

ENCLOSURE 5

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

<u>PAGE CHANGE INSTRUCTIONS</u>	
<u>UNIT 1</u>	
Removed page	Inserted page
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<u>PAGE CHANGE INSTRUCTIONS</u>	
<u>UNIT 2</u>	
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ENCLOSURE 6

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

MARKED-UP TECHNICAL SPECIFICATION PAGES - UNIT 1

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.5 The specific activity of the reactor coolant shall be limited to:

- a. less than or equal to 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. less than or equal to $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and 4.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, and 3, with the specific activity of the reactor coolant:

1. Greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 but less than or equal to ~~4.0~~ $\mu\text{Ci}/\text{gram}$, operation may continue for up to 48 hours provided that operation under these conditions shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.

2. Greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than ~~4.0~~ $\mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.

3. Greater than $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours and in COLD SHUTDOWN within the next 24 hours.

- b. In OPERATIONAL CONDITION 1, 2, 3, or 4,

1. With the specific activity of the primary coolant greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of Item 4b of Table 4.4.5-1 at least once per 4 hours until the specific activity of the primary coolant is restored to within its limits. In lieu of a License Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that defines the results of the specific activity analyses and the time duration when the specific activity of the coolant exceeded 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 together with the below additional information.

3.0
REVISE

REACTOR COOLANT SYSTEM

BASES

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

In order to reduce personnel radiation exposure, chemical decontamination of portions of the reactor coolant system may be performed during shutdown. During the chemical decontamination process, the injection of chemical solvents may cause the reactor coolant system conductivity and chloride measurements to increase above the limits. The solvents that are selected for use in performing the chemical decontamination process are selected and evaluated to ensure their chemical reactivity will not adversely impact components or the structural integrity of the reactor coolant system. Because decontamination activities are performed at temperatures significantly less than normal operating temperatures, the chemical reactivity of these solvents will not increase the likelihood of stress corrosion occurring nor affect those stress corrosion cracks that may already be present.

3/4 4 5 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the 2-hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady state operation will not exceed small fractions of the dose guidelines in 10CFR 100. Permitting operation to continue for limited time periods with higher specific activity levels accommodates short-term iodine spikes which may be associated with power level changes, and is based on the fact that a steam line failure during these short time periods is considerably less likely. Operation at the higher activity levels, therefore, is restricted to a small fraction of the unit's total operating time. The upper limit of coolant iodine concentration during short-term iodine spikes ensures that the thyroid dose from a steam line failure will not exceed 10 CFR Part 100 dose guidelines.

Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analysis following power changes may be permissible, if justified by the data obtained.

Closing the main steam line isolation valves prevents the release of activity to the environs should the steam line rupture occur. The surveillance requirements provide adequate assurance that excessive specific activity levels in the reactor coolant will be detected in sufficient time to take corrective action.

3/4.4.6 PRESSURE/TEMPERATURE LIMITS

All components in the Reactor Coolant System are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and start-up and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 4.2 of the FSAR. During

Add

or GDC-19 dose limits for Control Room operators.

ENCLOSURE 7

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

MARKED-UP TECHNICAL SPECIFICATION PAGES - UNIT 2

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.5 The specific activity of the reactor coolant shall be limited to:

- a. less than or equal to 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. less than or equal to $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and 4.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, and 3, with the specific activity of the reactor coolant;
 1. Greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 but less than or equal to ~~4.0~~ $\mu\text{Ci}/\text{gram}$, operation may continue for up to 48 hours provided that operation under these conditions shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
 2. Greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than ~~4.0~~ $\mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.
 3. Greater than $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. In OPERATIONAL CONDITION 1, 2, 3, or 4,
 1. With the specific activity of the primary coolant greater than 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of Item 4b of Table 4.4.5-1 at least once per 4 hours until the specific activity of the primary coolant is restored to within its limits. In lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that defines the results of the specific activity analyses and the time duration when the specific activity of the coolant exceeded 0.2 $\mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 together with the below additional information.

3.0
REVISE

REACTOR COOLANT SYSTEM

BASES

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

In order to reduce personnel radiation exposure, chemical decontamination of portions of the reactor coolant system may be performed during shutdown. During the chemical decontamination process, the injection of chemical solvents may cause the reactor coolant system conductivity and chloride measurements to increase above the limits. The solvents that are selected for use in performing the chemical decontamination process are selected and evaluated to ensure their chemical reactivity will not adversely impact components or the structural integrity of the reactor coolant system. Because decontamination activities are performed at temperatures significantly less than normal operating temperatures, the chemical reactivity of these solvents will not increase the likelihood of stress corrosion occurring nor affect those stress corrosion cracks that may already be present.

3/4 4.5 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the 2-hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady state operation will not exceed small fractions of the dose guidelines in 10CFR 100. Permitting operation to continue for limited time periods with higher specific activity levels accommodates short-term iodine spikes which may be associated with power level changes, and is based on the fact that a steam line failure during these short time periods is considerably less likely. Operation at the higher activity levels, therefore, is restricted to a small fraction of the unit's total operating time. The upper limit of coolant iodine concentration during short-term iodine spikes ensures that the thyroid dose from a steam line failure will not exceed 10 CFR Part 100 dose guidelines.

Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analysis following power changes may be permissible, if justified by the data obtained.

Closing the main steam line isolation valves prevents the release of activity to the environs should the steam line rupture occur. The surveillance requirements provide adequate assurance that excessive specific activity levels in the reactor coolant will be detected in sufficient time to take corrective action.

3/4 4.6 PRESSURE/TEMPERATURE LIMITS

All components in the Reactor Coolant System are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and start-up and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 4.2 of the FSAR. During

Ada

or GDC-19 dose limits for control room operators.

ENCLOSURE 8

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

TYPED TECHNICAL SPECIFICATION PAGES - UNIT 1

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.5 The specific activity of the reactor coolant shall be limited to:

- a. less than or equal to $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. less than or equal to $100/\bar{E} \mu\text{Ci}/\text{gram}$.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and 4.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, and 3, with the specific activity of the reactor coolant:
 1. Greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 but less than or equal to $3.0 \mu\text{Ci}/\text{gram}$, operation may continue for up to 48 hours provided that operation under these conditions shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
 2. Greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than $3.0 \mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.
 3. Greater than $100/\bar{E} \mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. In OPERATIONAL CONDITION 1, 2, 3, or 4,
 1. With the specific activity of the primary coolant greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 or greater than $100/\bar{E} \mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of Item 4b of Table 4.4.5-1 at least once per 4 hours until the specific activity of the primary coolant is restored to within its limits. In lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that defines the results of the specific activity analyses and the time duration when the specific activity of the coolant exceeded $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 together with the below additional information.

REACTOR COOLANT SYSTEM

BASES

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

In order to reduce personnel radiation exposure, chemical decontamination of portions of the reactor coolant system may be performed during shutdown. During the chemical decontamination process, the injection of chemical solvents may cause the reactor coolant system conductivity and chloride measurements to increase above the limits. The solvents that are selected for use in performing the chemical decontamination process are selected and evaluated to ensure their chemical reactivity will not adversely impact components or the structural integrity of the reactor coolant system. Because decontamination activities are performed at temperatures significantly less than normal operating temperatures, the chemical reactivity of these solvents will not increase the likelihood of stress corrosion occurring nor affect those stress corrosion cracks that may already be present.

3/4.4.5 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the 2-hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady state operation will not exceed small fractions of the dose guidelines in 10CFR 100. Permitting operation to continue for limited time periods with higher specific activity levels accommodates short-term iodine spikes which may be associated with power level changes, and is based on the fact that a steam line failure during these short time periods is considerably less likely. Operation at the higher activity levels, therefore, is restricted to a small fraction of the unit's total operating time. The upper limit of coolant iodine concentration during short-term iodine spikes ensures that the thyroid dose from a steam line failure will not exceed 10 CFR Part 100 dose guidelines or GDC-19 dose limits for control room operators.

Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analysis following power changes may be permissible, if justified by the data obtained.

Closing the main steam line isolation valves prevents the release of activity to the environs should the steam line rupture occur. The surveillance requirements provide adequate assurance that excessive specific activity levels in the reactor coolant will be detected in sufficient time to take corrective action.

3/4.4.6 PRESSURE/TEMPERATURE LIMITS

All components in the Reactor Coolant System are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and start-up and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 4.2 of the FSAR. During

ENCLOSURE 9

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REQUEST FOR LICENSE AMENDMENTS
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

TYPED TECHNICAL SPECIFICATION PAGES - UNIT 2

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.5 The specific activity of the reactor coolant shall be limited to:

- a. less than or equal to $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. less than or equal to $100/\bar{E} \mu\text{Ci}/\text{gram}$.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and 4.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, and 3, with the specific activity of the reactor coolant:
 1. Greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 but less than or equal to $3.0 \mu\text{Ci}/\text{gram}$, operation may continue for up to 48 hours provided that operation under these conditions shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
 2. Greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than $3.0 \mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.
 3. Greater than $100/\bar{E} \mu\text{Ci}/\text{gram}$, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. In OPERATIONAL CONDITION 1, 2, 3, or 4,
 1. With the specific activity of the primary coolant greater than $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 or greater than $100/\bar{E} \mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of Item 4b or Table 4.4.5-1 at least once per 4 hours until the specific activity of the primary coolant is restored to within its limits. In lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that defines the results of the specific activity analyses and the time duration when the specific activity of the coolant exceeded $0.2 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 together with the below additional information.

BASES

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

In order to reduce personnel radiation exposure, chemical decontamination of portions of the reactor coolant system may be performed during shutdown. During the chemical decontamination process, the injection of chemical solvents may cause the reactor coolant system conductivity and chloride measurements to increase above the limits. The solvents that are selected for use in performing the chemical decontamination process are selected and evaluated to ensure their chemical reactivity will not adversely impact components of the structural integrity of the reactor coolant system. Because decontamination activities are performed at temperatures significantly less than normal operating temperatures, the chemical reactivity of these solvents will not increase the likelihood of stress corrosion occurring nor affect those stress corrosion cracks that may already be present.

3/4.4.5 SPECIFIC ACTIVITY

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3/4.4.6 PRESSURE/TEMPERATURE LIMITS

All components in the Reactor Coolant System are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and start-up and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 4.2 of the FSAR. During