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A001

529 Fields, DeBBie outage Planning IP3/OSB

ATTACHMENT 10.1 SMM CONTROLLED DOCUMENT TRANSMITTAL FORM

SITE MANAGEMENT MANUAL CONTROLLED DOCUMENT TRANSMITTAL FORM - PROCEDURES

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THE FOLLOWING IS AN UPDATE TO THE IP3 TRM. REPLACE CURRENT PAGES WITH ATTACHED UPDATED PAGES.

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3.3 INSTRUMENTATION

3.3.A Qualified Safety Parameter Display System (QSPDS)

TRO 3.3.A The QSPDS shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

---------- NOTE ----------
TRO 3.0.C is not applicable to Required Action B.1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels (A, B, N) of QSPDS INOPERABLE.	A.1 Enter applicable Conditions of Technical Specification LCO 3.3.3 as appropriate,	Immediately
	AND	
	A.2 Restore QSPDS channels(A or B) to OPERABLE status,	7 days
	AND	
	A.3 Restore channel N to OPERABLE Status,	7 days
	AND	
	A.4 Restore both channel A and B to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A.2, A.3, or A.4 not met.	B.1 Provide a written report to On-Site Safety Review Committee detailing the specifics of the channel inoperability and the corrective action required to return the channel to operability.	14 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
	---------- NOTES ---------- 1) For channel N inoperability, look for "system error" flag in lower right corner of display and check diagnostic page. 2) Loss of plasma display unit renders associated channel A or B inoperable. ----------	
TRS 3.3.A.1	Perform instrument CHANNEL CHECK.	24 hours
TRS 3.3.A.2	Perform instrument CHANNEL CALIBRATIONS on each QSPDS channel. Only one (1) channel at a time shall be calibrated.	24 months

BASES

BACKGROUND

A Safety Parameter Display System (SPDS) is required by NUREG-0737, Supplement I. This supplement was communicated to licensees via Generic Letter 82-33. The SPDS that has been installed at Indian Point 3 is composed of the Critical Functions Monitoring System (CFMS) and Qualified Safety Parameter Display System (QSPDS). The QSPDS is qualified to seismic Class I and electrical Class 1E standards. The QSPDS was installed by modification, MOD 82-3-049 COMP, under Quality Assurance Category I requirements. It is maintained and tested under these requirements.

TRO

The purpose of the QSPDS is to provide a concise display of critical plant variables to the control room operators to aid them in rapidly and reliably determining the safety status of the plant. Principally, this is for the control room operators use during abnormal and emergency plant conditions in determining not only the safety status of the plant, but also in assessing whether these conditions warrant corrective actions in order to avoid a degraded reactor core. This information can be particularly important during anticipated transients and the initial phase of an accident. An OPERABLE QSPDS constitues the required supplied signals through optical isolator to the QSPDS chassis A, B, and N and on to the plasma display.

APPLICABILITY

This TRO is applicable in MODEs 1 , 2 and 3 which coincides with the applicability of Technical Specifications (TS) LCO 3.3.3, "Post Accident Monitoring (PAM) Instrumentation." This is acceptable since the purpose of QSPDS is to support PAM instruments.

ACTIONS

A.1 This action ensures entry into the applicable TS Condition statement for LCO 3.3.3. This action is needed because some of these PAM instruments rely on the QSPDS in order to meet the requirements of RG 1.97 for their qualified display in that it is immediately accessible with continuous readout. These instruments include but not limited to Neutron Flux Detectors N38 & N39, Core Exit Thermocouples and RCS Subcooling indication.

A.2 This action ensures that at least one of the inoperable A or B channels of QSPDS is restored in a timely manner. The completion time of 7 days coincides with the completion time in the TS 3.3.3. for restoring at least one channel of PAM instruments.

A.3 This action ensures that channel N of QSPDS is restored in a timely manner since channel N supports both channel A and B display channels for some instrumentation. The completion time of 7 days coincides with the completion time in the TS 3.3.3 for restoring at least one channel of PAM instruments.

A.4 This action ensure that both A and B channel of QSPDS are restored within 30 days. This completion time coincides with the completion time for restoring the full complement of channels for the PAM instruments.

SURVEILLANCE REQUIREMENTS

TRS 3.3.A.1

The performance of the instrument CHANNEL CHECK on a daily basis ensures that a complete channel failure has not occurred for the QSPDS channels A, B and N. This instrument CHANNEL CHECK consists of verifying that both plasma display units, one for Channel A and one for Channel B, are energized and displaying information. Channel N operation is verified by checking the diagnostic page for system errors for other than Critical Function Monitoring System (CFMS) communication errors. This daily instrument CHANNEL CHECK is documented on the Control Room logs.

TRS 3.3.A.2

The performance of the instrument CHANNEL CALIBRATION on each QSPDS chassis demonstrates the operability of the QSPDS chassis A, B and N. This instrument CHANNEL CALIBRATION ensures channel OPERABILITY from supplied signals through optical isolator to the QSPDS chassis A, B, and N and on to the plasma display. These surveillances are performed on a refueling outage basis based on the past reliability of the system and on the plant being in MODE 5, a condition that allows the QSPDS to be available for this calibration.

REFERENCES:

1. FSAR 7.4.1
2. FSAR 7.5.2

3.3 INSTRUMENTATION

3.3.B Meteorological Monitoring Instrumentation

TRO 3.3.B The Meteorological Monitoring Instrument Channel per Table 3.3.B-1 shall be OPERABLE.

APPLICABILITY: At all times.

---NOTE---

1. TRO 3.0.C is not applicable.
2. TRO 3.0.D is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. The Meteorological Monitoring Instrument Channel is inoperable.	A.1 DEMONSTRATE the ability to obtain meteorological data, using IP-EP-510, AND ---NOTE--- Action A.2 is NOT required when IP3 control room meteorological display and/or strip chart recorder are the only inoperable equipment. ---	1 hour
	A.2 Notify IP2 of system inoperability, AND	1 hour
	A.3 Restore the inoperable Meteorological Instrument Channel to OPERABLE status.	7 days
B. Required Actions and associated Completion Times of Condition A.3 not met.	B.1 Prepare and submit a Special Report to the On-Site Safety Review Committee outlining the actions taken, the cause of the inoperability and the plans for restoring the meteorological monitoring instrumentation channel(s) to OPERABLE status.	10 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.3.B.1	----------NOTE---------- Control Room display on the back of the Flight Panel and the Meteorological Strip Chart Recorder are not required to meet the TRO. ---------- Perform CHANNEL CHECK.	24 hours
TRS 3.3.B.2	----------NOTE---------- This surveillance is not required to be performed to meet the TRO. ---------- Perform calibration of meteorological strip chart recorder.	24 months
TRS 3.3.B.3	----------NOTE---------- This surveillance is not required to be performed to meet the TRO when primary power source is available. ---------- DEMONSTRATE Meteorological Diesel Generator OPERABILITY by starting and running for 15 minutes.	31 days
TRS 3.3.B.4	----------NOTE---------- This surveillance is not required to be performed to meet the TRO when primary power source is available. ---------- DEMONSTRATE Diesel Generator Automatic Power Transfer by simulating power loss.	12 months
TRS 3.3.B.5	Perform CHANNEL CALIBRATION.	184 days
TRS 3.3.B.6	Perform CHANNEL OPERATIONAL TEST.	184 days

TABLE 3.3.B-1

Meteorological Monitoring Instrumentation Channels

Instrument Channels	Instrument Channel Minimum Accuracies	Minimum Operable Channels
1. WIND SPEED[1] A. 10m	± 0.5 mph	1
2. WIND DIRECTION[1] A. 10m	± 5°	1
3. ATMOSPHERIC STABILITY (PASQUILL CATEGORY) [2] A. 60 - 10m	± 0.1°C for temperature inputs	1

Note 1 The 60m and 122m level instruments are not required to meet the TRO but are maintained to support Indian Point 2 requirements.

Note 2 The 122-10m delta temperature instruments are not required to meet the TRO but are maintained to support Indian Point 2 requirements.

BASES

BACKGROUND

The meteorological monitoring instrumentation system was installed to meet the requirements, in part, of 10 CFR 50 Appendix A (Reference 1), 10 CFR 50 Appendix E (Reference 2), and 10 CFR 50.47(b)(9) (Reference 3). These sections require that adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency be available.

Guidance on the meteorological monitoring requirements is provided in NUREG-0737 (Reference 4), NUREG-0654 (Reference 5), Regulatory Guide 1.23 (Reference 6), and Regulatory Guide 1.97 (Reference 7).

NUREG-0737 required that each nuclear facility "upgrade its emergency plans to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Specific criteria to meet this requirement is delineated in NUREG-0654." NUREG-0737 also provided a schedule of implementation milestones to be met in order to address the introduction of NUREG-0654, Appendix 2. Letter IPN-80-117 (Reference 8) addressed each item of NUREG-0737 that was applicable to Indian Point 3 (IP3) and which had not been previously identified as complete. IP3 agreed to the staged implementation schedule required by the NUREG in this letter.

NUREG-0654 was issued, in part, to provide a basis for the development of radiological emergency plans and the improvement of emergency preparedness. Appendix 2 of NUREG-0654 states that "the emergency facilities and equipment as stated in Appendix E to 10 CFR Part 50 shall include '(E)quipment for determining the magnitude of and for continuously assessing the impact of the release of radioactive materials to the environment.' To address this requirement, in part, the nuclear power plant operator shall have meteorological measurements from primary and backup systems. Each site ... shall have a primary meteorological measurements system. The primary system shall produce current and record historical local meteorological data ... The acceptance criteria for meteorological measurements are described in the proposed Revision 1 to U.S. NRC Regulatory Guide 1.23."

Regulatory Guide (RG) 1.23 provides information on meteorological instrument accuracy and meteorological instrument maintenance and servicing schedules. The meteorological instrument accuracies are listed in Table 3.3.B-1. The guidance from RG 1.23 section C.4 and C.5 on meteorological maintenance and servicing schedules is reflected in the "Surveillance Requirements" section of this Technical Requirement.

RG 1.97 describes a method for complying with the NRC's regulations to provide instrumentation to monitor, display and record plant variables and systems during and following an accident. Table 3 of the RG lists meteorological variables and the minimum ranges these variables should operate within. In addition, RG 1.97 stated that information gathered by these parameters "may be continually updated, stored in computer memory, and displayed on demand. Intermittent displays such as data loggers and scanning recorders may be used if no significant transient response information is likely to be lost by such a device."

