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16.11-3 RADIOACTIVE EFFLUENT MONITORING INSTRUMENTATION

COMMITMENT

1. Liquid Effluents

   a. The radioactive liquid effluent monitoring instrumentation channels shown in Table 16.11-1 shall be operable with their alarm/trip setpoints set to ensure that the limits of SLC 16.11-1.1 are not exceeded.

   b. If a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint is less conservative than required, without delay suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.

   c. In the event that the number of operable radioactive liquid effluent monitoring instrumentation channels falls below the limit given under Table 16.11-1, Column A, action shall be as shown in Column B. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Annual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.

2. Gaseous Process and Effluents

   a. The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 16.11-2 shall be operable with their alarm/trip setpoints set to ensure that the limits of SLC 16.11-2.1 are not exceeded.

   b. If a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint is less conservative than required, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.

   c. In the event that the number of radioactive gaseous process or effluent monitoring instrumentation channels falls below the limit given under Table 16.11-2, Column A, action shall be taken as shown in Column B. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Annual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.

3. Setpoints

The setpoints shall be determined in accordance with the methodology described in the ODCM and shall be recorded. Setpoint correction may be permitted without declaring the channel inoperable.

APPLICABILITY:

Applies to radioactive liquid effluent, gaseous effluent, and gaseous process monitoring instrumentation.

REFERENCES:

1. 10 CFR Part 20
2. 10 CFR Part 50, Appendix A
3. Offsite Dose Calculation Manual

BASES:

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to assure that the alarm/trip will occur prior to exceeding 10 times the limits of 10 CFR Part 20. The operability and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to assure that the alarm/trip will occur prior to exceeding applicable limits in Technical Specification 6.4.6.g. The operability and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

For certain applicable cases, grab samples or flow estimates are required at frequencies between every 4 hours and every 12 hours upon RIA removal from service. SLC 16.11-3 does not explicitly require operator compensatory action (grab samples or flow estimates) to be initiated immediately upon RIA removal from service, when removal is for the purposes of sample filter changeouts, setpoint adjustments, service checks, or routine maintenance. Therefore, during the defined short, controlled outages, operator action is not required.

For the cases in which operator compensatory action is defined as continuous sampling by auxiliary equipment (Table 16.11-2, note (d)), initiation of continuous sampling by auxiliary sampling equipment requires approximately 1 hour. One hour is an accepted reasonable time to initiate, collect and change samples. Therefore, for the defined short, controlled outages (not to exceed 1 hour), operator action is not required.

STATION MANAGER APPROVAL H. B. Barron DATE 10/21/93

H. B. Barron

Table 16.11-1 (Page 1 of 2)
LIQUID EFFLUENT MONITORING INSTRUMENTATION
OPERATING CONDITIONS

INSTRUMENT	A MINIMUM OPERABLE CHANNELS	APPLICABILITY	B OPERATOR ACTION IF MINIMUM NUMBER OF OPERABLE CHANNELS IS NOT MET
1. Monitors Providing Automatic Termination of Release			
Liquid Radwaste Effluent Line Monitors			
4 RIA-33	1	*	(a)
Turbine Building Sump			
1 RIA-54 (Units 1 & 2)	1	****	(b)
3 RIA-54 (Unit 3)	1	****	(b)
2. Monitors not Providing Automatic Termination of Release			
Low Pressure Service Water			
1 RIA-35	1	***	(d)(e)
2 RIA-35	1	***	(d)(e)
3 RIA-35	1	***	(d)(e)
3. Flow Rate Measuring Devices			
Liquid Radwaste Effluent Line	1	*	(c)(e)
Keowee Hydroelectric Station Tailrace Discharge **	NA	NA	NA
4. Continuous Composite Sampler			
#3 Chemical Treatment Pond Composite Sampler and Sampler Flow Monitor (Turbine Building Sumps Effluent)	1	*	(d)(e)

*At all times.
**Flow determined from number of hydro units operating; if hydro is not operating, leakage flow, which is measured periodically, is used.
***Anytime process flow is through the line being monitored.
****Anytime either or both TBS pump breakers are closed.

(a) Effluent releases may continue provided that prior to initiating a release:

1. Two independent samples are analyzed in accordance with SLC 16.11-1 and;

2) Two independent data entry checks for release rate calculations and valve lineups of the effluent pathway are conducted.

Otherwise, suspend release of radioactive effluents by this pathway.

