

ATTACHMENT I

Dresden Station Unit 2
DPR-19

Proposed Technical Specification Changes

Revised License Pages: 4

Revised Technical Specification Pages: 44
45
158
161

New Page: 44a

Am. 42
2/23/79

- 3. I. The licensee shall maintain in effect and fully implement all provisions of the Commission-approved physical security plan, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). The approved security plan consists of 10 CFR 2.790(d) information, collectively titled, "Security Plan for the Dresden Nuclear Power Station," dated November 18, 1977, as revised May 19, 1978; May 27, 1978; July 28, 1978; and February 19, 1979.

- J. Systems Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

- 1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
- 2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

- K. Iodine Monitoring

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

- 1. Training of personnel,
- 2. Procedures for monitoring, and
- 3. Provisions for maintenance of sampling and analysis equipment.

- 4. This license is effective as of the date of issuance and shall expire eighteen (18) months from said date, unless extended for good cause shown, or upon the earlier issuance of a superseding operating license.

FOR THE ATOMIC ENERGY COMMISSION

Peter A. Morris

Peter A. Morris, Director

Enclosure:
Appendix A - Technical Specifications

Date of Issuance: DEC 22 1969

TABLE 4.2.1 (cont)

<u>Instrument Channel</u>	<u>Instrument Functional Test (2)</u>	<u>Calibration (2)</u>	<u>Instrument Check (2)</u>
<u>ISOLATION CONDENSER ISOLATION</u>			
1. Steam Line High Flow	(1)	Once/3 Months	None
2. Condensate Line High Flow	(1)	Once/3 Months	None
<u>MPCI ISOLATION</u>			
1. Steam Line High Flow	(1)	Once/3 Months	None
2. Steam Line Area High Temperature	Refueling Outage	Refueling Outage	None
3. Low Reactor Pressure	(1)	Once/3 Months	None
<u>REACTOR BUILDING VENTILATION SYSTEM VIOLATION AND STANDBY GAS TREATMENT SYSTEM INITIATION</u>			
1. Ventilation Exhaust Duct Radiation Monitors	(1)	Once/3 Months	Once/Day
2. Refueling Floor Radiation Monitors	(1)	Once/3 Months	Once/Day
<u>STEAM JET-AIR EJECTOR OFF-GAS ISOLATION</u>			
1. Radiation Monitors	(1) (3)	Once/3 Months (4)	Once/Day
<u>CONTAINMENT MONITORING</u>			
1. Pressure			
a. -5 in. Hg to +5 psig Indicator	None	Once/3 Months	Once/Day
b. 0 to 75 psig Indicator	None	Once/3 Months	None
2. Temperature	None	Refueling Outage	Once/Day
3. Drywell-Torus Differential Pressure (5)(6) (0-3 psid)	None	Once/6 Months (two channels operable) Once/Month (one channel operable)	None
4. Torus Water Level (5)(6)	None	Once/6 Months	
a. +25 in. Wide Range Indicator			
b. 18 in. Sight Glass			
<u>SAFETY/RELIEF VALVE MONITORING</u>			
1. Safety/Relief Valve Position Indicator (Acoustic Monitor) (8)	(7)	None	Once Per 31 Days

TABLE 4.2.1 (con.)

DPR-19

<u>Instrument Channel</u>	<u>Instrument Functional Test (2)</u>	<u>Calibration (2)</u>	<u>Instrument Check (2)</u>
2. Safety/Relief Valve Position Indicator (Temperature Monitor) (8)	None	Once every 18 months	Once Per 31 Days
3. Safety Valve Position Indicator (Acoustic Monitor) (8)	(7)	None	Once Per 31 Days
4. Safety Valve Position Indicator (Temperature Monitor) (8)	None	Once every 18 months	Once Per 31 Days

NOTES:

- Initially once per month until exposure hours (M as defined on Figure 4.1.1) is 2.0×10^6 ; thereafter, according to Figure 4.1.1 with an interval not less than one month nor more than three months. The compilation of instrument failure rate data may include data obtained from other Boiling Water Reactors for which the same design instrument operates in an environment similar to that of Dresden Unit 3.
- Function test calibrations and instrument checks are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed before each startup with a required frequency not to exceed once per week. Calibrations shall be performed during each startup or during controlled shutdowns with a required frequency not to exceed once per week. Instrument checks shall be performed at least once per week. Instrument checks shall be performed at least once per day during those periods when the instruments are required to be operable.
- This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. See Note 4.
- These instrument channels will be calibrated using simulated electrical signals once every three months. In addition, calibration including the sensors will be performed during each refueling outage.
- A minimum of two channels is required.
- From and after the date that one of these parameters (...either drywell-torus differential pressure or torus water level indication) is reduced to one indication, continued operation is not permissible beyond thirty days, unless such instrumentation is sooner made operable. In the event that a) indications of these parameters (...either drywell-torus differential pressure or torus water level) is disabled and such indication cannot be restored in six (6) hours, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition in twenty four hours.