The NRC issued a Confirmatory Order (Reference 9), requiring that IP3 perform certain additional actions to increase the margin of public health and safety. Included in the Order were a number of interim measures that pertained to the meteorological program and to Control Room instrumentation. Annex 1 to the Order laid out the meteorological acceptance criteria for emergency preparedness. The Annex essentially described the meteorological program as found in NUREG-0654 and added additional acceptance criteria from NUREG-75/087 section 2.3.3 (Reference 10).

NUREG-75/087, section 2.3.3 states that "Generally, the onsite meteorological programs must produce data which can be summarized to provide an adequate meteorological description of the site and its vicinity for the purpose of making atmospheric diffusion estimates for accidental and routine airborne releases of effluents. Guidance on an adequate program is given in Regulatory Guide 1.23."

IP3's response to the Confirmatory Order, letter IPN-80-77 (Reference 11), was to perform a detailed review of the meteorological program. The results of the review were that IP3 and IP2 complied with the Annex 1 meteorological criteria.

The NRC issued Generic Letter (GL) 82-33 (Reference 12) as a supplement to NUREG-0737. One purpose of the letter was to provide additional clarification regarding the application of RG 1.97 to emergency response facilities. In addition, the letter required licensees to evaluate how their post-accident monitoring instrumentation in the Control Room met the content of RG 1.97. Letter IPN-86-05 (Reference 13) outlined the status of IP3's compliance with RG 1.97 (e.g., the actual ranges that the meteorological variables should operate in and IP3's compliance with the requirements for data recording). The letter indicated that IP3 met the data recording requirements and also included the actual variable ranges used by the plant.

The meteorological variable ranges required by the RG are as follows:

Wind Direction	required: 0 to 360°
Wind Speed	required: 0 to 50 mph
Atmospheric Stability (for Temperature inputs)	*required: -5 to 10°C

*Note: The actual range (-4.44 to 11°C) was deemed acceptable.

NRC Inspection Report 85-17 (Reference 14) documented a conversation between the NRC and IP3. During the conversation, the NRC stated that "Unit 2 technical specifications require that meteorological monitoring instrumentation channels be operable at all times with indication of the tabulated parameters available in the control room." As a result, the Authority stated that a method would be instituted to verify the readouts in the control room as well as at the meteorological tower. NRC Inspection Report No. 87-23 (Reference 15) closed this unresolved item. In this Inspection Report, the NRC stated, "The licensee has installed a meteorological tower display in the control room demand metering panel. The panel displays wind speed, wind direction, Pasquill category and the time of the last data update. The inspector reviewed Nuclear Safety Evaluation 87-03-049 INST, Rev. 0 for the modification."

In 1991, the NRC issued a Safety Evaluation (Reference 16) which re-evaluated IP3's conformance to RG 1.97. The evaluation was performed as a follow-up to determine if and how we were conforming to the contents of GL 82-33. Contained in this evaluation was the NRC's conclusion that "... the licensee (IP-3) has provided an explicit commitment on conformance to RG 1.97."

NRC Inspection Report 92-17 (Reference 17) documented an inspection involving IP3's Radiological Environmental Monitoring Program. The purpose of the inspection, in part, was to review the "meteorological monitoring program to determine whether the instrumentation and equipment were operable, calibrated and maintained in accord with licensee's requirements ... Based on the review of the program and discussions with the licensee's representatives, the inspector determined that overall the licensee has implemented an effective Meteorological Monitoring Program."
In addition to the above NRC commitments, IP3 will comply with the requirements of other outside agencies. These agencies include the Federal Aviation Administration, Environmental Protection Agency, etc.

APPLICABLE SAFETY ANALYSES

The meteorological system is described in FSAR chapter 2.6 (Reference 18), Emergency Plan Procedure, IP-EP-510, "Meteorological, Radiological & Plant Data Acquisition System" (Reference 19), and Nuclear Safety Evaluation 87-03-049 INST (Reference 20). The meteorological measurements program consists of primary and backup systems. The primary system consists of a 122m instrumented tower which provides measurements for wind speed and wind direction at a minimum of two levels, one of which is representative of the 10 meter level. Data obtained from the 10m elevation of the meteorological tower is transmitted through a computer system to a meteorological LED display panel in the Control Room. IP3 maintains responsibility of the Meteorological Monitoring Program, except for the Meteorological Computer System, which is the responsibility of IP2. The meteorological tower display indicates wind speed, wind direction, Pasquill Category and the time of the last update. The output to the LED display panel is the result of a fifteen minute average of computated data from the Meteorological Computer System. The LEDs are updated every fifteen minutes. Also located in the control room is a two-pen variable trend recorder (strip chart) which is used to trend wind speed and wind direction. The data displayed represents a 15-minute average.

In the event of a power outage, a diesel generator has been installed to provide immediate power to the meteorological tower system.

In the event of a failure of the primary meteorological measurement system, a backup meteorological system is used. Changeover from the primary system to the backup system occurs automatically.

This system is independent of the primary system and consists of two instrumented meteorological towers, a primary backup tower and a standby backup tower. The backup meteorological tower records wind direction and speed measurements at the 10m level. The backup system provides information in the real-time mode. In the event of primary power failure, power is supplied for six days by a battery located adjacent to the tower. In the event of a failure of the backup meteorological measurement system, changeover from the backup system to the standby system is accomplished manually.

TRO

The Meteorological Monitoring Instrument Channel must be OPERABLE to allow adequate assessing, monitoring and recording of actual or potential offsite consequences of a radiological emergency.

An OPERABLE Meteorological Monitoring Instrument Channel constitutes the following:

1. Instrumentation on the primary meteorological tower for providing wind direction and speed measurement, representative of the 10m level per Table 3.3.B-1, shall be OPERABLE.

2. The Meteorological Computer System shall be OPERABLE.

3. Power supply is available. A power supply must be available from the normal power supply or the meteorological diesel generator.

APPLICABILITY

The Meteorological Monitoring Instrumentation Channel are required to be OPERABLE at all times.

ACTIONS

A.1

The meteorological monitoring instrumentation was installed to meet the requirements of NUREG-0737 Section III.A.2.2. The operation of this equipment is also described in the IPEC Emergency Plan, stating that the Meteorological Monitoring Instrumentation Channel meets the requirements for indication and remote access. The channel is required in order to comply with the requirements of RG 1.97 which requires "the instrumentation signal may be displayed on an individual instrument or it may be processed for display on demand. Signals from meteorology monitors should be recorded. For recording, it may be continuously updated, stored in computer memory and displayed on demand."

A Meteorological Monitoring Instrument Channel would be required for determining the magnitude if and for continuously assessing the impact of the release of radioactive materials to the environment.

With the meteorological monitoring instrumentation channel inoperable, the backup meteorological monitoring instrumentation channel(s) must be DEMONSTRATED OPERABLE within 1 hour. DEMONSTRATION shall be achieved using Emergency Plan Procedure IP-EP-510, which describes the means to obtain meteorological data.

A.2

With the meteorological monitoring instrumentation channel inoperable, IP2 shall be notified within 1 hour. This notification is not required for IP3 control room display and/or recorder inoperability as this equipment does not directly impact IP2.

A.3

With the meteorological monitoring instrumentation channel inoperable, the channel must be restored to OPERABLE status within 7 days. The meteorological monitoring instrumentation channel(s) would be required in the event of a radiological emergency.

The allowable outage time (AOT) of 7 days, which is specified by this Action, was developed, in part, by taking into consideration former Westinghouse Standard Technical Specifications section 3.3.3.4 (Reference 21) which specified a 7 day time frame. In addition, consideration was given to IP2's Technical Requirements Manual section 3.3.A (Reference 22) which also specifies an AOT of 7 days.

B.1

This Action shall be taken if the Required Actions and associated Completion Times of Condition A have not been met. A Special Report shall be prepared and submitted to the On-Site Safety Review Committee outlining the cause of the malfunction and the plans for restoring the meteorological monitoring instrumentation channel(s) to OPERABLE status. This reporting is necessary to ensure oversight for restoring the OPERABILITY of the Meteorological Monitoring Instrument Channel and the collection of meteorological data at the plant site. This data is used for estimating potential radiation doses to the public resulting from routine or accidental releases of radioactive materials to the atmosphere.

A meteorological data collection program, as described in this technical requirement, is necessary to meet the requirements of 10 CFR 50.36a(a)(2), Appendix E to 10 CFR 50 and 10 CFR 51.

The ten-day period for preparing and submitting the Special Report was developed by taking into consideration IP2 Technical Requirements Manual section 3.A. This section requires that with one or more of the required meteorological monitoring channels inoperable for more than seven (7) days, prepare and submit to the On-Site Safety Review Committee within the next 10 days . . . a Corrective Action Report . . . outlining the cause of the malfunction(s) and the plans for restoring the channel(s) to operable status.

SURVEILLANCE REQUIREMENTS

TRS 3.3.B.1

The performance of daily CHANNEL CHECKs is required to meet a commitment to the NRC. IP3 committed to daily CHANNEL CHECKs via a telephone conversation with the NRC (on August 12, 1985). The NRC acknowledged this verbal commitment in Inspection Report 85-17. Inspection Report 85-17 documented the conversation in which the NRC stated that Indian Point Unit 2 Technical Specifications (now Technical Requirements Manual) contain the requirement that "meteorological monitoring instrumentation channels be operable at all times with indication of the tabulated parameters available in the control room. Furthermore, the IP2 Technical Specifications also require a daily CHANNEL CHECK of the meteorological monitoring instrumentation and states that 'each meteorological monitoring channel shall be demonstrated operable' (T.S. 4.19.A)." As a result, IP3 agreed that the IP3 control room instrumentation should be DEMONSTRATED OPERABLE by a daily CHANNEL CHECK.

TRS 3.3.B.2

Based on engineering judgement, IP3 has concluded that the 24 month calibration interval of the meteorological strip chart recorder is adequate.

TRS 3.3.B.3

Based on engineering judgement, IP3 has concluded that monthly testing is adequate to demonstrate the OPERABILITY of the meteorological diesel generator.

TRS 3.3.B4

Based on engineering judgement, IP3 has concluded that annual testing is adequate to DEMONSTRATE diesel generator automatic power transfer.

TRS 3.3.B.5

The performance of semiannual instrument CHANNEL CALIBRATION is required to satisfy RG 1.23 section C.5. Compliance with RG 1.23 section C.5 is required per the NRC's February 11, 1980 Confirmatory Order. Section C.5 stated that meteorological "instruments should be calibrated at least semiannually." In addition, this calibration frequency is consistent with TRS 3.3.A.1 and TRS 3.3.A.2 of IP2's Technical Requirements Manual.