(b) Effluent releases may continue provided that prior to each discrete release of the sump, grab samples are collected and analyzed for gross radioactivity (beta and/or gamma) at a lower limit of detection of at least 10^{-7} μCi/ml.

(c) Effluent releases may continue provided flow rate is estimated at least once per four hours during actual releases.

(d) Effluent releases may continue provided that grab samples are collected and analyzed for gross radioactivity (beta and/or gamma) at a lower limit of detection of at least 10^{-7} μCi/ml every 12 hours.

(e) Operator compensatory action is not required during short, controlled outages of liquid effluent monitoring instrumentation. Short controlled outages are defined as planned removals from service for durations not to exceed 1 hour, for purposes of sample filter changeouts, setpoint adjustments, service checks, and/or routine maintenance procedures. This guidance may be applied successively, provided that the operable time between successive short, controlled outages is always at least equal to the duration of the immediately preceding outage.

Table 16.11-2 (Page 1 of 3)
GASEOUS PROCESS AND EFFLUENT
MONITORING INSTRUMENTATION
OPERATING CONDITIONS

INSTRUMENT	A MINIMUM OPERABLE CHANNELS (PER RELEASE PATH)	APPLICABILITY	B OPERATOR ACTION IF MINIMUM NUMBER OF OPERABLE CHANNELS IS NOT MET
1. Unit Vent Monitoring System			
a. Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Containment Purge Release (RIA - 45)	1	*	(a)(f)
b. Iodine Sample	1	*	(d)(f)
c. Particulate Sampler	1	*	(d)(f)
d. Effluent Flow Rate Monitor (Unit Vent Flow)	1	*	(b)(f)
e. Sampler Flow Rate Monitor	1	*	(e)
f. Effluent Flow Rate Monitor (Containment Purge)	1	**	(b)(f)
g. CSAE Off Gas Monitor (RIA - 40)	1	*	(a)(f)
2. Interim Radwaste Building Ventilation Monitoring System			
a. Noble Gas Activity Monitor (RIA - 53)	1	*	(c)(f)
b. Iodine Sampler	1	*	(d)(f)
c. Particulate Sampler	1	*	(d)(f)
d. Effluent Flow Rate Monitor (Interim Radwaste Exhaust)	1	*	(b)(f)
e. Sampler Flow Rate Monitor	1	*	(e)

Table 16.11-2 (Page 2 of 3)
GASEOUS PROCESS AND EFFLUENT
MONITORING INSTRUMENTATION
OPERATING CONDITIONS

INSTRUMENT	A MINIMUM OPERABLE CHANNELS (PER RELEASE PATH)	APPLICABILITY	B OPERATOR ACTION IF MINIMUM NUMBER OF OPERABLE CHANNELS IS NOT MET
3. Hot Machine Shop Ventilation Monitoring System			
a. Iodine Sampler	1	*	(d)(f)
b. Particulate Sampler	1	*	(d)(f)
c. Effluent Flow Rate Monitor (Hot Machine Shop Exhaust)	1	*	(b)(f)
d. Sampler Flow Rate Monitor	1	*	(e)
4. Radwaste Facility Ventilation Monitoring System			
a. Noble Gas Activity Monitor (4 RIA-45)	1	*	(c)(f)
b. Iodine Sampler	1	*	(d)(f)
c. Particulate Sampler	1	*	(d)(f)
d. Effluent Flow Rate Monitor (Radwaste Facility Exhaust)	1	*	(b)(f)
e. Sampler Flow Rate Monitor	1	*	(e)
5. Waste Gas Holdup Tanks			
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (RIA-37,-38)	1	**	(a)(f)
b. Effluent Flow Rate Monitor (Waste Gas Discharge Flow)	1	**	(b)(f)

* At all times.
** During waste gas holdup tank releases and/or containment purge operation.

(a) Effluent releases from waste gas tanks or containment purges may continue provided that prior to initiating a release:

1. Two independent samples are analyzed; and,

2) Two independent data entry checks for release rate calculations and valve lineups of the effluent pathway are conducted; and,

Effluent release from auxiliary building ventilation system or condenser air ejectors may continue provided that grab samples are taken once per 8 hours and these samples are analyzed for gross activity (beta and/or gamma) within 24 hours, or continuously monitor through the unit vent. Otherwise, suspend release of radioactive effluents via this pathway.

(b) Effluent releases may continue provided the flow rate is estimated at least once per 4 hours.