NOTES:

7. Functional tests will be conducted before startup at the end of each refueling outage or after maintenance is performed on a particular Safety/Relief Valve.
8. If the number of position indicators is reduced to one indication on one or more valves, continued operation is permissible; however, if the reactor is in a shutdown condition, it may not be started up until all position indication is restored. In the event that all position indication is lost on one or more valves and such indication cannot be returned in thirty days, an orderly shutdown shall be initiated, and the reactor shall be depressurized to less than 90 psig in 24 hours.

6.0 ADMINISTRATIVE CONTROLS

6.1 Organization, Review, Investigation and Audit

- A. The Station Superintendent shall have overall full-time responsibility for safe operation of the facility. During periods when the Station Superintendent is unavailable, he shall designate this responsibility to an established alternate who satisfies the ANSI N18.1 experience requirements for plant manager.
- B. The corporate management which relates to the operation of this station is shown in Figure 6.1.1.
- C. The normal functional organization for operation of the station shall be as shown in Figure 6.1.2. The shift manning for the station shall be as shown in Table 6.1.1.
- D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971 with the exception of the Radiological Chemical Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, September, 1975 and * the Shift Control Room Engineer who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents. The individual filling the position of Administrative Assistant shall meet the minimum acceptable level for "Technical Manager" as described in 4.2.4 of ANSI N18.1 - 1971.

A fire brigade of at least 5 members shall be maintained on-site at all times. This excludes the shift crew necessary for safe shutdown of the plant and any personnel required for essential functions during a fire emergency.

- E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971.

A training program for the fire brigade shall be maintained under the direction of the Operating Engineer and shall meet or exceed the requirements of Section 27 of the NFPA Code - 1975, except for fire brigade training sessions which shall be held at least quarterly.

- F. Retraining shall be conducted at intervals not exceeding two years.
- G. The Review and Investigative Function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below:
1. The Supervisor of the Offsite Review and Investigative Function shall be appointed by the Vice President of Construction, Production, Licensing, and Environmental Affairs. The Audit Function shall be the responsibility of the Manager of Quality Assurance and shall be independent of operations.
 - a. Offsite Review and Investigative Function

The Supervisor of the Offsite Review and Investigative Function shall: (i) provide directions for the review and investigative function and appoint a senior participant to provide appropriate direction, (ii) select each participant for this function, (iii) select a complement of more than one participant who collectively possess background and qualifications in the subject matter under review to provide

*The Shift Control Room Engineer requirement will be effective 6/1/81.

MINIMUM SHIFT MANNING CHART#

CONDITION OF ONE UNIT	CONDITION OF		NO. OF MEN IN EACH POSITION				
	SECOND UNIT	THIRD UNIT	LSO*	SCRE	LO*	NON-LIC.	RAD MEN
COLD SHUTDOWN	Cold Shutdown	Cold Shutdown	1*	0	3	5	1
	Cold Shutdown	Refuel	1**	0	3	5	1
	Cold Shutdown	Above Cold Shutdown	1	1	3	5	1
	Refuel	Refuel	2**	0	3	5	1
	Refuel	Above Cold Shutdown	2	1	3	5	1
	Above Cold Shutdown	Above Cold Shutdown	2	1	3	5	1
REFUEL	Refuel	Refuel	2	0	4	5	1
	Refuel	Above Cold Shutdown	2	1	4	5	1
	Above Cold Shutdown	Above Cold Shutdown	2	1	4	5	1
ABOVE COLD SHUTDOWN	Above Cold Shutdown	Above Cold Shutdown	3	1	4	5	1

SCRE - Shift Control Room Engineer

LSO - Licensed Senior Operator

LO - Licensed Operator

NON-LIC. - Equipment Operators and Equipment Attendants

RAD MEN - Radiation Protection Men

* - Shall not operate units on which they are not licensed.