TRS 3.3.B.6

The performance of semiannual instrument CHANNEL OPERATIONAL TEST ensures the signal is being delivered through the instrument channel. The frequency is chosen to be consistent with the frequency for instrument CHANNEL CALIBRATION.

REFERENCES

1. Title 10, Code of Federal Regulations, Part 50 Appendix A, Criterion 64, "Monitoring Radioactivity Releases."

2. Title 10, Code of Federal Regulations, Part 50 Appendix E, Section E, "Emergency Facilities and Equipment."

3. Title 10, Code of Federal Regulations, Part 50.47, "Emergency Plans."

4. NUREG-0737, "Clarification of TMI Action Plans Requirements."

5. NUREG-0654/FEMA, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Appendix 2, "Meteorological Criteria for Emergency Preparedness at Operating Nuclear Power Plants."

6. Regulatory Guide 1.23, "Onsite Meteorological Programs."

7. NRC Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident."

8. NYPA Letter IPN-80-117, J. P. Bayne to D. G. Eisenhut, dated December 30, 1980, "Post TMI Requirements."

9. NRC Confirmatory Order, H. R. Denton to E. R. Weiss, dated February 11, 1980.

10. NUREG-75/087, "Standard Review Plan."

11. NYPA Letter IPN-80-77, G. M. Wilverding to S. A. Varga, dated August 11, 1980, "Confirmatory Order (Interim Actions) Six Month Responses."

12. Generic Letter 82-33, dated December 17, 1982, "Supplement 1 to NUREG-0737 - Requirements for Emergency Response Capability."

13. NYPA Letter IPN-86-05, J. C. Brons to S. A. Varga, dated January 7, 1986, "Regulatory Guide 1.97 Implementation Program."

14. NRC Inspection Report No. 50-286/85-17, Section 7.0, T. T. Martin to W. Josiger, dated August 22, 1985, "Implementation of the Meteorological Monitoring Program."

15. NRC Inspection Report No. 50-286/87-23, E. C. Wenzinger to W. Josiger, dated October 15, 1987.

16. NRC Safety Evaluation, J. D. Neighbors to R. E. Beedle, dated April 3, 1991, "Emergency Response Capability - Conformance to Regulatory Guide 1.97, Revision 3, for Indian Point 3."

17. NRC Inspection Report No. 50-286/92-17, J. H. Joyner to J. E. Russell, dated July 18, 1992.

18. Indian Point 3 FSAR, Section 2.6.5, "Onsite Meteorological Measurements Program."

19. Emergency Plan Procedure, IP-EP-510, "Meteorological, Radiological & Plant Data Acquisition System."

20. Nuclear Safety Evaluation NSE 87-03-049 INST, "Control Room Meteorological Display Upgrade."

21. NUREG-1431, Westinghouse Standard Technical Specifications section 3.3.3.4, "Meteorological Instrumentation."

22. Unit 2 Technical Requirements Manual Section 3.3.B "Meteorological Monitoring."

3.3 INSTRUMENTATION

3.3.E Seismic Monitoring Instrumentation

TRO 3.3.E Each of the seismic monitoring instruments in Table 3.3.E-1 shall be OPERABLE.

APPLICABILITY: AT ALL TIMES

---NOTES---

1. Separate Condition entries are allowed only if one or more instrument with history or recording and with control room indication is OPERABLE.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required instruments inoperable.	A.1 Restore the inoperable instrument(s) to OPERABLE status	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Prepare and submit a Special Report, "Inoperable Seismic Monitoring Instrumentation," to OSRC, outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.	10 days
C. For each instrument actuated during a seismic event.	C.1 Restore to OPERABLE status, AND	48 hours
	C.2 Perform a CHANNEL CALIBRATION, AND	48 hours
	C.3 Retrieve data from actuated instruments and analyze to determine the magnitude of the vibratory ground motion, AND	5 days
	C.4 Prepare and submit a Special Report, "Seismic Event Analysis," to the USNRC, Region 1 Administrator, describing the magnitude, frequency spectrum and resultant effect upon facility features important to safety.	10 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.3.E.1	----------NOTES---------- 1. Applicable to Table 3.3.E-1 items 1a, 1b, and 3a. 2. Not applicable to Items 1a, and 1b seismic triggers. ---------- Perform a CHANNEL CHECK.	31 days
TRS 3.3.E.2	----------NOTES---------- 1. Applicable to Table 3.3.E-1 items 1a, 1b, and 3a. ---------- Perform a CHANNEL OPERATIONAL TEST.	184 days
TRS 3.3.E.3	Perform a CHANNEL CALIBRATION.	24 months

TABLE 3.3.E-1

SEISMIC MONITORING INSTRUMENTATION

FUNCTION		INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1	a)	Triaxial Time-History Accelograph - EL 46'-0" VC Base Mat	0 to ± 1G	1*
	b)	Triaxial Time-History Accelograph - EL 99'-0" VC Wall	0 to ± 1G	1*
2	a)	Triaxial Peak Accelograph – STM GEN #31	0 to ± 2G	1
	b)	Triaxial Peak Accelograph – RC Pump #31	0 to ± 2G	1
	c)	Triaxial Peak Accelograph – Pressurizer	0 to ± 2G	1
3	a)	Triaxial Response-Spectrum Recorder – EL 46'-0" VC Base Mat	0 to ± 1G	1*

* Note: With control room indication

BASES

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility and is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes", April, 1974.

REFERENCES:

1. FSAR 16.1.6

3.3 INSTRUMENTATION

3.3.F Toxic Gas Monitoring Instrumentation

TRO 3.3.F The toxic gas monitoring instruments with the number of required channels for each function in Table 3.3.F-1 shall be OPERABLE.

APPLICABILITY: AT ALL TIMES

NOTE

1. Separate Condition entries are allowed only if one or more installed or alternate system channels capable of detecting chlorine, ammonia and oxygen, with control room alarm, are OPERABLE.
2. TRO 3.0.C is not applicable.
3. TRO 3.0.D is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required channel for a monitored gas inoperable.	A.1 Restore the inoperable channel to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate and maintain operation in the Control Room of alternate monitoring system capable of detecting the gas monitored by the inoperable channel(s).	8 hours
C. Two required channels for a monitored gas inoperable.	C.1 Initiate and maintain operation in the Control Room of alternate monitoring system capable of detecting the gas monitored by the inoperable channel(s),	8 hours
	AND	
	C.2.1 Restore at least one channel for each monitored gas to OPERABLE status.	72 hours
	OR	
	C.2.2 Prepare and submit a Special Report, "Operation of Toxic Gas System," to OSRC outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the monitoring systems to OPERABLE status.	14 days
D. Required Actions and Completion Times C.1 AND C.2.1 not met.	D.1 Place the Control Room Ventilation System in 100% recirculation mode.	1 hour

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.3.F.1	Perform a CHANNEL CHECK.	24 hours
TRS 3.3.F.2	Perform a CHANNEL OPERATIONAL TEST.	31 days
TRS 3.3.F.3	Perform a CHANNEL CALIBRATION.	18 months

TABLE 3.3.F-1

Toxic Gas Monitoring System

MONITORED GAS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENT	ALARM
AMMONIA	2	TRS 3.3.F.1 TRS 3.3.F.2 TRS 3.3.F.3	≤35 PPM
CHLORINE	2	TRS 3.3.F.1 TRS 3.3.F.2 TRS 3.3.F.3	≤ 3 PPM
OXYGEN	2	TRS 3.3.F.1 TRS 3.3.F.2 TRS 3.3.F.3	--------NOTE-------- Alarms within instrument accuracy ---------- 19.5 %

BASES

The control room is equipped with two independent toxic gas monitoring systems. One system in the control room consists of a channel for oxygen (with two oxygen detectors) and a channel each for ammonia and chlorine. The second system in the control room ventilation intake consists of one channel each for oxygen, ammonia and chlorine. Oxygen detectors are used to indirectly monitor changes in carbon dioxide levels. These toxic gas monitoring systems are designed to alarm in the control room upon detection of the short term exposure limit (STEL) value. The operability of the toxic gas monitoring systems provides assurance that the control room operators will have adequate time to take protective action in the event of an accidental toxic gas release. Selection of the gases to be monitored are based on the results described in the Indian Point Unit 3 Habitability Study for the Control Room, dated July, 1981. The alarm setpoints will be in accordance with industrial ventilation standards as defined by the American Conference of Governmental Industrial Hygienists.[1] The alarm for oxygen is 19.5% within the instrument accuracy. The 19.5% is based upon the OSHA 29CFR1910.134 definition for oxygen deficient atmosphere that is <19.5% by volume.

ACTIONS

D.1

The Action to place the Control Room Ventilation System in 100% recirculation mode compensates for conditions where a channel is not restored in a timely manner. Since at least one channel of detection instrumentation is not restored it cannot be ensured that toxic gas detection will occur. Therefore, this action will ensure the control room ventilation system is in the mode of operation for a toxic gas event and is similar with NUREG-0452 (older version of STS).

REFERENCES:

1. American Conference of Governmental Industrial Hygienists 1982 Industrial Ventilation, 19th Edition
2. FSAR 1.3.2
3. FSAR 7.7.3
4. FSAR 9.9.2

3.3 INSTRUMENTATION

3.3.H Explosive Gas Monitoring Instrumentation

TRO 3.3.H The explosive gas monitoring oxygen and hydrogen instrumentation channels shall be OPERABLE with their alarm / trip setpoints set to ensure that the limits of 2% by volume oxygen and 4 % by volume hydrogen are not exceeded.

APPLICABILITY: DURING WASTE GAS HOLDUP SYSTEM OPERATION

----------NOTE----------

1. Refer to TRO 3.7.D for system operation.
2. TRO 3.0.C does not apply.
3. Refer to Technical Specification 5.5.11 for program requirements.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required explosive gas monitoring instruments (i.e. Hydrogen monitor and Oxygen monitor) inoperable.	A.1 Stop operation of the waste gas holdup system. OR	Immediately
	A.2.1 Obtain and analyze grab samples for oxygen and hydrogen from waste tank on reuse or receipt during degassing operations, AND	Once per 4 hours
	A.2.2 Obtain and analyze grab samples for oxygen and hydrogen from waste tank on reuse or receipt during other operations, AND	Once per 24 hours
	A.3 Return both monitors to OPERABLE status	30 days
B. Required Action and associated COMPLETION TIME of A.3 not met.	B.1 Prepare and submit a report to OSRC explaining why monitor inoperability was not corrected within the required time frame.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.3.H.1	Perform a CHANNEL CHECK.	24 hours
	----------NOTES---------- 1) Oxygen CHANNEL CALIBRATION shall include the use of standard gas samples containing: • Less than or equal to one volume percent oxygen, and • Greater than or equal to four volume percent oxygen. 2) Hydrogen CHANNEL CALIBRATION shall include the use of standard gas samples containing: • Less than or equal to two volume percent hydrogen, and • Greater than or equal to four volume percent hydrogen. ----------	
TRS 3.3.H.2	Perform a CHANNEL CALIBRATION.	31 days

BASES

Explosive Gas Monitoring Instrumentation

The explosive gas monitoring instrumentation is provided to monitor and control the concentrations of potentially explosive gas mixture in the waste holdup system. The OPERABILITY and the use of this instrumentation is consistent with the requirements of General Design Criteria 60 of Appendix A to 10 CFR Part 50.

