

## ATTACHMENT 2

Limerick Generating Station

Units 1 and 2

Docket Nos. 50-352  
50-353

License Nos. NPF-39  
NPF-85

Technical Specifications Change Request

No. 97-04-0

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DEFINITIONS

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TABLE 1.2  
OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F ****
5. REFUELING*	Shutdown or Refuel** #	NA

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is OPERABLE.

\*\*\*\*See Special Test Exception 3.10.8.

SPECIAL TEST EXCEPTIONS

3/4.10.7 RESERVED-CURRENTLY NOT USED

## SPECIAL TEST EXCEPTIONS

### 3/4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

#### LIMITING CONDITIONS FOR OPERATION

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3.10.8 When conducting inservice leak or hydrostatic testing, the average reactor coolant temperature specified in Table 1.2 for OPERATIONAL CONDITION 4 may be increased to 212°F, and operation considered not to be in OPERATIONAL CONDITION 3, to allow performance of an inservice leak or hydrostatic test provided the following OPERATIONAL CONDITION 3 Specifications are met:

- a. 3.3.2 ISOLATION ACTUATION INSTRUMENTATION, Functions 7.a, 7.c.1, 7.c.2 and 7.d of Table 3.3.2-1;
- b. 3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY;
- c. 3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY;
- d. 3.6.5.2.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES;
- e. 3.6.5.2.2 REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES; and
- f. 3.6.5.3 STANDBY GAS TREATMENT SYSTEM.

APPLICABILITY: OPERATIONAL CONDITION 4, with average reactor coolant temperature greater than 200°F and less than or equal to 212°F.

#### ACTION:

With the requirements of the above Specifications not satisfied:

1. Immediately enter the applicable (OPERATIONAL CONDITION 3) action for the affected Specification; or
2. Immediately suspend activities that could increase the average reactor coolant temperature or pressure and reduce the average reactor coolant temperature to 200°F or less within 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.10.8 Verify applicable OPERATIONAL CONDITION 3 surveillances for the Specifications listed in 3.10.8 are met.

### 3/4.10 SPECIAL TEST EXCEPTIONS

#### BASES

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#### 3.4.10.1 PRIMARY CONTAINMENT INTEGRITY

The requirement for PRIMARY CONTAINMENT INTEGRITY is not applicable during the period when open vessel tests are being performed during the low power PHYSICS TESTS.

#### 3/4.10.2 ROD WORTH MINIMIZER

In order to perform the tests required in the technical specifications it is necessary to bypass the sequence restraints on control rod movement. The additional surveillance requirements ensure that the specifications on heat generation rates and shutdown margin requirements are not exceeded during the period when these tests are being performed and that individual rod worths do not exceed the values assumed in the safety analysis.

#### 3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

Performance of shutdown margin demonstrations with the vessel head removed requires additional restrictions in order to ensure that criticality does not occur. These additional restrictions are specified in this LCO.

#### 3/4.10.4 RECIRCULATION LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

#### 3/4.10.5 OXYGEN CONCENTRATION

Relief from the oxygen concentration specifications is necessary in order to provide access to the primary containment during the initial startup and testing phase of operation. Without this access startup and test program could be restricted and delayed.

#### 3/4.10.6 TRAINING STARTUPS

This special test exception permits training startups to be performed with the reactor vessel depressurized at low THERMAL POWER and temperature while controlling RCS temperature with one RHR subsystem aligned in the shutdown cooling mode in order to minimize contaminated water discharge to the radioactive waste disposal system.

#### 3/4.10.7 RESERVED - CURRENTLY NOT USED

## 3/4.10 SPECIAL TEST EXCEPTIONS

### BASES

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#### 3/4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

This special test exception permits certain reactor coolant pressure tests to be performed in OPERATIONAL CONDITION 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) or plant temperature control capabilities during these tests require the pressure testing at temperatures greater than 200°F and less than or equal to 212°F (normally corresponding to OPERATIONAL CONDITION 3). The additionally imposed OPERATIONAL CONDITION 3 requirements for SECONDARY CONTAINMENT INTEGRITY provide conservatism in response to an operational event.

Inservice hydrostatic testing and inservice leak pressure tests required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code are performed prior to the reactor going critical after a refueling outage. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.4.6, Reactor Coolant System Pressure/Temperature Limits. These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence. With increased reactor fluence over time, the minimum allowable vessel temperature increases at a given pressure. Periodic updates to the RCS P/T limit curves are performed as necessary, based upon the results of analysis of irradiated surveillance specimens removed from the vessel.



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DEFINITIONS

TABLE 1.2  
OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F ****
5. REFUELING*	Shutdown or Refuel** #	NA

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is OPERABLE.

\*\*\*\*See Special Test Exception 3.10.8.