** - Does not include the licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling, supervising CORE OPERATIONS.

- Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.2-1.

ATTACHMENT II

Dresden Station Unit 3
DPR-25

Proposed Technical Specification Changes

Revised License Pages: 4

New License Page: 5

Revised Technical Specification Pages: 44
45
158
161

New Page: 44a

3. F. Equalizer Valve Restriction

Am. 5
8/29/75

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation.

G. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Protection Safety Evaluation (SE) dated March, 1978 on the facility. All modifications are to be completed by startup following the 1979 Unit 3 refueling outage. In addition, the licensee shall submit the additional information identified in Table 3.1 of this SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

Am.33
3/22/78

H. The licensee shall maintain in effect and fully implement all provisions of the Commission-approved physical security plan, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). The approved security plan consists of 10 CFR 2.790(d) information, collectively titled, "Security Plan for the Dresden Nuclear Power Station," dated November 18, 1977; as revised May 19, 1978; May 27, 1978; July 28, 1978; and February 19, 1979.

Am. 38
2/23/79

I. Systems Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

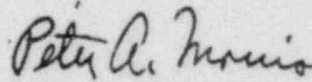
J. Iodine Monitoring

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel;
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

. This license is effective as of the date of issuance and shall expire at midnight on October 14, 2006.

FOR THE ATOMIC ENERGY COMMISSION



Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Appendix A - Technical Specifications

Date of Issuance: JAN 12 1971

TABLE 4.2.1 (cont)

DPR-25

<u>Instrument Channel</u>	<u>Instrument Functional Test (2)</u>	<u>Calibration (2)</u>	<u>Instrument Check (2)</u>
<u>ISOLATION CONDENSER ISOLATION</u>			
1. Steam Line High Flow	(1)	Once/3 Months	None
2. Condensate Line High Flow	(1)	Once/3 Months	None
<u>HPCI ISOLATION</u>			
1. Steam Line High Flow	(1)	Once/3 Months	None
2. Steam Line Area High Temperature	Refueling Outage	Refueling Outage	None
3. Low Reactor Pressure	(1)	Once/3 Months	None
<u>REACTOR BUILDING VENTILATION SYSTEM VIOLATION AND STANDBY GAS TREATMENT SYSTEM INITIATION</u>			
1. Ventilation Exhaust Duct Radiation Monitors	(1)	Once/3 Months	Once/Day
2. Refueling Floor Radiation Monitors	(1)	Once/3 Months	Once/Day
<u>STEAM JET-AIR EJECTOR OFF-GAS ISOLATION</u>			
1. Radiation Monitors	(1) (3)	Once/3 Months (4)	Once/Day
<u>CONTAINMENT MONITORING</u>			
1. Pressure			
a. -5 in. Hg to +5 psig Indicator	None	Once/3 Months	Once/Day
b. 0 to 75 psig Indicator	None	Once/3 Months	None
2. Temperature	None	Refueling Outage	Once/Day
3. Drywell-Torus Differential Pressure (5)(6) (0-3 psid)	None	Once/6 Months (two channels operable) Once/Month (one channel operable)	None
4. Torus Water Level (5)(6)	None	Once/6 Months	
a. +25 in. Wide Range Indicator			
b. 18 in. Sight Glass			
<u>SAFETY/RELIEF VALVE MONITORING</u>			
1. Safety/Relief Valve Position Indicator (Acoustic Monitor) (8)	(7)	None	Once Per 31 Days

<u>Instrument Channel</u>	<u>Instrument Functional Test (2)</u>	<u>Calibration (2)</u>	<u>Instrument Check (2)</u>
2. Safety/Relief Valve Position Indicator (Temperature Monitor) (8)	None	Once every 18 months	Once Per 31 Days
3. Safety Valve Position Indicator (Acoustic Monitor) (8)	(7)	None	Once Per 31 Days
4. Safety Valve Position Indicator (Temperature Monitor) (8)	None	Once every 18 months	Once Per 31 Days

NOTES:

- Initially once per month until exposure hours (M as defined on Figure 4.1.1) is 2.0×10^6 ; thereafter, according to Figure 4.1.1 with an interval not less than one month nor more than three months. The compilation of instrument failure rate data may include data obtained from other Boiling Water Reactors for which the same design instrument operates in an environment similar to that of Dresden Unit 3.
- Function test calibrations and instrument checks are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed before each startup with a required frequency not to exceed once per week. Calibrations shall be performed during each startup or during controlled shutdowns with a required frequency not to exceed once per week. Instrument checks shall be performed at least once per week. Instrument checks shall be performed at least once per day during those periods when the instruments are required to be operable.
- This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. See Note 4.
- These instrument channels will be calibrated using simulated electrical signals once every three months. In addition, calibration including the sensors will be performed during each refueling outage.
- A minimum of two channels is required.
- From and after the date that one of these parameters (...either drywell-torus differential pressure or torus water level indication) is reduced to one indication, continued operation is not permissible beyond thirty days, unless such instrumentation is sooner made operable. In the event that all indications of these parameters (...either drywell-torus differential pressure or torus water level) is disabled and such indication cannot be restored in six (6) hours, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition in twenty four hours.

NOTES:

7. Functional tests will be conducted before startup at the end of each refueling outage or after maintenance is performed on a particular Safety/Relief Valve.
8. If the number of position indicators is reduced to one indication on one or more valves, continued operation is permissible; however, if the reactor is in a shutdown condition, it may not be started up until all position indication is restored. In the event that all position indication is lost on one or more valves and such indication cannot be returned in thirty days, an orderly shutdown shall be initiated, and the reactor shall be depressurized to less than 90 psig in 24 hours.

6.0 ADMINISTRATIVE CONTROLS

DPR-25

6.1 Organization, Review, Investigation and Audit

- A. The Station Superintendent shall have overall full-time responsibility for safe operation of the facility. During periods when the Station Superintendent is unavailable, he shall designate this responsibility to an established alternate who satisfies the ANSI N18.1 experience requirements for plant manager.
- B. The corporate management which relates to the operation of this station is shown in Figure 6.1.1.
- C. The normal functional organization for operation of the station shall be as shown in Figure 6.1.2. The shift manning for the station shall be as shown in Table 6.1.1.
- D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971 with the exception of the Radiological Chemical Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, September, 1975 and * the Shift Control Room Engineer who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents. The individual filling the position of Administrative Assistant shall meet the minimum acceptable level for "Technical Manager" as described in 4.2.4 of ANSI N18.1 - 1971.

A fire brigade of at least 5 members shall be maintained on-site at all times. This excludes the shift crew necessary for safe shutdown of the plant and any personnel required for essential functions during a fire emergency.

- E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971.

A training program for the fire brigade shall be maintained under the direction of the Operating Engineer and shall meet or exceed the requirements of Section 27 of the NFPA Code - 1975, except for fire brigade training sessions which shall be held at least quarterly.

- F. Retraining shall be conducted at intervals not exceeding two years.
- G. The Review and Investigative Function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below:
1. The Supervisor of the Offsite Review and Investigative Function shall be appointed by the Vice President of Construction, Production, Licensing, and Environmental Affairs. The Audit Function shall be the responsibility of the Manager of Quality Assurance and shall be independent of operations.

a. Offsite Review and Investigative Function

The Supervisor of the Offsite Review and Investigative Function shall: (i) provide directions for the review and investigative function and appoint a senior participant to provide appropriate direction, (ii) select each participant for this function, (iii) select a complement of more than one participant who collectively possess background and qualifications in the subject matter under review to provide

*The Shift Control Room Engineer requirement will be effective 6/1/81.

DPR-25
TABLE 6.1.1

MINIMUM SHIFT MANNING CHART#

CONDITION OF ONE UNIT	CONDITION OF		NO. OF MEN IN EACH POSITION				
	SECOND UNIT	THIRD UNIT	LSO*	SCRE	LO*	NON-LIC.	RAD MEN
COLD SHUTDOWN	Cold Shutdown	Cold Shutdown	1*	0	3	5	1
	Cold Shutdown	Refuel	1**	0	3	5	1
	Cold Shutdown	Above Cold Shutdown	1	1	3	5	1
	Refuel	Refuel	2**	0	3	5	1
	Refuel	Above Cold Shutdown	2	1	3	5	1
	Above Cold Shutdown	Above Cold Shutdown	2	1	3	5	1
REFUEL	Refuel	Refuel	2	0	4	5	1
	Refuel	Above Cold Shutdown	2	1	4	5	1
	Above Cold Shutdown	Above Cold Shutdown	2	1	4	5	1
ABOVE COLD SHUTDOWN	Above Cold Shutdown	Above Cold Shutdown	3	1	4	5	1

SCRE - Shift Control Room Engineer

LSO - Licensed Senior Operator

LO - Licensed Operator

NON-LIC. - Equipment Operators and Equipment Attendants

RAD MEN - Radiation Protection Men

* - Shall not operate units on which they are not licensed.