Hydrogen rich systems are not designed to withstand a hydrogen explosion.

References:

1) FSAR 9.2
2) FSAR 11.1
3) ITS 5.5.11

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.1 High Pressure Water Fire Protection System

TRO 3.7.A.1 The High Pressure Water Fire Protection System shall be OPERABLE including: Two Main Fire Pumps properly aligned to the high pressure fire header; Main Fire Pump automatic initiation circuitry; piping and valves necessary for protection of safe shutdown systems; and two Fire Water Tanks.

APPLICABILITY: AT ALL TIMES

NOTES

1. TRO 3.0.C does not apply to Required Action A.2, A.3, F.1 and G.1.
2. Separate Condition Entry is allowed for Condition D and E.

ACTIONS

CONDITION	REQUIRED ACTIONS		COMPLETION TIME
A. Two Main Fire Pumps Inoperable, OR Both pumps incorrectly aligned, OR Their automatic initiation circuitry is inoperable.	A.1	Provide an alternate fire protection system. AND	24 hours
	A.2	Convene OSRC to review the adequacy of the alternate fire protection system provided and to ensure the ability to achieve and maintain safe shutdown is not adversely affected in the event of a fire. AND	24 hours
	A.3	Submit a Special Report to the OSRC in accordance with TRM 5.4.B.	14 days
B. Required Action and Completion Time of A.1 not met.	B.1	Be in MODE 3 AND	24 hours
	B.2	Be in MODE 5.	96 hours
C. One Main Fire Pump Inoperable OR Incorrectly aligned OR its automatic initiation circuitry is inoperable.	C.1	For the diesel driven fire pump, enter Condition F. AND	Immediately
	C.2	Restore the main fire pump to OPERABLE status.	7 days

CONDITION		REQUIRED ACTIONS		COMPLETION TIME
D.	Piping and Valves necessary for fire protection of safe shutdown systems inoperable.	D.1	Restore all piping and valves necessary for proper functioning of any portion of the system required for fire protection of safe shutdown systems to operability.	7 days
E.	One or more Fire Water Tanks inoperable (contain less than 300,000 gallons each).	E.1	Restore a minimum available water volume of 300,000 gallons in each of the two (2) Fire Water Tanks for fire protection purposes.	7 days
F.	Diesel Driven Fire Pump Inoperable	F.1	Establish an hourly fire watch patrol in the Turbine Building (15' elevation south loading well), Control Building (15' elevation) and the Administration Service Building (15' elevation near the fire brigade room).	1 hour
G.	Required Actions and Completion Times of C.2 OR D.1 OR E.1 OR F.1 not met.	G.1	Submit a Special Report to the OSRC in accordance with specification 5.4.B.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.1.1	Fire Water Storage Tanks- Verify minimum water volume.	7 days
TRS 3.7.A.1.2	Main Fire Pump Operability - Operate Each pump for at least 15 minutes.	31 days
TRS 3.7.A.1.3	Valve Position Check - Verify that each valve (manual, power operated or automatic) in the flow path necessary for proper functioning of any portion of this system required for protection of safe shutdown systems is in its correct position. If the valve has an installed monitoring system, the valve can be checked via that monitoring system.	31 days
TRS 3.7.A.1.4	Valve Cycling Test - Exercise each valve necessary for proper functioning of any portion of this system required for protection of safe shutdown systems through at least one complete cycle. (i) Valves testable with plant on-line (ii) Valves not testable with plant on-line	 (i) 12 months (ii) 24 months
TRS 3.7.A.1.5	System Functional Test - Verify proper actuation of this system throughout its operating sequence, that each automatic valve in the flow path actuates to its correct position, and that each fire suppression pump starts (sequentially) to maintain fire water suppression system pressure.	24 months
TRS 3.7.A.1.6	Main Fire Pump Capacity and System Flow Check - Verify that each pump develops a flow of 2350 gpm at a system head of 250 feet.	24 months
TRS 3.7.A.1.7	System Flow Test - Perform a flow test in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association for any portion of this system required for protection of safe shutdown systems.	3 years
TRS 3.7.A.1.8	Perform System Flush - (May be done Concurrent with System Flow Test).	3 years
TRS 3.7.A.1.9	Verify that the Fire Pump Diesel Engine Fuel Oil Storage Tank contains at least 134 gallons of fuel.	31 days
TRS 3.7.A.1.10	Test Fire Pump Diesel Engine fuel sample to verify conformance with diesel manufacturers recommended minimum requirements for viscosity, water, and sediment.	92 days
TRS 3.7.A.1.11	Verify Fire Pump Diesel Engine starts from ambient conditions and operates for at least 30 minutes (May be done concurrent with 15 minute diesel pump test).	31 days
TRS 3.7.A.1.12	Conduct a thorough inspection of the Fire Pump Diesel Engine in accordance with procedures prepared in conjunction with the manufacturers' recommendations.	18 months

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.1.13	Verify that the Fire Pump Diesel Engine starts from ambient conditions on the auto-start signal and is operated for greater than or equal to 30 minutes while loaded with the fire pump.	24 months
TRS 3.7.A.1.14	Verify electrolyte level of each Fire Pump Diesel Starting battery is above the plates and that the overall battery voltage is greater than or equal to 24 volts. Also verify that the specific gravity is appropriate for continued service of the battery.	31 days
TRS 3.7.A.1.15	Verify that the Fire Pump Diesel Starting batteries and battery racks show no visual indication of physical damage or abnormal deterioration and that the battery terminal connections are clean, tight and free of corrosion.	18 months

BASES

TRO

These Technical Requirements are established to assure the operability of fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit.

APPLICABLE SAFETY ANALYSIS

The fire protection and detection systems installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the USNRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto.

ACTIONS

F.1
The feeder cables associated with the normal and backup power supply for the Electric Driven Fire Pump are both routed through the same general area in the plant until they enter an underground raceway to the Fire Protection Pump House. The areas involved are: the Turbine Building (15' elevation, south loading well), Control Building (15' elevation) and the Administrative Service Building (15' elevation near the fire brigade room). Although based on the physical separation of the feeder cables, the limited amount of combustibles in the area and the installed fire suppression capability (e.g., area wide wet pipe sprinkler system/CO2 system), it is unlikely that both feeder cables would be damaged, the required action is intended to ensure the availability of the Electric Driven Fire Pump when the Diesel Driven Fire Pump is inoperable.

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.2 Fire Protection Water Spray and Sprinkler Systems

TRO 3.7.A.2 The following Fire Protection Water Spray and Sprinkler Systems, as listed in AP-64.1, shall be OPERABLE:
a. Electrical Tunnel Preaction Water Spray System (El-34= & El-43=).
b. Diesel Generator Building Water Spray System (El-15').
c. Containment Fan Cooler Charcoal Filter Dousing System (El-68=).
d. Water Spray System at PAB door DR-1-PA to main transformer yard (El-18').
e. Turbine Building Pipe Bridge Water Spray System (El-41' 2 ½" & 52'4").
f. Auxiliary Feedwater Pump Room Wet Pipe Sprinkler System (El-18'6").

APPLICABILITY: Whenever equipment protected by the water spray or sprinkler system is required to be OPERABLE.

----------NOTES----------
1. Separate condition entries are allowed.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more systems described in TRO 3.7.A.2.a and TRO 3.7.A.2.f inoperable.	A.1.1	Establish a continuous fire watch and backup fire suppression equipment for the unprotected area(s), OR	1 hour
	A.1.2.1	VERIFY smoke detectors in the affected area to be OPERABLE, AND	1 hour
	A.1.2.2	Establish an hourly fire watch and backup fire suppression equipment for the unprotected area(s). AND	1 hour
	A.2	Restore the inoperable system(s) to OPERABLE status.	14 days
B. One or more of the systems described in TRO 3.7.A.2.b, 3.7.A.2.c, 3.7.2.A.d, and 3.7.A.2.e inoperable.	B.1	Establish a continuous fire watch and backup fire suppression equipment for accessible unprotected area(s). AND	1 hour
	B.2	Restore the inoperable system(s) to OPERABLE status.	14 days
C. Required Actions and Completion Times of A.2 OR B.2 not met.	C.1	Submit a Special Report to the On-Site Safety Review Committee according to TRM 5.4.B.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.2.1 (1)	DEMONSTRATE that each accessible valve (manual, power operated, or automatic) in the flow path is in the correct position.	31 DAYS
TRS 3.7.A.2.2 (1)	Valve Cycling Test - Exercise each valve necessary for proper functioning of any portion of this system required for protection of safe shutdown systems through at least one complete cycle: (i) Valves testable with plant in MODE 1. (ii) Valves not testable with plant in MODE 1.	(i) 12 months (ii) 24 months
TRS 3.7.A.2.3 (1)	System Functional Test - Includes simulated automatic / remotely operated actuation of system and verification that automatic / remotely operated valves in the flow path actuate to their correct position. (i) Systems described in TRO 3.7.A.2.a, 3.7.A.2.b, 3.7.A.2.d, 3.7.A.2.e, and 3.7.A.2.f (ii) System described in TRO 3.7.A.2.c	(i) 18 months (ii) 24 months
TRS 3.7.A.2.4 (1)	Header Visual Inspection - DEMONSTRATE integrity. (i) Systems described in TRO 3.7.A.2.a, 3.7.A.2.b, 3.7.A.2.d, 3.7.A.2.e, and 3.7.A.2.f (ii) System described in TRO 3.7.A.2 c	(i) 18 months (ii) 24 months
TRS 3.7.A.2.5 (1)	Visual Inspection of each Spray Nozzle - DEMONSTRATE that each nozzle's spray area is unobstructed. (i) Systems described in TRO 3.7.A.2.d and 3.7.A.2.e. (ii) System described in TRO 3.7.A.2 c	(i) 18 months (ii) 24 months
TRS 3.7.A.2.6 (1)	Air Flow Test - Perform air flow test through each open spray nozzle and DEMONSTRATE each open spray nozzle is unobstructed.	3 years
TRS 3.7.A.2.7	For systems described in TRO 3.7.A.2.a, 3.7.A.2.b, and 3.7.A.2.f, automatic (i.e., closed head) spray nozzles and sprinklers shall be inspected visually to DEMONSTRATE that no damage exists and that the spray nozzle/ sprinkler is unobstructed.	18 months

Note 1: Surveillance requirements TRS 3.7.A.2.1 through 3.7.A.2.6 shall not apply to automatic (i.e., closed head) spray nozzles/sprinklers that are capable of only one actuation and cannot be cycled or tested periodically. The surveillance requirement for these automatic (i.e., closed head) spray nozzles/sprinklers is TRS 3.7.A.2.7.

