



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.64  
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 25, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 64, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Theodore R. Quay, Director  
Project Directorate V  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 8, 1992

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 64 TO FACILITY OPERATING LICENSE NO. NPF-41

DOCKET NO. STN 50-528

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

Insert

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
CONTAINMENT INTEGRITY.....	3/4 6-1
CONTAINMENT LEAKAGE.....	3/4 6-2
CONTAINMENT AIR LOCKS.....	3/4 6-4
INTERNAL PRESSURE.....	3/4 6-6
AIR TEMPERATURE.....	3/4 6-7
CONTAINMENT VESSEL STRUCTURAL INTEGRITY.....	3/4 6-8
CONTAINMENT VENTILATION SYSTEM.....	3/4 6-14
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
CONTAINMENT SPRAY SYSTEM.....	3/4 6-15
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	3/4 6-19
3/4.6.4 COMBUSTIBLE GAS CONTROL	
HYDROGEN MONITORS.....	3/4 6-36
ELECTRIC HYDROGEN RECOMBINERS.....	3/4 6-37
HYDROGEN PURGE CLEANUP SYSTEM.....	3/4 6-38

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	
SAFETY VALVES.....	3/4 7-1
AUXILIARY FEEDWATER SYSTEM.....	3/4 7-4
CONDENSATE STORAGE TANK.....	3/4 7-6
ACTIVITY.....	3/4 7-7
MAIN STEAM LINE ISOLATION VALVES.....	3/4 7-9
ATMOSPHERIC DUMP VALVES.....	3/4 7-10
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-11
3/4.7.3 ESSENTIAL COOLING WATER SYSTEM.....	3/4 7-12
3/4.7.4 ESSENTIAL SPRAY POND SYSTEM.....	3/4 7-13
3/4.7.5 ULTIMATE HEAT SINK.....	3/4 7-14
3/4.7.6 ESSENTIAL CHILLED WATER SYSTEM.....	3/4 7-15
3/4.7.7 CONTROL ROOM ESSENTIAL FILTRATION SYSTEM.....	3/4 7-16
3/4.7.8 ESF PUMP ROOM AIR EXHAUST CLEANUP SYSTEM.....	3/4 7-19
3/4.7.9 SNUBBERS.....	3/4 7-21
3/4.7.10 SEALED SOURCE CONTAMINATION.....	3/4 7-27
3/4.7.11 SHUTDOWN COOLING SYSTEM.....	3/4 7-29
3/4.7.12 CONTROL ROOM AIR TEMPERATURE.....	3/4 7-30
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES	
OPERATING.....	3/4 8-1
SHUTDOWN.....	3/4 8-8
CATHODIC PROTECTION.....	3/4 8-8a

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 42-inch containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system. To provide assurance that the 42-inch valves cannot be inadvertently opened, they are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevent power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 8-inch purge supply and exhaust isolation valves since, unlike the 42-inch valves, the 8-inch valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during purging operations.

Leakage integrity tests with a maximum allowable leakage rate for purge supply and exhaust isolation valves will provide early indication of resilient material seal degradation and will allow the opportunity for repair before gross leakage failure develops. The 0.60 L<sub>a</sub> leakage limit shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

#### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

##### 3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

The containment spray system and the containment cooling system are redundant to each other in providing post-accident cooling of the containment atmosphere. However, the containment spray system also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment automatic isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through GDC 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The only valves in Table 6.2.4-1 of the PVNGS FSAR that are not required to be listed in Table 3.6-1 are the following: main steam safety valves, main steam atmospheric dump valves, and main steam isolation valves. The main steam safety valves have very high pressure setpoints to actuate and are covered by Specification 3/4.7.1.1. The atmospheric dump valves and the main steam isolation valves are covered by Specifications 3/4.7.1.6 and 3/4.7.1.5, respectively.