** - Does not include the licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling, supervising CORE OPERATIONS.

- Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.2-1.

ATTACHMENT III

Quad Cities Station Unit 1
DPR-29

Proposed Technical Specification Changes

Revised License Page: 5

New License Page: 6

Revised Technical Specification Pages: 3.2/4.2-15
3.2/4.2-15a
3.2/4.2-18
6.1-1
Figure 6.1-3

Am. 52
8/16/79
(Effective)

Issued
7/27/79

- 3.F. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.13 of the NRC's Fire Protection Safety Evaluation (SE), dated July 27, 1979 for the facility. These modifications will be completed in accordance with the schedule in Table 3.1 of the SE and supplements thereto.

In addition, the licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

The licensee is required to implement the administrative controls identified in Section 6 of the SE. The administrative controls shall be in effect immediately, except for those modifications indicated in Section 3.1 of the SE, which shall become effective on the dates indicated in Table 3.1 of the SE.

3.G. Systems Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

3.H. Iodine Monitoring

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

6. This license is effective as of the date of issuance, and shall expire at midnight, February 15, 2007.

Enclosures: Appendices A and B--
Technical Specifications

FOR THE ATOMIC ENERGY COMMISSION

Date of Issuance: December 14, 1972

A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

POOR ORIGINAL

POOR ORIGINAL

Notes

1. Instrument channels required during power operation to monitor postaccident conditions.
2. Provisions are made for local sampling and monitoring of drywell atmosphere.
3. In the event any of the instrumentation becomes inoperable for more than 7 days during reactor operation, initiate an orderly shutdown and be in the cold shutdown condition within 24 hours.
4. From and after the date that one of these parameters is reduced to one indication, continued operation is not permissible beyond thirty days, unless such instrumentation is sooner made operable. In the event that all indication of these parameters is disabled and such indication cannot be restored in six (6) hours, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition in twenty four (24) hours.
5. If the number of position indicators is reduced to one indication on one or more valves, continued operation is permissible; however, if the reactor is in a shutdown condition, it may not be started up until all position indication is restored. In the event that all position indication is lost on one or more valves and such indication cannot be restored in 30 days, an orderly shutdown shall be initiated, and the reactor shall be depressurized to less than 90 psig in 24 hours.

TABLE 4.2-2

POSTACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Minimum Number of Operable Channels*	Parameter	Instrument Readout Location Unit 1	Calibration	Instrument Check
1	Reactor pressure	901-5	Once every 3 months	Once per day
1	Reactor water level	901-3	Once every 3 months	Once per day
1	Torus water temperature	901-21	Once every 3 months	Once per day
1	Torus air temperature	901-21	Once every 3 months	Once per day
2	{ Torus water level (indicator) Torus water level (sight glass)	901-3	Once every 3 months	Once per day
			N/A	None
1	Torus pressure	901-3	Once every 3 months	Once per day
1	Drywell pressure	901-3	Once every 3 months	Once per day
2	Drywell temperature	901-21	Once every 3 months	Once per day
2	Neutron monitoring	901-5	Once every 3 months	Once per day
2	Torus to drywell differential pressure		Once every 6 months	None
2/valve	{ Main Steam RV Position acoustic monitor Main Steam RV Position, temperature monitor	901-21	**	Once per 31 days
		901-21	Once every 18 months	Once per 31 days
2/valve	{ Main Steam SV Position, acoustic monitor Main Steam SV Position, temperature monitor	901-21	**	Once per 31 days
		901-21	Once every 18 months	Once per 31 days

* Instrument channels required during power operation to monitor postaccident conditions.

** Functional tests will be conducted before startup at the end of each refueling outage or after maintenance is performed on a particular safety or relief valve.