(c) Effluent releases may continue provided grab samples are taken once per 8 hours and these samples are analyzed for gross activity (beta and/or gamma) within 24 hours.

(d) Effluent releases may continue provided samples are continuously collected with auxiliary sampling equipment for periods not to exceed 7 days and analyzed within 48 hours of the end of sample collection.

(e) Alarms indicating low flow may be substituted for flow measuring devices.

(f) Operator compensatory action is not required during short, controlled outages of gaseous effluent monitoring instrumentation. Short controlled outages are defined as planned removals from service for durations not to exceed 1 hour, for purposes of sample filter changeouts, setpoint adjustments, service checks, and/or routine maintenance procedures. This guidance may be applied successively, provided that the operable time between successive short, controlled outages is always at least equal to the duration of the immediately preceding outage.

16.11 RADIOLOGICAL EFFLUENTS CONTROL

16.11-4 OPERATIONAL SAFETY REVIEW

COMMITMENT

To specify the frequency and type of surveillance to be applied to unit equipment and conditions.

1. Required sampling should be performed as detailed in Table 16.11-3.

2. The frequency and type of surveillance required for radioactive effluent monitoring instrumentation shall be as stated in Table 16.11-4.

APPLICABILITY:

Applies to items directly related to safety limits and limiting conditions for operation.

REFERENCE:

(1) FSAR, Section 7.2.3.4

BASES:

Failures such as blown instrument fuses, defective indicators, and faulted amplifiers are, in many cases, revealed by alarm or annunciator action. Comparison of output and/or state of independent channels measuring the same variable supplements this type of built-in surveillance. Based on experience in operation of both conventional and nuclear systems, when the unit is in operation, the minimum checking frequency stated is deemed adequate .

STATION MANAGER APPROVAL H. B. Barron DATE 7-19-91

H. B. Barron

TABLE 16.11-3 (Page 1 of 5)

Minimum Sampling Frequency And Analysis Program

Item	Check	Frequency	Lower Limit of Detection(2) of Lab Analysis for Waste
1. Condensate Test Tank, Condensate Monitoring Tank, Laundry-Hot Shower Tank, Waste and Recycle Monitor Tanks	a. Principal Gamma Emitters(3) including Dissolved Noble Gases	a. Composite Grab Sample prior to release of each batch(8)	a. Ce-144 and Mo-99 $<5x10^{-6}$ µCi/ml Other Gamma Nuclides $<5x10^{-7}$ µCi/ml Dissolved Gases $<10^{-5}$µCi/ml I-131 $<10^{-6}$ µCi/ml
	b. Radiochemical Analysis Sr-89,Sr-90, Fe-55	b. Quarterly from all (6) composited batches	b. $<5x10^{-8}$µCi/ml for Sr's $<10^{-6}$ µCi/ml for Fe-55
	c. Tritium	c. Monthly Composite	c. $<10^{-5}$ µCi/ml
	d. Gross Alpha Activity	d. Monthly Composite	d. $<10^{-7}$ µCi/ml
2. Unit Vent Sampling (Includes Waste Gas Decay Tanks, Reactor Building Purges, Auxiliary Building Ventilation, Spent Fuel Pool Ventilation, Air Ejectors)	a. Iodine Spectrum (1)	a. Continuous monitor, weekly sample (5)	a. $<10^{-10}$ µCi/cc (I-133) $<10^{-12}$ µCi/cc (I-131)
	b. Particulates(1)	b.	b.
	(1) Ce-144 and Mo-99	(1) Weekly Composite(5)	(1) $<5x10^{-9}$µCi/cc
	(2) Other Principal Gamma Emitters(4)	(2) Weekly Composite(5)	(2) $<10^{-10}$ µCi/cc
	(3) Gross Alpha Activity	(3) Monthly, using composite samples of one week	(3) $<10^{-11}$ µCi/cc
	(4) Radiochemical Analysis Sr-89,Sr-90	(4) Quarterly Composite	(4) $<10^{-11}$ µCi/cc

TABLE 16.11-3 (Page 2 of 5)