## SPECIAL TEST EXCEPTIONS

### 3/4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

#### LIMITING CONDITION FOR OPERATION

---

3.10.8 When conducting inservice leak or hydrostatic testing, the average reactor coolant temperature specified in Table 1.2 for OPERATIONAL CONDITION 4 may be increased to 212°F, and operation considered not to be in OPERATIONAL CONDITION 3, to allow performance of an inservice leak or hydrostatic test provided the following OPERATIONAL CONDITION 3 Specifications are met:

- a. 3.3.2 ISOLATION ACTUATION INSTRUMENTATION, Functions 7.a, 7.c.1, 7.c.2 and 7.d of Table 3.3.2-1;
- b. 3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY;
- c. 3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY;
- d. 3.6.5.2.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES;
- e. 3.6.5.2.2 REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES; and
- f. 3.6.5.3 STANDBY GAS TREATMENT SYSTEM.

APPLICABILITY: OPERATIONAL CONDITION 4, with average reactor coolant temperature greater than 200°F and less than or equal to 212°F.

#### ACTION:

With the requirements of the above Specifications not satisfied:

1. Immediately enter the applicable (OPERATIONAL CONDITION 3) action for the affected Specification; or
2. Immediately suspend activities that could increase the average reactor coolant temperature or pressure and reduce the average reactor coolant temperature to 200°F or less within 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.10.8 Verify applicable OPERATIONAL CONDITION 3 surveillances for the Specifications listed in 3.10.8 are met.

### 3/4.10 SPECIAL TEST EXCEPTIONS

#### BASES

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#### 3/4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

This special test exception permits certain reactor coolant pressure tests to be performed in OPERATIONAL CONDITION 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) or plant temperature control capabilities during these tests require the pressure testing at temperatures greater than 200°F and less than or equal to 212°F (normally corresponding to OPERATIONAL CONDITION 3). The additionally imposed OPERATIONAL CONDITION 3 requirements for SECONDARY CONTAINMENT INTEGRITY provide conservatism in response to an operational event.

Inservice hydrostatic testing and inservice leak pressure tests required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code are performed prior to the reactor going critical after a refueling outage. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.4.6, Reactor Coolant System Pressure/Temperature Limits. These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence. With increased reactor fluence over time, the minimum allowable vessel temperature increases at a given pressure. Periodic updates to the RCS P/T limit curves are performed as necessary, based upon the results of analysis of irradiated surveillance specimens removed from the vessel.

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DEFINITIONS

TABLE 1.2

OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">****</span>
5. REFUELING*	Shutdown or Refuel** #	NA <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">add</span>

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is OPERABLE.

\*\*\*\* See Special Test Exception 3.10.8  
add



SPECIAL TEST EXCEPTIONS

3 / 4.10.7 RESERVED-CURRENTLY NOT USED

add

## SPECIAL TEST EXCEPTIONS

### 3 / 4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

#### LIMITING CONDITION FOR OPERATION

---

3.10.8 When conducting inservice leak or hydrostatic testing, the average reactor coolant temperature specified in Table 1.2 for OPERATIONAL CONDITION 4 may be increased to 212F, and operation considered not to be in OPERATIONAL CONDITION 3, to allow performance of an inservice leak or hydrostatic test provided the following OPERATIONAL CONDITION 3 Specifications are met:

- a. 3.3.2 ISOLATION ACTUATION INSTRUMENTATION, Functions 7.a, 7.c.1, 7.c.2 and 7.d of Table 3.3.2-1;
- b. 3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY;
- c. 3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY;
- d. 3.6.5.2.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES;
- e. 3.6.5.2.2 REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES; and
- f. 3.6.5.3 STANDBY GAS TREATMENT SYSTEM.

**APPLICABILITY:** OPERATIONAL CONDITION 4, with average reactor coolant temperature greater than 200F and less than or equal to 212F.

#### ACTION:

With the requirements of the above Specifications not satisfied:

1. Immediately enter the applicable (OPERATIONAL CONDITION 3) action for the affected Specification; or
2. Immediately suspend activities that could increase the average reactor coolant temperature or pressure and reduce the average reactor coolant temperature to 200F or less within 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.10.8 Verify applicable OPERATIONAL CONDITION 3 surveillances for the Specifications listed in 3.10.8 are met.

*add*

3/4.10 SPECIAL TEST EXCEPTIONSBASES3/4.10.1 PRIMARY CONTAINMENT INTEGRITY

The requirement for PRIMARY CONTAINMENT INTEGRITY is not applicable during the period when open vessel tests are being performed during the low power PHYSICS TESTS.

3/4.10.2 ROD WORTH MINIMIZER

In order to perform the tests required in the technical specifications it is necessary to bypass the sequence restraints on control rod movement. The additional surveillance requirements ensure that the specifications on heat generation rates and shutdown margin requirements are not exceeded during the period when these tests are being performed and that individual rod worths do not exceed the values assumed in the safety analysis.