#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with (1) zirconium-water reactions, (2) radiolytic decomposition of water and (3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The use of ANSI Standard N509 (1980) in lieu of ANSI Standard N509 (1975) to meet the guidance of Regulatory Guide 1.52, Revision 2, Positions C.6.a and C.6.b, has been found acceptable as documented in Revision 2 to Section 6.5.1 of the Standard Review Plan (NUREG-0800).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50  
License No. NPF-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 25, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Part I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-51 is hereby amended to read as follows:



(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No.50 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Theodore R Quay*

Theodore R. Quay, Director  
Project Directorate V  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 8, 1992

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. NPF-51

DOCKET NO. STN 50-529

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

Insert

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
CONTAINMENT INTEGRITY.....	3/4 6-1
CONTAINMENT LEAKAGE.....	3/4 6-2
CONTAINMENT AIR LOCKS.....	3/4 6-4
INTERNAL PRESSURE.....	3/4 6-6
AIR TEMPERATURE.....	3/4 6-7
CONTAINMENT VESSEL STRUCTURAL INTEGRITY.....	3/4 6-8
CONTAINMENT VENTILATION SYSTEM.....	3/4 6-14
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
CONTAINMENT SPRAY SYSTEM.....	3/4 6-15
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	3/4 6-19
3/4.6.4 COMBUSTIBLE GAS CONTROL	
HYDROGEN MONITORS.....	3/4 6-36
ELECTRIC HYDROGEN RECOMBINERS.....	3/4 6-37
HYDROGEN PURGE CLEANUP SYSTEM.....	3/4 6-38

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	
SAFETY VALVES.....	3/4 7-1
AUXILIARY FEEDWATER SYSTEM.....	3/4 7-4
CONDENSATE STORAGE TANK.....	3/4 7-6
ACTIVITY.....	3/4 7-7
MAIN STEAM LINE ISOLATION VALVES.....	3/4 7-9
ATMOSPHERIC DUMP VALVES.....	3/4 7-10
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-11
3/4.7.3 ESSENTIAL COOLING WATER SYSTEM.....	3/4 7-12
3/4.7.4 ESSENTIAL SPRAY POND SYSTEM.....	3/4 7-13
3/4.7.5 ULTIMATE HEAT SINK.....	3/4 7-14
3/4.7.6 ESSENTIAL CHILLED WATER SYSTEM.....	3/4 7-15
3/4.7.7 CONTROL ROOM ESSENTIAL FILTRATION SYSTEM.....	3/4 7-16
3/4.7.8 ESF PUMP ROOM AIR EXHAUST CLEANUP SYSTEM.....	3/4 7-19
3/4.7.9 SNUBBERS.....	3/4 7-21
3/4.7.10 SEALED SOURCE CONTAMINATION.....	3/4 7-27
3/4.7.11 SHUTDOWN COOLING SYSTEM.....	3/4 7-29
3/4.7.12 CONTROL ROOM AIR TEMPERATURE.....	3/4 7-30
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES	
OPERATING.....	3/4 8-1
SHUTDOWN.....	3/4 8-8
CATHODIC PROTECTION.....	3/4 8-8a

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 42-inch containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system. To provide assurance that the 42-inch valves cannot be inadvertently opened, they are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevent power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 8-inch purge supply and exhaust isolation valves since, unlike the 42-inch valves, the 8-inch valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during purging operations.

Leakage integrity tests with a maximum allowable leakage rate for purge supply and exhaust isolation valves will provide early indication of resilient material seal degradation and will allow the opportunity for repair before gross leakage failure develops. The 0.60 L<sub>g</sub> leakage limit shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

#### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

##### 3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

The containment spray system and the containment cooling system are redundant to each other in providing post-accident cooling of the containment atmosphere. However, the containment spray system also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment automatic isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through GDC 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The only valves in Table 6.2.4-1 of the PVNGS FSAR that are not required to be listed in Table 3.6-1 are the following: main steam safety valves, main steam atmospheric dump valves, and main steam isolation valves. The main steam safety valves have very high pressure setpoints to actuate and are covered by Specification 3/4.7.1.1. The atmospheric dump valves and the main steam isolation valves are covered by Specifications 3/4.7.1.6 and 3/4.7.1.5, respectively.