BASES

TRO

This Technical Requirement ensures OPERABILITY of fire protection and detection systems that protect safety related systems and components that are required to shutdown the reactor and mitigate the consequences of postulated accidents and maintain it in a safe shutdown condition and those fire suppression systems which form in part the basis for compliance with 10 CFR 50, Appendix R.

APPLICABLE SAFETY ANALYSIS

IP3 fire protection and detection systems conform to:

- NRC FP SER dated March 6, 1979 as supplemented by NRC letter dated May 2, 1980
- NRC FP SER dated January 7, 1987.

SURVEILLANCE

This Technical Requirement establishes the surveillance program for Fire Protection Water Spray and Sprinkler Systems that protect safe shutdown equipment. This surveillance program DEMONSTRATES OPERABILITY of these systems and provides assurance that the systems will perform their intended function.

Containment is not considered normally accessible during plant operation.

ACTIONS

A.1.2.1

When implementing an hourly roving watch in lieu of a continuous watch, VERIFY smoke detectors to be OPERABLE in the affected area. IF the smoke detectors in the affected area are determined to be inoperable while applying this compensatory action, THEN within 1 hour, restore the smoke detector(s) to OPERABLE status or apply a continuous watch in the affected area (reference 2).

REFERENCES:

1. Nuclear Safety Evaluation NSE 95-03-334-FP, "Revision to the Operational Specifications to Reflect Electrical Tunnel Smoke Detector System Operability Criteria and Compensatory Measures for Spray/Sprinkler Systems."
2. Nuclear Safety Evaluation NSE 96-3-395-FP, "Development of Administrative Procedure AP-64.1 and Evaluation of a Change to Operational Specifications 3.2 and 3.5."
3. FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.3 Fire Separation Devices

TRO 3.7.A.3 Fire Seals, Fire Doors, Fire Dampers in required Fire Barriers, Controlled Barriers, Fire Barrier Wraps, and Radiant Energy Shields shall be OPERABLE (Refer to AP-64.1 for listing).

APPLICABILITY: AT ALL TIMES, except as modified in Note 3 or 4 below.

----------NOTES----------

1. Separate Condition Entries are allowed for individual features.
2. TRO 3.0.C does not apply.
3. For Fire Separation Devices that are only Appendix R type features as identified in AP-64.1, entry into Actions below is not required in Modes 5, 6 or when de-fueled.
4. For Fire Separation Devices that are not required because the equipment they are protecting is not required to be OPERABLE, entry into Actions below is not required.
5. TRO 3.0.D is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more of the following Fire Protection or Appendix R features inoperable. (i.e. Fire Seals, Fire Doors, Fire Dampers in required Fire Barriers, Controlled Barriers, Fire Barrier Wraps, and Radiant Energy Shields.)	A.1.1	Establish a continuous fire watch on at least one side of the inoperable feature,	1 hour
		OR	
	A.1.2.1	VERIFY the operability of fire detectors on at least one side of the inoperable feature.	1 hour
		AND	
	A.1.2.2	For inoperable features outside the Containment Building, establish an hourly fire watch patrol, except when Condition B applies.	1 hour
		AND	
	A.1.2.3	For Fire Barrier Wraps and Radiant Energy Shields inside the Containment Building establish a fire watch patrol once every 8 hours when not in MODE 1.	2 hours
	AND		
	A.2	For Fire Protection features, restore the inoperable to OPERABLE status.	7 days
	AND		
	A.3	For Appendix R features, restore the inoperable feature to OPERABLE status.	30 days

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more fire doors or fire seals in the barriers separating the diesel generator compartments from each other or from the Control Building, inoperable, AND CO2 fire suppression system of the diesel generator building, adjacent to the inoperable fire door or fire seal in the barrier(s), unavailable per TRO 3.7.A.7.	B.1 Establish a continuous fire watch with backup fire suppression equipment for the diesel generator compartments where the CO2 fire suppression system(s) is (are) unavailable per TRO 3.7.A.7, AND B.2 Restore the inoperable feature to OPERABLE status.	1 hour 7 days
C. Required Actions and Completion Times of A.2, A.3 and/or B.2 not met.	C.1 Submit a Special Report to the OSRC in accordance with TRM 5.4.B.	14 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.3.1	DEMONSTRATE each barrier, wrap, and shield to be OPERABLE by visual inspection. Refer to AP 64.1 for listing.	24 months
TRS 3.7.A.3.2	----------NOTE---------- The inspection sample shall be determined as described in BASES TRS 3.7.A.3.2. ---------- DEMONSTRATE 15% of fire seals located in fire barriers governed by this TRO (refer to AP 64.1 for listing) to be OPERABLE by visual inspection. (i) not readily accessible penetration seals as defined in the BASES TRS 3.7.A.3.2 (ii) inaccessible penetration seals as defined in the BASES TRS 3.7.A.3.2	24 months (i) when accessible but within 15 years (ii) not required AND Prior to declaring a fire seal OPERABLE following repairs or maintenance.
TRS 3.7.A.3.3	DEMONSTRATE each fire door to be OPERABLE by visual inspection and operation. (Refer to AP 64.1 for listing)	184 days
TRS 3.7.A.3.4	DEMONSTRATE each fire damper to be OPERABLE by visual inspection and operation (Refer to AP 64.1 for listing).	24 months

BASES

BACKGROUND
These specifications are established to assure the operability and provide surveillance requirements of fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit.

Fire Doors - Doors with specific fire resistance ratings as established by UL listing or FM approval, or otherwise established to be adequate for the specific fire protection service by engineering evaluation and/or licensing exemption granted by a Safety Evaluation Report (SER) issued by the NRC.

A fire door that is maintained open, blocked open, or that has cables, hose, etc. routed through the door opening in conjunction with a work activity is considered OPERABLE provided the door is continuously attended (i.e., within sight) by a member of the work party who is able to readily remove any cables, hose, etc. routed through the door opening, and close the door in the event of a fire emergency in the area or upon sounding of the station fire alarm. This relief does not include placement of obstructions that cannot be readily removed when required (e.g., scaffolding). The placement of such obstructions in a doorway renders the affected fire door INOPERABLE. Routing of cable, hose, etc. under an unattended fire door renders the affected door INOPERBLE unless specifically evaluated by engineering.

APPLICABLE SAFETY ANALYSIS
The fire protection and detection systems installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto, and IP3 Appendix R Analysis (latest revision). NSE 97-03-013-FBAR, revision 1, "Fire Barrier Penetration Seal Inspections," justifies a change in inspection method at a frequency of 24 months from 100% sample inspection to a 15% defined sample inspection. NSE 97-3-302-FP-CO2, Rev. 0, allows an hourly fire watch patrol in lieu of a continuous fire watch in the emergency diesel generator compartment(s) when its CO2 fire protection system is unavailable with its fire barriers, sprinkler system and detection system meeting certain requirements. If its sprinkler system, barriers or detection system becomes degraded below these requirements then TRO 3.7.A.2, 3.7.A.3, and 3.7.A.4, respectively, require establishing a continuous fire watch for the affected diesel compartment(s). NSE 96-3-395FP, combined Operational Specification 3.2.13 and 3.5.3 (converted to TRO 3.7.A.3 for inclusion in TRM) into one specification and adapted AP 64.1 for listings.

TRO
Fire Separation Devices are those which are required by the Fire Protection Program to separate redundant safety-related systems or isolate safety related systems and components from unacceptable hazards. Appendix R barriers are those barriers which have been credited in the Appendix R Safe Shutdown Analysis. Refer to AP-64.1 for a listing of fire barriers, fire wrap or radiant energy shields governed by this Technical Requirement.

APPLICABILITY
Fire Protection Barriers are those that are required by the Fire Protection Program to separate redundant safety-related systems or isolate safety related systems and components from unacceptable hazards. Appendix R barriers are those barriers which have been credited in the Appendix R Safe Shutdown Analysis. Refer to AP-64.1 for a listing of fire barriers, fire wrap or radiant energy shields governed by this Technical Requirement.

ACTIONS
Note 1 modifies the Actions to clarify the application of Completion Times for inoperable Fire Protection and Appendix R features. Separate condition entry is allowed for each inoperable features separation device. The Completion Time(s) for the inoperable Fire Protection and Appendix R feature will be tracked separately for each feature starting from the time the Condition was entered for that feature.

Note 2 provides an exception to TRO 3.0.C and precludes a plant shutdown if the required actions are not performed in their completion time. These notes are acceptable because it is judged reasonable and determined not to adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Note 3 modifies the applicability statement for Fire Separation Devices that are only required for Appendix R compliance. Note 3 is an allowance not to enter Action statement(s) when in modes 5, 6 or when de-fueled for inoperable Appendix R fire separation devices, since Appendix R only applies above cold shutdown.

Note 4 provides an allowance not to enter Action statement(s) for those inoperable fire separation devices when the equipment they are protecting is not required to be operable.

Note 5 provides an allowance for changes in operating MODE while relying on Required Actions. Allowance of this exception to TRO 3.0.D is also based on the low probability of an event requiring the use of such instruments and reasoning that such instruments can generally be repaired during plant operation without a significant risk of a spurious plant trip.

A.1.1, A.1.2.1 & A.1.2.2
Verification of OPERABILITY of fire detectors is satisfied if the last surveillance test that was performed satisfactorily demonstrated system or component OPERABILITY. If any information is available that challenges OPERABILITY, then the OPERABILITY is questionable until it is demonstrated by performing another test. Information that can challenge OPERABILITY can be (but is not limited to) visual observation, or PIDs, CRs, or work requests written against the system.