Minimum Sampling Frequency And Analysis Program

	Item		Check		Frequency		Lower Limit of Detection(2) of Lab Analysis for Waste
		c.	Cases by Principal Gamma(4) Emitters	c.	Weekly Grab Sample	c.	$<10^{-4}$ µCi/cc
		d.	Tritium	d.	Weekly Grab Sample	d.	$<10^{-6}$ µCi/cc
3.	Waste Gas Decay Tank	a.	Principal Gamma Emitters(4)	a.	Grab sample prior to release of each batch	a.	$<10^{-4}$ µCi/cc (gases) $<10^{-10}$ µCi/cc (particulates and iodines)
		b.	Tritium	b.	Grab sample prior to release of each batch	b.	$<10^{-6}$ µCi/cc
4.	Reactor Building	a.	Principal Gamma Emitters(4)	a.	Grab sample each purge	a.	$<10^{-4}$ µCi/cc (gases) $<10^{-10}$ µCi/cc (particulates and iodines)
		b.	Tritium	b.	Grab sample each purge	b.	$<10^{-6}$ µCi/cc
5.	Keowee Hydro Dam Dilution Flow	Measure Leakage Flow Rate		Annually			
6.	Backwash Receiving Tanks	Principle Gamma Emitters including dissolved noble gases		Grab Sample prior to release of each batch			
7.	#3 Chemical Treatment Pond Effluent	a.	Principal Gamma Emitters(3)	a.	Monthly from composite sample(7)	a.	Ce-144 and Mo-99 $<5x10^{-6}$ µCi/ml Other Gamma Nuclides $<5x10^{-7}$ µCi/ml Dissolved Gases $<10^{-5}$ µCi/ml I-131 $<10^{-6}$ µCi/ml

TABLE 16.11-3 (Page 3 of 5)

Minimum Sampling Frequency And Analysis Program

Item	Check	Frequency	Lower Limit of Detection(2) of Lab Analysis for Waste
7. (cont'd)	b. Radiochemical Analysis Sr-89, Sr-90, Fe-55	b. Quarterly from composite sample (6)	b. $<5\times10^{-8}$ µCi/ml for Sr's $<10^{-6}$ µCi/ml for Fe-55
	c. Tritium	c. Monthly from composite sample(7)	c. $<10^{-5}$ µCi/ml
	d. Gross Alpha Activity	d. Monthly from composite sample(7)	d. $<10^{-7}$ µCi/ml
8. Radwaste Facility Ventilation	a. Iodine Spectrum(1)	a. Continuous monitor, weekly sample(5)	a. $<10^{-9}$ µCi/cc (I-133) $<10^{-11}$ µCi/cc (I-131)
	b. Particulates(1)	b.	b.
	(1) Ce-144 and Mo-99	(1) Weekly Composite(5)	(1) $<5\times10^{-9}$ µCi/cc
	(2) Other Principal Gamma Emitters(4)	(2) Weekly Composite(5)	(2) $<10^{-10}$ µCi/cc
	(3) Gross Alpha Activity	(3) Monthly, using composite samples of one week	(3) $<10^{-11}$ µCi/cc
	(4) Radiochemical Analysis Sr 89,Sr-90	(4) Quarterly Composite	(4) $<10^{-11}$ µCi/cc
	c. Cases by Principal Gamma(4) Emitters	c. Weekly Grab Sample	c. $<10^{-4}$ µCi/cc
	d. Tritium	d. Weekly Grab Sample	d. $<10^{-6}$ µCi/cc

TABLE 16.11-3 (Page 4 of 5)
NOTES

1. Samples shall be changed at least once per 24 hours and analyses shall be completed within 48 hours after changing (on or after removal from sampler).

2. The LLD is defined, for purposes of these commitments as the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

   For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

   Where:

   LLD is the "a priori" lower limit of detection as defined above (as microcurie per unit mass or volume).

   s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

   E is the counting efficiency (as counts per disintegration),

   V is the sample size (in units of mass or volume).

   2.22×10^6 is the number of disintegrations per minute per microcurie,

   Y is the fractional radiochemical yield (when applicable),

   λ is the radioactive decay constant for the particular radionuclide, and

   Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples).

   Typical values of E, V, Y, and Δt should be used in the calculation.

   It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

3. The principal gamma emitters for which the LLD commitment applies exclusively are the following radionuclides: Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, and Ce-144. This list does not

mean that only these nuclides are to be detected and reported. Other peaks which are measurable and identifiable, together with the above nuclides, shall also be identified and reported.

4. The principal gamma emitters for which the LLD commitment applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measurable and identifiable, together with the above nuclides, shall also be identified and reported.

5. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with SLC 16.11-2.1, SLC 16.11-2.2a, and SLC 16.11-2.2.b.

6. A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged and in which the method of sampling employed results in a specimen which is representative of the liquids released.