#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with (1) zirconium-water reactions, (2) radiolytic decomposition of water and (3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The use of ANSI Standard N509 (1980) in lieu of ANSI Standard N509 (1976) to meet the guidance of Regulatory Guide 1.52, Revision 2, Positions C.6.a and C.6.b, has been found acceptable as documented in Revision 2 to Section 6.5.1 of the Standard Review Plan (NUREG-0800).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-530

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 37  
License No. NPF-74

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated June 25, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-74 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 37, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Theodore R. Quay*

Theodore R. Quay, Director  
Project Directorate V  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 8, 1992



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. NPF-74

DOCKET NO. STN 50-530

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

Insert

VII  
3/4 6-17  
3/4 6-18  
B 3/4 6-3

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
CONTAINMENT INTEGRITY.....	3/4 6-1
CONTAINMENT LEAKAGE.....	3/4 6-2
CONTAINMENT AIR LOCKS.....	3/4 6-4
INTERNAL PRESSURE.....	3/4 6-6
AIR TEMPERATURE.....	3/4 6-7
CONTAINMENT VESSEL STRUCTURAL INTEGRITY.....	3/4 6-8
CONTAINMENT VENTILATION SYSTEM.....	3/4 6-14
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
CONTAINMENT SPRAY SYSTEM.....	3/4 6-15
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	3/4 6-19
3/4.6.4 COMBUSTIBLE GAS CONTROL	
HYDROGEN MONITORS.....	3/4 6-36
ELECTRIC HYDROGEN RECOMBINERS.....	3/4 6-37
HYDROGEN PURGE CLEANUP SYSTEM.....	3/4 6-38

## INDEX

### LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	
SAFETY VALVES.....	3/4 7-1
AUXILIARY FEEDWATER SYSTEM.....	3/4 7-4
CONDENSATE STORAGE TANK.....	3/4 7-6
ACTIVITY.....	3/4 7-7
MAIN STEAM LINE ISOLATION VALVES.....	3/4 7-9
ATMOSPHERIC DUMP VALVES.....	3/4 7-10
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-11
3/4.7.3 ESSENTIAL COOLING WATER SYSTEM.....	3/4 7-12
3/4.7.4 ESSENTIAL SPRAY POND SYSTEM.....	3/4 7-13
3/4.7.5 ULTIMATE HEAT SINK.....	3/4 7-14
3/4.7.6 ESSENTIAL CHILLED WATER SYSTEM.....	3/4 7-15
3/4.7.7 CONTROL ROOM ESSENTIAL FILTRATION SYSTEM.....	3/4 7-16
3/4.7.8 ESF PUMP ROOM AIR EXHAUST CLEANUP SYSTEM.....	3/4 7-19
3/4.7.9 SNUBBERS.....	3/4 7-21
3/4.7.10 SEALED SOURCE CONTAMINATION.....	3/4 7-27
3/4.7.11 SHUTDOWN COOLING SYSTEM.....	3/4 7-29
3/4.7.12 CONTROL ROOM AIR TEMPERATURE.....	3/4 7-30
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES	
OPERATING.....	3/4 8-1
SHUTDOWN.....	3/4 8-8
CATHODIC PROTECTION.....	3/4 8-8a

## CONTAINMENT SYSTEMS

### BASES

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---

#### 3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 42-inch containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system. To provide assurance that the 42-inch valves cannot be inadvertently opened, they are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevent power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 8-inch purge supply and exhaust isolation valves since, unlike the 42-inch valves, the 8-inch valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during purging operations.

Leakage integrity tests with a maximum allowable leakage rate for purge supply and exhaust isolation valves will provide early indication of resilient material seal degradation and will allow the opportunity for repair before gross leakage failure develops. The 0.60 L leakage limit shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

#### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

##### 3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

The containment spray system and the containment cooling system are redundant to each other in providing post-accident cooling of the containment atmosphere. However, the containment spray system also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment automatic isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through GDC 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The only valves in Table 6.2.4-1 of the PVNGS FSAR that are not required to be listed in Table 3.6-1 are the following: main steam safety valves, main steam atmospheric dump valves, and main steam isolation valves. The main steam safety valves have very high pressure setpoints to actuate and are covered by Specification 3/4.7.1.1. The atmospheric dump valves and the main steam isolation valves are covered by Specifications 3/4.7.1.6 and 3/4.7.1.5, respectively.

#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with (1) zirconium-water reactions, (2) radiolytic decomposition of water and (3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The use of ANSI Standard N509 (1980) in lieu of ANSI Standard N509 (1976) to meet the guidance of Regulatory Guide 1.52, Revision 2, Positions C.6.a and C.6.b, has been found acceptable as documented in Revision 2 to Section 6.5.1 of the Standard Review Plan (NUREG-0800).