The completion time of 1 hour was selected as a reasonable time in which a continuous fire watch could be posted or verification of the OPERABILITY of fire detectors could be done along with the posting of an hourly fire watch patrol

A.1.2.3
The completion time of 2 hours was selected as a reasonable time in which a fire watch patrol could be established inside the Containment Building considering confined space issues and existing radiological controls governing such an entry. The establishment of an 8-hour fire watch patrol for areas inside the Containment Building was selected to limit radiation exposure to fire watch personnel while still maintaining reasonable compensatory measure given the potential fire hazard. Access to the Containment Building during MODE 1 is limited, as such the presence of transient combustibles or activities that could affect redundant systems and components is also limited.

A.2, A.3
With any barrier inoperable, the barrier must be restored to OPERABLE status within 1 hour or take compensatory actions and restore the barrier to OPERABLE status within 7 days and for Appendix R barrier within 30 days.

The completion times were selected as a reasonable time to restore the barrier to OPERABLE status with compensatory measures in place.

B.1
The completion time of 1 hour was selected as a reasonable time in which a continuous fire watch could be posted.

B.2
The completion time of 7 days for restoring an inoperable fire protection feature to OPERABLE status was selected as a reasonable time to restore the barrier to OPERABLE status with compensatory measures in place.

SURVEILLANCE REQUIREMENTS

TRS 3.7.A.3.2
A minimum 15% sample of penetrations shall be visually inspected on a 24 month frequency. If a non-functional penetration seal is found during the initial inspection, a determination of the cause of unsatisfactory condition shall be performed and an additional 15% sample shall be generated based on that cause (i.e., penetrations most likely to experience the same problem) and inspected. This inspection process shall continue until a sample has rendered satisfactory inspection results.

The initial sample shall be determined based on environmental conditions to which the penetration seals are exposed (i.e., temperature, humidity and radiation). The sample selection shall also ensure that each type of seal is reasonably represented in the sample. In a effort to employ a systematic approach to the inspections thereby eliminating the potential of new penetrations being overlooked if only a few penetrations on any one wall are inspected, the initial sample shall also be determined based on fire barriers. That is, a group of fire barriers will be selected for each inspection period. The barriers will be selected based on environmental conditions. All penetrations in the selected barriers shall be inspected. The number of penetrations shall be reviewed to ensure that at least 15% of all penetrations is obtained. Further, the sample shall be reviewed to ensure that each type of seal is reasonably represented in the sample.

Should a penetration seal that is not readily accessible (as defined below) be selected as part of the sample, the inspection of that seal may be held in abeyance until such time that the several becomes accessible. This may be dependent on the preventive maintenance program (deenergized equipment), plant operating mode (radiation areas) or scaffolding program (physical accessibility, see note below). Another penetration shall be selected if required to fill the minimum 15% sample.

Penetration seals that are defined as not readily accessible include those that are located:
1) within energized electrical enclosures that are high voltage and have an exposed electrical connection or bus work
2) in locked or bolted panels and enclosures that are high voltage and have an exposed electrical connection or bus work, or have a significant trip risk
3) in locked high radiation areas, or high radiation areas where accessibility may be dependent on plant evolutions
4) in areas where physical access is significantly restricted and the use of remote mirrors, binoculars or scopes is significantly difficult

5) in the same fire zone where scaffolding has been erected and some of the inspection sample are readily accessible by use of the scaffolding

Note: Generally, the use of scaffolding does not provide the basis for relief from the above unless the erection of that scaffolding may cause a personnel hazard or potential plant transient.

Visual inspection of inaccessible penetration seals may be discontinued. Prior to discontinuing inspection of inaccessible penetration seals, an engineering evaluation in accordance with the guidance of Generic Letter (GL) 86-10 shall be performed for each seal. This evaluation should consider proximate combustible loading, hazards and consequences of seal failure as well as other mitigating features. Penetration seals that are defined as inaccessible include those which are located in areas where physical access is not possible or extreme measures are required to support inspection of the seal (i.e., where destructive measures are required or where removal of fixed equipment or building features is required).

TRS 3.7.A.3.3
The visual inspection and operation shall verify, as a minimum, the following conditions:
1) Door or frame is not structurally damaged
2) Door hardware (including latch, strike plate and hinges) is not loose or broken
3) There are no holes in the door surface
4) Closer is functional (i.e., the door will close and latch unassisted from the full open position) for any door not normally locked closed or not electrically supervised that alarms at a continuously manned location when the door is left open

REFERENCE FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.4 Fire Detection Systems

TRO 3.7.A.4 The minimum number of fire detectors for each location listed in AP-64.1 shall be OPERABLE.

APPLICABILITY: Whenever equipment in that location is required to be OPERABLE.

----------NOTES----------

1. Separate Condition entries are allowed.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more fire locations with less than the minimum number of required fire detectors listed in AP-64.1 OPERABLE.	A.1 Establish an hourly fire watch patrol, where accessibility permits, in the affected location(s), AND	1 hour
	A.2 Restore the required fire detectors to OPERABLE status.	14 days
B. Less than the minimum number of required fire detectors in diesel generator compartment(s), OPERABLE AND CO_2 Fire Protection System(s) within affected compartment(s), unavailable.	B.1 Establish a continuous fire watch and backup fire suppression equipment for the diesel generator compartment(s) where the CO2 Fire Protection System(s) are unavailable, AND B.2 Restore required fire detectors in the affected diesel generator compartment(s) to OPERABLE status.	1 hour 14 days
C. Required Action and Completion Time of A.2 OR B.2 not met.	C.1 Submit a Special Report to the OSRC in accordance with specification 5.4.B.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.4.1	Smoke Detectors - DEMONSTRATE OPERABILITY of the detectors listed in AP-64.1.	12 months
TRS 3.7.A.4.2	Heat Detectors - DEMONSTRATE OPERABILITY of the detectors listed in AP-64.1 as follows:	
	(i) All detectors except those associated with VC building FCUs and CO2 systems.	(i) 12 months
	(ii) Those detectors associated with the VC building FCUs and CO2 systems.	(ii) 24 months
TRS 3.7.A.4.3	Flame Detectors- DEMONSTRATE OPERABILITY of the detectors listed in AP-64.1.	184 days

BASES

TRO

These specifications are established to assure the OPERABILITY of Fire Detection Systems provided to protect equipment utilized for safe shutdown of the unit. Containment is not considered normally accessible during MODEs 1, 2, 3, and 4.

APPLICABLE SAFETY ANALYSIS

The fire protection and detection systems installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto.

NSE 97-3-302-FP-CO2, Rev. 0, allows an hourly fire watch patrol in lieu of a continuous fire watch in the emergency diesel generator compartment(s) when its CO2 fire protection system is unavailable with its fire barriers, sprinkler system and detection system meeting certain requirements. If its sprinkler system, barriers or detection system becomes degraded below these requirements then TRO 3.7.A.2, 3.7.A.3, and 3.7.A.4, respectively, require establishing a continuous fire watch for the affected diesel compartment(s).

NSE 97-3-400FP CO2, Rev. 1, evaluated the installation of a door release system for fire door FDR-30-CB. Fire door FDR-30-CB provides protection from the spread of a fire through the doorway in the fire barrier between the cable spreading room (fire area CTL-3) and the Electrical Tunnel (fire area ETN-4). Since the door is a normally open door, integrity of the barrier in the event of a fire, is assured by automatic closure of the door. Two pairs of heat detectors have been installed in the electrical tunnel entryway that will actuate the door release mechanism upon one pair detecting a

fire. Additionally, the door release mechanism will be actuated upon the cable spreading room heat detection associated with the CO2 system. The Fire door FDR-30-CB also provides a support function by remaining open during abnormal and accident conditions to ensure ventilation cooling of safety-related equipment in the cable spreading room by the Electrical Tunnel Ventilation System's exhaust fans.

NSE 96-3-395-FP, revision 1 justifies extending the frequency for testing smoke detectors from every 6 months to every 12 months. The frequency of 12 months for periodic testing smoke detectors is adequate for reasonable assurance of system functionality and availability. This is based in part on IP3 experience and NFPA 72-1996 as evaluated in NSE 96-3-395-FP, revision 1.

SURVEILLANCE

These Technical Requirements establish the surveillance program for Fire Detection Systems provided to protect equipment utilized for safe shutdown of the unit. This surveillance program is intended to DEMONSTRATE the OPERABILITY of these systems and provide assurance that the systems will perform their intended function.

TRS 3.7.A.4.1
The frequency of 12 months for periodic testing smoke detectors is adequate for reasonable assurance of system functionality and availability. This is based in part on IP3 experience and NFPA 72-1996 as evaluated in NSE 96-3-395-FP, revision 1.

TRS 3.7.A.4.2.(i)
The frequency for periodic testing of the heat detectors associated with the automatic release system provided for fire door FDR-30-CB, is based on the requirements of NFPA 72-1996. This test does not need to DEMONSTRATE that the fire door release mechanism actuates upon a simulated actuation signal because this DEMONSTRATION is performed per TRS 3.7.A.7.3

REFERENCES:

1. FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.5 Fire Hose Stations

TRO 3.7.A.5 The fire hose stations listed in AP-64.1 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the area is required to be OPERABLE.

----------NOTES----------

1. Separate Condition entries are allowed.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required fire hose stations listed in AP-64.1 inoperable.	A.1.1 Route an additional equivalent capacity hose to the affected area(s) from an operable hose station. OR	1 hour
	A.1.2 Make available suitable portable fire fighting equipment at the location(s). AND	1 hour
	A.2. Restore the fire hose station(s) to OPERABLE status.	14 days
B. Required Action and Completion Time of A.2 is not met.	B.1 Submit a Special Report to the OSRC in accordance with specification 5.4.B.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.5.1	Visual Inspection Test - Visual inspection of the accessible(1) hose stations to assure all required equipment is at the station.	31 days
TRS 3.7.A.5.2	Hose Removal Check - Removal of the hose for inspection and replacement of all degraded gaskets in couplings.	24 months
TRS 3.7.A.5.3	Hose Flow Test - Partial opening of each hose station valve to verify valve operability and no flow blockage. (Vapor Containment hose stations are exempt from this requirement)	3 years
TRS 3.7.A.5.4	Hose Hydrostatic Test - Conduct a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at that hose station.	3 years

Note 1) Containment is not considered normally accessible in MODES 1, 2, 3 and 4.