7. To be representative of the quantities and concentrations of radioactive materials in liquid effluents, samples shall be collected continuously in proportion to the rate of flow of the effluent stream. Prior to analyses, all samples taken for the composite shall be thoroughly mixed in order for the composite sample to be representative of the effluent release.

8. A batch release is the discharge of liquid wastes of a discrete volume. Prior to sampling for analyses, each batch shall be isolated, and then thoroughly mixed, to assure representative sampling.

RADIOACTIVE EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL RESPONSE CHECK (4)	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1.	Liquid Radwaste Effluent Line				
	a. Effluent Line Monitor (4 RIA-33)	*	DA	AN	QU(1)
	b. Effluent Flow Rate Monitor	*	NA	AN	NA
	c. Minimum Flow Device	*	NA	AN	NA
2.	Turbine Building Sump				
	a. Sump Monitor (RIA-54)	DA	MO	AN(3)	QU(2)
	b. Minimum Flow Device	*	NA	AN	NA
3.	Low Pressure Service Water				
	a. Effluent Line Monitor (RIA-35)	DA	MO	AN(3)	QU(1)
	b. Minimum Flow Device	*	NA	AN	NA
4.	#3 Chemical Treatment Pond Composite Sampler	DA	NA	AN	NA
5.	Unit Vent Monitoring				
	a. Noble Gas Activity Monitor (RIA-45)	DA	MO	AN(3)	QU(2)
	b. Iodine Sampler	DA	NA	NA	NA
	c. Particulate Sampler	DA	NA	NA	NA
	d. Effluent Flow Rate Monitor (Unit Vent Flow)	DA	NA	AN	NA
	e. Minimum Flow Device	DA	NA	AN	NA
	f. Effluent Flow Rate Monitor (Containment Purge)	DA	NA	AN	NA
	g. CSAE Off Gas Monitor (RIA-40)	DA	QU	AN	QU
6.	Interim Radwaste Building Ventilation Monitoring				
	a. Noble Gas Activity Monitor (RIA-53)	DA	MO	AN(3)	QU(2)
	b. Iodine Sampler	DA	NA	NA	NA
	c. Particulate Sampler	DA	NA	NA	NA
	d. Effluent Flow Rate Monitor (Interim Radwaste Exhaust)	DA	NA	AN	NA
	e. Minimum Flow Device	DA	NA	AN	NA

RADIOACTIVE EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL RESPONSE CHECK (4)	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
7.	Hot Machine Shop				
	a. Iodine Sampler	DA	NA	NA	NA
	b. Particulate Sampler	DA	NA	NA	NA
	c. Effluent Flow Rate Monitor (Hot Machine Shop Exhaust)	DA	NA	AN	NA
	d. Minimum Flow Device	DA	NA	AN	NA
8.	Radwaste Facility Ventilation Monitoring				
	a. Noble Gas Activity Monitor (4RIA-45)	DA	MO	AN(3)	QU(2)
	b. Iodine Sampler	DA	NA	NA	NA
	c. Particulate Sampler	DA	NA	NA	NA
	d. Effluent Flow Rate Monitor (Radwaste Facility-Exhaust)	DA	NA	AN	NA
	e. Minimum Flow Device	DA	NA	AN	NA
9.	Waste Gas Holdup System				
	a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (RIA-37, 38)	*	**	AN(3)	QU(1)
	b. Effluent Flow Rate Monitor (Waste Gas Discharge Flow)	*	NA	AN	NA

*During each release via this pathway.
**Within 24 hours prior to each release via this pathway.

Frequency Notation

DA - Daily
MO - Monthly
QU - Quarterly
AN - Annually
NA - Not Applicable

Table 16.11-4 (Page 3 of 3)

TABLE NOTATION

(1) The Channel Functional Test shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:

1. Instrument indicates measured levels above the alarm/trip setpoint.

2. Circuit failure (downscale only).

(2) The Channel Functional Test shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists.

1. Instrument indicates measured levels above the alarm setpoint.

2. Circuit failure (downscale only).

(3) The initial Channel Calibration shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with the National Institute of Standards and Technology (NIST). The standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent Channel Calibration sources that have been related to the initial calibration shall be used. (Operating plants may substitute previously established calibration procedures for this requirements).

(4) The Channel Response Check shall consist of verifying indications during periods of release. Channel Response Check shall be made at least once per calendar day on days on which continuous, periodic, or batch releases are made.