6.1 ORGANIZATION, REVIEW, INVESTIGATION, AND AUDIT

- A. The Station Superintendent shall have overall full-time responsibility for safe operation of the facility. During periods when the Station Superintendent is unavailable, he shall designate this responsibility to an established alternate who satisfies the ANSI N18.1 of March 8, 1971 experience requirements for plant manager.
- B. The corporate management which relates to the operation of this station is shown in Figure 6.1-1.
- C. The normal functional organization for operation of the station shall be as shown in Figure 6.1-2. The shift manning for the station shall be shown in Figure 6.1-3. The individual filling the position of Administrative Assistant shall meet the minimum acceptable level for "Technical Manager" as described in Section 4.2.4 of ANSI N18.1-1971.
- A fire brigade of at least 5 members shall be maintained on-site at all times. This excludes the shift crew necessary for safe shutdown of the plant, and any personnel required for other essential functions during a fire emergency.
- D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971. The Rad/Chem Supervisor shall meet the requirements of radiation protection manager of Regulatory Guide 1.8. The Shift Control Room Engineer* shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents.
- E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971.
- A training program for the fire brigade shall be maintained under the direction of the Station Fire Marshal, and shall meet or exceed the requirements of Section 27 of the NFPA Code-1975 except that training sessions shall be at least quarterly.
- F. Retraining shall be conducted at intervals not exceeding 2 years.
- G. The Review and Investigative Function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below:

1. The Supervisor of the Offsite Review and Investigative Function shall be appointed by the Vice President of Construction, Production, Licensing and Environmental Affairs. The Audit Function shall be the responsibility of the Manager of Quality Assurance and shall be independent of operations.

- a. Offsite Review and Investigative Function

The Supervisor of the Offsite Review and Investigative Function shall: (1) provide directions for the review and investigative function and appoint a senior participant to provide appropriate direction, (2) select each participant for this function, (3) select a complement of more than one participant who collectively possess background and qualifications in the subject matter under review to provide comprehensive interdisciplinary review coverage under this function, (4) independently review and approve the findings and recommendations developed by personnel performing the review and investigative function, (5) approve and report in a timely manner all findings of noncompliance with NRC requirements to the Station Superintendent, Division Manager Nuclear Stations, Manager of Quality Assurance, and the Vice President of Construction, Production, Licensing and Environmental Affairs. During periods when the Supervisor of Offsite Review and Investigative Function is unavailable, he shall designate this responsibility to an established alternate, who satisfies the formal training and experience requirements for the Supervisor of the Offsite Review and Investigative Function. The responsibilities of the personnel performing this function are stated below. The Offsite Review and Investigative Function shall review:

- 1) The safety evaluations for (1) changes to procedures, equipment, or systems as described in the safety analysis report and (2) tests or experiments completed under the provision of 10 CFR

*The Shift Control Room Engineer requirement will be effective 6/1/81.

QUAD-CITIES
DPR-29

MINIMUM SHIFT MANNING CHART

CONDITION OF ONE UNIT (No Fuel in Second Unit)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior Operator License	2	1	1
Operator License	2	1	2
Rad. Prot. Man	1	1	1
Non-Licensed	(As Required)	1	2
Shift Control Room Engineer	None Required	None Required	1
CONDITION OF SECOND UNIT (One Unit at Hot Shutdown or at Power)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior* Operator License	2	2	2
Operator* License	3	2	3
Rad. Prot. Man	1	1	1
Non-Licensed	3+ (As Required)	3*	4
Shift Control Room Engineer	1	1	1
CONDITION OF SECOND UNIT (One Unit at Cold Shutdown or Refueling Shutdown)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior* Operator License	2	1	2
Operator* License	3	2	2
Rad. Prot. Man	1	1	1
Non-Licensed	3+ (As Required)	3	3
Shift Control Room Engineer	None Required	None Required	1

*Assumes each individual is licensed on each facility. During initial fuel loading or during refueling, one senior engineer (limited license) will supervise fuel handling.

FIGURE 6.1-3

MINIMUM SHIFT MANNING CHART

ATTACHMENT IV

Quad Cities Station Unit 2
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Proposed Technical Specification Changes

Revised License Page: 5

New License Page: 6

Revised Technical Specification Pages: 3.2/4.2-15
3.2/4.2-15a
3.2/4.2-18
6.1-1
Figure 6.1-3

Am. 52
8/16/79
(Effective)

Issued
7/27/79

3.F. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.13 of the NRC's Fire Protection Safety Evaluation (SE), dated July 27, 1979 for the facility. These modifications will be completed in accordance with the schedule in Table 3.1 of the SE and supplements thereto.