BASES

TRO	These Technical Requirements are established to assure the OPERABILITY of Fire Hose Stations provided to protect equipment utilized for safe shutdown of the unit. Containment is not considered normally accessible in MODEs 1, 2, 3 and 4.
APPLICABLE SAFETY ANALYSIS	The Fire Hose Stations installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto. NSE 96-03-050-FP, "Revision To Operational Specification Section 3.5, Fire Protection and Detection Systems."
APPLICABILITY	The fire hose stations listed in AP-64.1 shall be OPERABLE. This procedure represents the list of fire hose stations specifically committed to be installed in the safety evaluation report (SER) and supplement (NRC SER dated May 2, 1980) thereto for Amendment No. 24 to the facility operating license. The fire hose station installed in the waste hold-up tank area, elevation 56', has been abandoned in place and the adjacent station in the PAB, elevation 41', has been credited instead for the Fire Protection Program, as evaluated in DEM 90-3-089FP, "Deletion of 2 ½" Hose Station No. 292".
ACTIONS	A.1 These ACTIONs (A.1.1 or A.1.2) ensures alternate fire fighting equipment is available in lieu of the inoperable hose station. The completion time of 1-hour is a reasonable time to supply alternate fire fighting equipment in the affected area without jeopardizing fire safety or plant safety. A.2 This ACTION restores the inoperable hose station(s) equipment within a reasonable Completion Time of 14 days. B.1 This ACTION requires a report to the OSRC within thirty days from the Completion Time of ACTION A.2 when an inoperable hose station was not restored within a reasonable time. This report is performed in accordance with TRM 5.4.B.

SURVEILLANCE REQUIREMENTS

This Technical Requirement establishes the surveillance program for Fire Hose Stations provided to protect equipment utilized for safe shutdown of the unit. This surveillance program is intended to verify the OPERABILITY of these fire hose stations and prevent any portion of the systems from performing its intended function.

TRS 3.7.A.5.1
The visual inspection of the accessible hose stations monthly assures all required equipment is at the hose station. This provides assurance that the fire brigade have sufficient equipment available to fight a fire in the affected area(s). When Vapor Containment is considered accessible (the plant is in MODE 5 or 6), then this visual inspection is additionally required for the stations in the VC.

TRS 3.7.A.5.2
This surveillance removes the hose for inspection and replacement of all degraded gaskets in couplings every twenty-four months. This assures that the hose and gaskets are in good condition and are in a racked position ready for fire fighting.

TRS 3.7.A.5.3
This surveillance requires partial opening of each hose station valve to verify valve operability and no flow blockage every three years. The Vapor Containment (VC) hose stations are exempt from this requirement because these hose stations are supplied by a superior water source (demineralized water) in contrast to the normal water supply which is city water (Reference 1). Flow to these hose stations is also assured by the periodic valve position check.

TRS 3.7.A.5.4
This surveillance requires a hose hydrostatic test every three years at a pressure at least 50 psig greater than the maximum pressure available at that hose station.

REFERENCES

1) NSE 96-03-050-FP, "Revision to Operational Specification Section 3.5, Fire Protection and Detection Systems."
2) FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.6 Yard Fire Hydrants and Hydrant Hose Houses

TRO 3.7.A.6 The yard fire hydrants and associated hydrant hose houses listed in AP-64.1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

----------NOTES----------

1. Separate Condition entries are allowed.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required yard fire hydrants or associated hydrant hose house inoperable.	A.1 Have sufficient additional lengths of 2 1/2 inch diameter hose located in an adjacent operable hydrant hose house to provide service to the unprotected area(s). AND A.2 Restore the inoperable yard hydrant to service.	1 hour 14 days
B. Required Action and Completion Time of A.2 is not met.	B.1 Submit a Special Report to the OSRC in accordance with TRM 5.4.B.	30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.6.1.a	Inspect hose houses associated with hydrants, listed in AP-64.1, for inventory, physical damage and obstructions. If tamper seal is used to seal the hose house, inspect tamper seal integrity in lieu of taking inventory and see TRS 3.7.A.6.1.b.	92 days
TRS 3.7.A.6.1.b	If tamper seal is used, visually inspect hose houses associated with hydrants listed in AP-64.1 in order to assure that all required equipment is inside.	366 days
TRS 3.7.A.6.2	Visually inspect those hydrant listed in AP-64.1 to verify that the hydrant barrel is dry and undamaged.	--------NOTE-------- Perform spring/fall ---------- 184 days
TRS 3.7.A.6.3	Flow check each hydrant serving safety related areas to DEMONSTRATE OPERABILITY (i.e. Hydrants #31, 32, 35, 36, 38, 39 and 310).	366 days
TRS 3.7.A.6.4	Conduct a hose hydrostatic test at a pressure at least 50 psi greater than the maximum pressure available at any yard hydrant. Also, inspect all gaskets and replace any degraded gaskets in the couplings.	366 days

BASES

BACKGROUND

These Technical Requirements are established to assure the OPERABILITY and provide surveillance requirements of Yard Fire Hydrants and Hydrant Hose Houses provided to protect equipment utilized for safe shutdown of the unit.

APPLICABLE SAFETY ANALYSIS

The Yard Fire Hydrants and Hydrant Hose Houses installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto.

NSE 97-03-124FP (Reference 1) provides the basis for defining the minimum inventory in a hose house, extending the frequency of hose house inspections, allowing the use of controlled tamper seals and allowing verification of tamper seal integrity in lieu of verifying hose house inventory. If a controlled tamper seal is used, inventory frequency may be extended to yearly with a quarterly inspection of the tamper seal. This evaluation included a review of previous inspections to ensure past experience supports extension of the inventory inspection frequency. In addition, the quarterly inspection will include an inspection for physical damage or obstructions to the hose house that could render it inaccessible.

The minimum set of equipment required to be contained in exterior hose houses is:

- 200' of 1½" hose;
- 200' of 2½" hose;
- 2 approved adjustable spray-solid stream nozzles with shutoff @ 1½";
- 1 approved adjustable spray-solid stream nozzle with shutoff @ 2½"
- 2 hydrant wrenches;
- 4 universal coupling spanner wrenches;
- 2 hose coupling gaskets for each size hose (2@1½", 2@2½");
- 1 valved wye (2½" x1½" x1½");
- 1 hydrant valve (2½").

REFERENCES:

1) NSE 97-03-124FP, "Revise Inventory and Extend Inspection Intervals for Exterior Hose Houses"
2) NSE 96-3-395FP, "Development of Administrative Procedure AP-64.1 and Evaluation of a Change to Operational Specification 3.2 and 3.5"
3) FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.A FIRE PROTECTION SYSTEMS

3.7.A.7 CO_2 Fire Protection System

TRO 3.7.A.7 As a minimum, one CO_2 Storage Tank shall be available with a minimum level of 60% and a minimum pressure of 275 psi and the CO_2 System Fire Protection available to supply the CO2 areas as listed in AP-64.1.

APPLICABILITY: Whenever equipment in these areas are required to be OPERABLE.

----------NOTES----------

1. Separate Condition entries are allowed.
2. TRO 3.0.C is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. CO_2 Storage Tank inoperable OR CO_2 Fire Protection System unavailable	A.1.1	Establish a continuous fire watch and backup fire suppression equipment for the accessible unprotected area(s), OR	1 hour
	A.1.2.1	For the diesel generator room(s) only, VERIFY fire detectors in the affected room(s) are OPERABLE, AND	1 hour
	A.1.2.2	VERIFY the fire barriers between the affected room(s) and adjacent diesel generator room(s) and between the affected room(s) and the Control Building are OPERABLE, AND	1 hour
	A.1.2.3	VERIFY the diesel generator room sprinkler system in the affected room(s) are operable, AND	1 hour
	A.1.2.4	Establish an hourly fire watch patrol with backup fire suppression equipment for the affected diesel generator room(s).	1 hour
	AND A.2	Restore CO_2 Fire Protection System equipment to OPERABLE status.	14 days
B. Required Action and Completion Time of A.2 is not met.	B. Submit a Special Report to the OSRC in accordance with specification 5.4.B.		30 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.7.A.7.1	DEMONSTRATE availability of CO_2 Supply Units 3-1 or 3-2 for that unit which is lined up to the Control and Diesel Generator Buildings by visual observation of level and pressure indication for associated tank.	7 days
TRS 3.7.A.7.2	DEMONSTRATE that each valve (manual, power operated or automatic) in the flow path is in its correct position.	31 days
TRS 3.7.A.7.3	System Functional Test: (i) DEMONSTRATE that system valves and associated ventilation dampers and fire door release mechanisms actuate upon receipt of a simulated actuation signal. (ii) Exercise fire dampers.	(i) 24 months (ii) 12 months
TRS 3.7.A.7.4	DEMONSTRATE flow from nozzles.	24 months

BASES

BACKGROUND

These Technical Requirements are established to assure the operability and provide surveillance requirements of fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit.

APPLICABLE SAFETY ANALYSIS

The fire protection and detection systems installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCSB 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto.

NSE 97-3-302-FP-CO2, Rev. 0, allows an hourly fire watch patrol in lieu of a continuous fire watch in the emergency diesel generator compartment(s) when its CO2 fire protection system is unavailable with its fire barriers, sprinkler system and detection system meeting certain requirements. If its sprinkler system, barriers or detection system becomes degraded below these requirements then TRO 3.7.A.2, 3.7.A.3, and 3.7.A.4, respectively, require establishing a continuous fire watch for the affected diesel compartment(s).

NSE 97-3-400FP CO2, Rev.1, evaluates the use of dry air as an alternate test medium to CO2 during functional testing of the CO2 Fire Protection System.

NSE 97-3-424-FP-CO2, Rev. 2, evaluates the use of administrative controls during periodic functional testing of the CO2 system to ensure the support function of ventilation to the EDG is maintained ensuring continued operability of the EDG throughout the test. Implicit in the definition of operability of the EDGs, is the assumption that the associated ventilation systems that are required to maintain the room temperature below its design or limiting equipment qualification temperature, are also be capable of performing their function. These administrative controls are defined below in BASES Surveillance section.

NSE 98-03-048 FP CO2, Revision 0 recognized that, under specific conditions, it may be necessary to isolate CO2 storage tank 3-2 to correct deficiencies associated with one or more of the supplied systems. The NSE evaluated the effect on the operating mode (i.e., automatic versus manual) of the CO2 fire suppression systems provided for the main boiler feed pumps and concluded that the backup fire protection provides an acceptable level of protection until the tank valve is re-opened. The NSE specifically considered backup fire suppression (i.e., a manual water spray system or standpipe system); automatic fire detection (i.e., heat detectors or heat responsive automatic sprinklers) and a 24-hour staffed on site fire brigade.

