD	D(4)	N.A.	R	Q

TABLE 3.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line	1 DELETE	100
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Service Water System Effluent Line	1	101
b. RHR Service Water System Effluent Line	1/loop	101
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	102
b. Discharge Canal ← DELETE	1	102

*The monitor is required to be OPERABLE when liquid radwaste is being discharged or the channel shall be declared inoperable. The monitor, including the sample pump, is required to be in operation at all times if any discharge valve interlock is in an off-normal condition or is not functioning, i.e., sample pump flow low, high radiation alarm; radiation monitor failure; Unit 1 cooling tower blowdown low flow or Unit 2 cooling tower blowdown low flow.

DELETE

SEE NEXT PAGE FOR REVISIONS

TABLE 3.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line* ← ADD	1	100
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Service Water System Effluent Line	1	101
b. RHR Service Water System Effluent Line	1/loop	101
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line.	1	102
b. Cooling Tower Blowdown** ← ADD	1	102

*OPERABILITY of this monitor includes the proper functioning of the discharge valve interlocks (sample pump low flow, high radiation alarm, and radiation monitor failure).

**OPERABILITY of this device includes the proper functioning of the Liquid Radwaste Effluent Line discharge valve interlock (i.e. cooling tower blowdown low flow).

TABLE 3.3.7.10-1 (Continued)

TABLE NOTATION

ACTION 100 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 101 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcurie/mL.

ACTION 102 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves generated in situ may be used to estimate flow.

SEE NEXT PAGE FOR REVISIONS TO ACTIONS 100 & 102

TABLE 3.3.7.10-1 (Continued)

ACTION STATEMENTS

ACTION 100 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

a. If effluent releases are necessary, they may continue for up to 14 days provided that prior to initiating a release:

1. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

2. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

b. If effluent releases are not occurring and the cause of the inoperable channel is a discharge valve interlock in an off-normal condition or not functioning, maintain at least one isolation valve closed between each source of release and the liquid radwaste discharge valves.

ACTION 101 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcurie/mL.

ACTION 102 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

a. If effluent releases are necessary, they may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves generated in situ may be used to estimate flow.

b. If effluent releases are not occurring and the cause of the inoperable channel is the discharge valve interlock in an off-normal condition or not functioning, maintain at least one isolation valve closed between each source of release and the liquid radwaste discharge valves.

TABLE 4.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	P* DELETE	P	R(3)	Q(1)
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line	D	M	R(3)	Q(2)
b. RHR Service Water System Effluent Line	D	M	R(3)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	N.A.	R	Q
b. ~~Discharge Line~~ DELETE	D(4)	N.A.	R	Q

*Perform CHANNEL CHECK at least once per 24 hours if discharge valve interlocks referenced in Table 3.3.7.10-1 are not functioning. DELETE

SEE NEXT PAGE FOR REVISION

TABLE 4.3.7.10-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	P	P	R(3)	Q(1)
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line	D	M	R(3)	Q(2)
b. RHR Service Water System Effluent Line	D	M	R(3)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	N.A.	R	Q
b. Cooling Tower Blowdown ADD	D(4)	N.A.	R	Q