In addition, the licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

The licensee is required to implement the administrative controls identified in Section 6 of the SE. The administrative controls shall be in effect immediately, except for those modifications indicated in Section 3.1 of the SE, which shall become effective on the dates indicated in Table 3.1 of the SE.

3.G. Systems Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

3.H. Iodine Monitoring

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

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4. This license is effective as of the date of issuance, and shall expire at midnight, February 15, 2007.

Enclosures: Appendices A and B--
Technical Specifications

FOR THE ATOMIC ENERGY COMMISSION

Date of Issuance: December 14, 1972

A. Giambusso
A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

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QUAD-CITIES

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TABLE 3.24

POSTACCIDENT MONITORING INSTRUMENTATION REQUIREMENTS²⁾

Minimum Number of Operable Channels ^{(1) (3)}	Parameter	Instrument		Range
		Readout Location Unit 2	Number Provided	
1	Reactor pressure	902-5	1	0-1500 psig
			2	0-1200 psig
1	Reactor water level	902-3	2	-243 inches-+57 inches
1	Torus water temperature	902-21	2	0-200° F
1	Torus air temperature	902-21	2	0-600° F
2 ⁽⁴⁾	Torus water level, indicator	902-3	1	-25 inches - + 25 inches
			1	18 inch range
1	Torus pressure	902-3	1	-5 inches Hg to 5 psig
1	Drywell pressure	902-3	1	-5 inches Hg to 5 psig 0 to 75 psig
2	Drywell temperature	902-21	6	0-600° F
2	Neutron monitoring	902-5	4	0.1-10 ⁵ CPS
2 ⁽⁴⁾	Torus to drywell differential pressure		2	0-3 psid
2/valve (5)	Main Steam RV position, acoustic monitor	902-21	1 per valve	NA
			1 per valve	0-600° F
2/valve (5)	Main Steam RV position, temperature monitor	902-21	1 per valve	NA
			1 per valve	0-600° F
2/valve (5)	Main Steam SV position, acoustic monitor	902-21	1 per valve	NA
			1 per valve	0-600° F
2/valve (5)	Main Steam SV position, temperature monitor	902-21	1 per valve	NA
			1 per valve	0-600° F

POOR ORIGINAL

Notes

1. Instrument channels required during power operation to monitor postaccident conditions.
2. Provisions are made for local sampling and monitoring of drywell atmosphere.
3. In the event any of the instrumentation becomes inoperable for more than 7 days during reactor operation, initiate an orderly shutdown and be in the cold shutdown condition within 24 hours.
4. From and after the date that one of these parameters is reduced to one indication, continued operation is not permissible beyond thirty days, unless such instrumentation is sooner made operable. In the event that all indication of these parameters is disabled and such indication cannot be restored in six (6) hours, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition in twenty four (24) hours.
5. If the number of position indicators is reduced to one indication on one or more valves, continued operation is permissible; however, if the reactor is in a shutdown condition, it may not be started up until all position indication is restored. In the event that all position indication is lost on one or more valves and such indication cannot be restored in 30 days, an orderly shutdown shall be initiated, and the reactor shall be depressurized to less than 90 psig in 24 hours.

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TABLE 4.2.2

POSTACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Minimum Number of Operable Channels*	Parameter	Instrument Readout Location		Calibration	Instrument Check
		Unit 2			
1	Reactor pressure	902-5		Once every 3 months	Once per day
1	Reactor water level	902-3		Once every 3 months	Once per day
1	Torus water temperature	902-21		Once every 3 months	Once per day
1	Torus air temperature	902-21		Once every 3 months	Once per day
2	Torus water level (indicator)	902-3		Once every 3 months	Once per day
				N/A	None
1	Torus pressure	902-3		Once every 3 months	Once per day
1	Drywell pressure	902-3		Once every 3 months	Once per day
2	Drywell temperature	902-21		Once every 3 months	Once per day
2	Neutron monitoring	902-5		Once every 3 months	Once per day
2	Torus to drywell differential pressure			Once every 6 months	None
2/valve	Main Steam RV Position acoustic monitor	902-21		**	Once per 31 days
				Once every 18 months	Once per 31 days
2/valve	Main Steam SV Position, acoustic monitor	902-21		**	Once per 31 days
				Once every 18 months	Once per 31 days

*Instrument channels required during power operation to monitor postaccident conditions.