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

Performance of shutdown margin demonstrations with the vessel head removed requires additional restrictions in order to ensure that criticality does not occur. These additional restrictions are specified in this LCO.

3/4.10.4 RECIRCULATION LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

3/4.10.5 OXYGEN CONCENTRATION

Relief from the oxygen concentration specifications is necessary in order to provide access to the primary containment during the initial startup and testing phase of operation. Without this access the startup and test program could be restricted and delayed.

3/4.10.6 TRAINING STARTUPS

This special test exception permits training startups to be performed with the reactor vessel depressurized at low THERMAL POWER and temperature while controlling RCS temperature with one RHR subsystem aligned in the shutdown cooling mode in order to minimize contaminated water discharge to the radioactive waste disposal system.

3/4.10.7 Reserved - Currently Not Used

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### 3 / 4.10 SPECIAL TEST EXCEPTIONS

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#### 3 / 4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

This special test exception permits certain reactor coolant pressure tests to be performed in OPERATIONAL CONDITION 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) or plant temperature control capabilities during these tests require the pressure testing at temperatures greater than 200F and less than or equal to 212F (normally corresponding to OPERATIONAL CONDITION 3). The additionally imposed OPERATIONAL CONDITION 3 requirements for SECONDARY CONTAINMENT INTEGRITY provide conservatism in response to an operational event.

Inservice hydrostatic testing and inservice leak pressure tests required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code are performed prior to the reactor going critical after a refueling outage. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.4.6, Reactor Coolant System Pressure/Temperature Limits. These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence. With increased reactor fluence over time, the minimum allowable vessel temperature increases at a given pressure. Periodic updates to the RCS P/T limit curves are performed as necessary, based upon the results of analysis of irradiated surveillance specimens removed from the vessel.

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TABLE 1.2  
OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F
5. REFUELING *	Shutdown or Refuel** #	NA

\*\*\*\*  
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#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is OPERABLE.

\*\*\*\* See Special Test Exception 3.10.8

add



SPECIAL TEST EXCEPTIONS

SURVEILLANCE REQUIREMENTS (Continued)

4.10.7 (Continued)

3. The RPS "shorting links" are removed.
4. The reactor mode switch is locked in the REFUEL position.
- b. Performance of a CHANNEL FUNCTIONAL TEST within 24 hours prior to the start and at least once per 7 days during CORE ALTERATIONS.
- c. Verifying for at least one SRM channel that the count rate is at least 0.7 cps\*:
  1. Immediately following the loading of the first 16 fuel bundles.
  2. At least once per 12 hours thereafter during CORE ALTERATIONS.

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\*Provided signal-to-noise is  $\geq 2$  (for initial startup only). Otherwise, 3 cps.

## SPECIAL TEST EXCEPTIONS

### 3 / 4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

#### LIMITING CONDITION FOR OPERATION

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3.10.8 When conducting inservice leak or hydrostatic testing, the average reactor coolant temperature specified in Table 1.2 for OPERATIONAL CONDITION 4 may be increased to 212F, and operation considered not to be in OPERATIONAL CONDITION 3, to allow performance of an inservice leak or hydrostatic test provided the following OPERATIONAL CONDITION 3 Specifications are met:

- a. 3.3.2 ISOLATION ACTUATION INSTRUMENTATION, Functions 7.a, 7.c.1, 7.c.2 and 7.d of Table 3.3.2-1;
- b. 3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY;
- c. 3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY;
- d. 3.6.5.2.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES;
- e. 3.6.5.2.2 REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES; and
- f. 3.6.5.3 STANDBY GAS TREATMENT SYSTEM.

**APPLICABILITY:** OPERATIONAL CONDITION 4, with average reactor coolant temperature greater than 200F and less than or equal to 212F.

#### ACTION:

With the requirements of the above Specifications not satisfied:

1. Immediately enter the applicable (OPERATIONAL CONDITION 3) action for the affected Specification; or
2. Immediately suspend activities that could increase the average reactor coolant temperature or pressure, and reduce the average reactor coolant temperature to 200F or less within 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.10.8 Verify applicable OPERATIONAL CONDITION 3 surveillances for the Specifications listed in 3.10.8 are met.

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Limerick - Unit 2

B  $3/4$  10-2

### 3 / 4.10 SPECIAL TEST EXCEPTIONS

#### BASES

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#### 3 / 4.10.8 INSERVICE LEAK AND HYDROSTATIC TESTING

This special test exception permits certain reactor coolant pressure tests to be performed in OPERATIONAL CONDITION 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) or plant temperature control capabilities during these tests require the pressure testing at temperatures greater than 200F and less than or equal to 212F (normally corresponding to OPERATIONAL CONDITION 3). The additionally imposed OPERATIONAL CONDITION 3 requirements for SECONDARY CONTAINMENT INTEGRITY provide conservatism in response to an operational event.

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