**Functional tests will be conducted before startup at the end of each refueling outage or after maintenance is performed on a particular safety or relief valve.

6.1 ORGANIZATION, REVIEW, INVESTIGATION, AND AUDIT

- A. The Station Superintendent shall have overall full-time responsibility for safe operation of the facility. During periods when the Station Superintendent is unavailable, he shall designate this responsibility to an established alternate who satisfies the ANSI N18.1 of March 8, 1971 experience requirements for plant manager.
- B. The corporate management which relates to the operation of this station is shown in Figure 6.1-1.
- C. The normal functional organization for operation of the station shall be as shown in Figure 6.1-2. The shift manning for the station shall be shown in Figure 6.1-3. The individual filling the position of Administrative Assistant shall meet the minimum acceptable level for "Technical Manager" as described in Section 4.2.4 of ANSI N18.1-1971.
- A fire brigade of at least 5 members shall be maintained on-site at all times. This excludes the shift crew necessary for safe shutdown of the plant, and any personnel required for other essential functions during a fire emergency.
- D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971. The Rad/Chem Supervisor shall meet the requirements of radiation protection manager of Regulatory Guide 1.8. The Shift Control Room Engineer* shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents.
- E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971.
- A training program for the fire brigade shall be maintained under the direction of the Station Fire Marshal, and shall meet or exceed the requirements of Section 27 of the NFPA Code-1975 except that training sessions shall be at least quarterly.
- F. Retraining shall be conducted at intervals not exceeding 2 years.
- G. The Review and Investigative Function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below:
1. The Supervisor of the Offsite Review and Investigative Function shall be appointed by the Vice President of Construction, Production, Licensing and Environmental Affairs. The Audit Function shall be the responsibility of the Manager of Quality Assurance and shall be independent of operations.

a. Offsite Review and Investigative Function

The Supervisor of the Offsite Review and Investigative Function shall: (1) provide directions for the review and investigative function and appoint a senior participant to provide appropriate direction, (2) select each participant for this function, (3) select a complement of more than one participant who collectively possess background and qualifications in the subject matter under review to provide comprehensive interdisciplinary review coverage under this function, (4) independently review and approve the findings and recommendations developed by personnel performing the review and investigative function, (5) approve and report in a timely manner all findings of noncompliance with NRC requirements to the Station Superintendent, Division Manager Nuclear Stations, Manager of Quality Assurance, and the Vice President of Construction, Production, Licensing and Environmental Affairs. During periods when the Supervisor of Offsite Review and Investigative Function is unavailable, he shall designate this responsibility to an established alternate, who satisfies the formal training and experience requirements for the Supervisor of the Offsite Review and Investigative Function. The responsibilities of the personnel performing this function are stated below. The Offsite Review and Investigative Function shall review:

- 1) The safety evaluations for (1) changes to procedures, equipment, or systems as described in the safety analysis report and (2) tests or experiments completed under the provision of 10 CFR

*The Shift Control Room Engineer requirement will be effective 6/1/81.

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MINIMUM SHIFT MANNING CHART

CONDITION OF ONE UNIT (No Fuel in Second Unit)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior Operator License	2	1	1
Operator License	2	1	2
Rad. Prot. Man	1	1	1
Non-Licensed	(As Required)	1	2
Shift Control Room Engineer	None Required	None Required	1
CONDITION OF SECOND UNIT (One Unit at Hot Shutdown or at Power)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior* Operator License	2	2	2
Operator* License	3	2	3
Rad. Prot. Man	1	1	1
Non-Licensed	3+ (As Required)	3*	4
Shift Control Room Engineer	1	1	1
CONDITION OF SECOND UNIT (One Unit at Cold Shutdown or Refueling Shutdown)			
License Category	Initial Fuel Loading or During Refueling	Cold Shutdown or Refueling Shutdown	Above Cold Shutdown
Senior* Operator License	2	1	2
Operator* License	3	2	2
Rad. Prot. Man	1	1	1
Non-Licensed	3+ (As Required)	3	3
Shift Control Room Engineer	None Required	None Required	1

*Assumes each individual is licensed on each facility. During initial fuel loading or during refueling, one senior engineer (limited license) will supervise fuel handling.

FIGURE 6.1-3

MINIMUM SHIFT MANNING CHART