TRO
The CO2 system fire protection availability by definition shall be interpreted to mean with the system in either the automatic or the manual mode of operation with the automatic mode as the primary mode of operation.

ACTIONS

A.1.1
Continuous fire watch means an individual is, without interruption, physically located in the unprotected area(s), (i.e., the area(s) lacking CO2 fire protection). Using a roving watch with other, concurrent responsibilities would not be satisfactory compensatory action. With the CO2 fire protection system out of service for the entire control building, three fire watches would be needed: 1) in the cable spreading room, 2) in the switch gear room, and 3) in the diesel generator building (the three diesel cells are contiguous in one fire area and have additional fire water protection). NSE 97-3-400FP CO2, Rev.1, evaluated that during CO2 functional testing, the continuous fire watch will remain in place unless occupying the Control Building poses an undue risk to personnel safety. In which case the continuous fire watch(es) will be temporarily relieved of their post(s) until the conditions of the building will allow re-entry.

A.1.2
Absent the availability of CO2 fire protection system in the Diesel Generator Building, fire detectors of the heat detection systems, the automatic water spray systems and fire walls between adjacent diesel generator rooms and from the Control Building, coupled with compensatory action in the form of an hourly fire watch patrol and backup fire suppression equipment will provide reasonable assurance that a fire will be promptly detected and will ensure that the material condition of the rooms are maintained consistent with the administrative controls established under the IP3 Fire Protection Program. This will provide reasonable assurance that if a fire gets started, fire damage would be limited to a single diesel generator room by means of the automatic water spray system or manual action by the on-site fire brigade. As such, the verification that the fire detectors in the affected room and the fire walls between the affected room and adjacent diesel generator rooms are operable, coupled with an operable water spray system within the diesel generator sump and above the day tank provides reasonable justification to allow for an hourly fire watch patrol in lieu of a continuous fire watch when a Diesel Generator Building CO2 fire protection system is unavailable.

SURVEILLANCE

Administrative controls are allowed during CO2 functional testing to maintain the ventilation system support function available with manual action ensuring continued EDG operability. During testing, the thermostatic controls of the associated exhaust fans will be defeated such that the fans cannot automatically start on high ambient room temperature. Since the actuation circuit of the CO2 system results in the cell intake air/smoke dampers to close, manual action is credited to reopen these dampers and restore EDG cell ventilation upon an EDG automatic start. The controls consist of a

dedicated person located in the EDG cell, or in an adjacent room with the door between the two cells open, to first manually restore the open position of the smoke damper located on the 15' elevation, then to reposition the control switch for one of the two exhaust fans to start, and lastly manually restore the open position of the smoke damper located in the crawl space below the 15' elevation. These actions to restore ventilation shall be proceduralized in the test and reviewed as part of the pre-test briefing along with the location of equipment, access through crawl space for the second smoke damper and the equipment necessary to access and hold open the smoke dampers (i.e., a hand-held flashlight and utilizing approved qualified smoke damper open devices, such as un-fused electrical thermo links (ETL). Reference 3.

REFERENCES:

1) NSE 97-3-302-FP-CO2, Rev. 0, "Change in the Compensatory Action in the Event of a CO2 Fire Protection System of the Diesel Generator Building is Unavailable."
2) NSE 97-3-400-FP-CO2, Rev. 1, "Installation of a Seismic Control Panel for the 480V Switchgear Room and Cable Spreading Room CO2 Systems."
3) NSE 97-3-424-FP-CO2, Rev. 2, "Installation of Seismic Control Panels for the EDG Cell CO2 Systems and Supporting System Improvements."
4) NSE 98-3-048-FP CO2, Rev. 0, "Operation of the Plant with an Inoperable CO2 Fire Suppression System for the Main Boiler Feed Pumps."
5) FSAR 9.6.2

3.7 PLANT SYSTEMS

3.7.B Appendix R Alternate Safe Shutdown Equipment

TRO 3.7.B The Appendix R Safe Shutdown Functions in Table 3.7.B-1 shall be OPERABLE.

APPLICABILITY: MODE 1, 2, 3 and 4, except for TRO 3.7.B.9, which is MODES 1, 2, 3 and 4 when MSIVs are open.

NOTES

1. TRO 3.0.D is not applicable, except for Related Specifications in Table 3.7.B-1
2. Separate Condition Entry is allowed on each component and Function.
3. See TRM section 3.3.D for instrumentation associated with Appendix R safe shutdown equipment and TRM section 3.8.B for Appendix R Diesel and electrical power scheme.
4. TRO 3.0.C does not apply to Required Actions B.1, E.1 and G.1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A One or more required Function(s) with one or more required component(s) in table 3.7.B-1 inoperable.	A.1 Enter the Condition(s) referenced in Table 3.7.B-1, AND A.2 Enter applicable Related Specification referenced in Table 3.7.B-1 as required by that Related Specification.	Immediately Immediately
B Enter Condition B as required by Table 3.7.B-1.	B.1 Establish an hourly fire watch in the Fire Watch Area(s) designated in Table 3.7.B-1 for the inoperable Function.	1 hour
C. Enter Condition C as required by Table 3.7.B-1.	C.1 Restore required Function(s) to OPERABLE status.	30 days
D. Required Action and associated Completion Time of C not met.	D.1. Be in MODE 3, AND D.2 Be in MODE 5.	6 hours 36 hours
E. Enter Condition E as required by Table 3.7.B-1.	E.1 Verify the availability of at least 8 portable lights with eight-hour capacity, AND E.2 Restore required Function(s) to OPERABLE status.	1 hour 30 days
F. Enter Condition F as required by Table 3.7.B-1.	F.1 Restore required Function(s) to OPERABLE status.	30 days
G. Required Action and associated Completion Time of E.2 or F not met.	G.1 Submit a special report to OSRC according to TRM 5.4.B.	14 days

NOTE

Refer to Table 3.7.B-1 to determine which TRS(s) apply for each Appendix R Function.

SURVEILLANCE

	SURVEILLANCE	FREQUENCY
TRS 3.7.B.1	Press "test button" and assure lamps illuminate.	31 days
TRS 3.7.B.2	DEMONSTRATE pump performance is met by starting each pump and operating for 15 minutes or per IST requirements.	92 days OR Per IST require-ments
TRS 3.7.B.3	DEMONSTRATE backup supply of Nitrogen (bottles) is available to cycle ADVs.	92 days
TRS 3.7.B.4	DEMONSTRATE operability of each CR Supplemental A/C unit by running for 15 minutes.	92 days
TRS 3.7.B.5	DEMONSTRATE eight radios are available to support Appendix R safe shutdown activities.	92 days
TRS 3.7.B.6	Run Control Building Exhaust Fans 31, 32, 33, and 34 for a minimum of 15 minutes to DEMONSTRATE proper function.	92 days
TRS 3.7.B.7	Perform a visual inspection of each lighting unit, measure the battery float voltage, and press "test button" and assure lamps illuminate and are properly aimed.	184 days
TRS 3.7.B.8	Perform conductance measurement to meet criterion in Table 3.7.B-2, and perform an eight-hour discharge test or replace emergency battery lights not satisfying the No Discharge Test Criteria in Table 3.7.B-2, and perform an eight-hour discharge test when measurements are taken while the batteries are in an environment above 110 °F. Waiving the criterion for batteries tested while their environment is below 60 °F is allowed if the battery passed the No Discharge Test Criteria six months ago ±25%.	366 days
TRS 3.7.B.9	Perform an eight-hour discharge test on 10% of units that passed the No Discharge Test Criteria in Table 3.7.B-2. An additional sample of 10% of each type that failed shall be tested. Sampling process shall continue until no failures or type is exhausted.	366 days
TRS 3.7.B.10	Perform an eight-hour discharge test on emergency battery light units not subject to conductivity measurement (i.e., units with Ni-Cad batteries, etc.).	24 months
TRS 3.7.B.11	Cycle ADV valves utilizing nitrogen.	24 months

	SURVEILLANCE	FREQUENCY
TRS 3.7.B.12	DEMONSTRATE valve closure capability.	24 months
TRS 3.7.B.13	DEMONSTRATE valve opening capability.	24 months
TRS 3.7.B.14	Start each pump and run for 15 minutes powered from its alternate power supply (MCC 312A) and through any applicable transfer switch.	24 months
TRS 3.7.B.15	DEMONSTRATE communication capability between the various local control stations.	24 months
TRS 3.7.B.16	Disable AC power to emergency lighting panel 39 and DEMONSTRATE that emergency lighting in the control room is available.	24 months

Table 3.7.B-1 Appendix R Alternate Safe Shutdown Equipment

Function TRO	Required Component(s)	Condition	Fire Watch Area	Surveillance	Related Specification
TRO 3.7.B.1 Backup Service Water Pump	Backup SWP #38	C	NA	TRS 3.7.B.2	NA
TRO 3.7.B.2 Component Cooling Water Pumps	CCWP #31, CCWP #32, CCWP #33	C	NA	TRS 3.7.B.2 TRS 3.7.B.14 (TRS 3.7.B.14 applies to CCWP #32 only)	ITS 3.7.8
TRO 3.7.B.3 Charging Flow & Isolation Capability (function)	Pumps (flow) CP # 31, CP # 32	C	NA	Pumps TRS 3.7.B.2 TRS 3.7.B.14	TRM 3.1.C.1 TRM 3.1.C.2
	Valves (opening) CH-AOV-212 (CR), CH-227 (locally)			Valves (opening) TRS 3.7.B.13	
	Valve (isolation) CH-AOV-204A (CR), CH-AOV-204B (CR), CH-AOV-200B (CR), CH-LCV-459 (CR), CH-LCV-460 (CR), CH-228 (locally)			Valves (isolation) TRS 3.7.B.12	
TRO 3.7.B.4 Atmospheric Dump Valves (i.e., local control capability)	PCV-1137	C	NA	TRS 3.7.B.3 TRS 3.7.B.11	ITS 3.7.4
	PCV-1134	B & C	Turbine Bldg & Aux Feed Pump Bldg		
TRO 3.7.B.5 Control Room Supplemental A/C	COND/EVAP – - #31, - #32, - - #33, - #34, - #35.	C	NA	TRS 3.7.B.4	NA
TRO 3.7.B.6 Control Room Emergency Lighting	Control Room Emergency Lighting DC Power Feed	E	NA	TRS 3.7.B.16	NA

Table 3.7.B-1 Appendix R Alternate Safe Shutdown Equipment

Function TRO	Required Component(s)	Condition	Fire Watch Area	Surveillance	Related Specification
TRO 3.7.B.7 Emergency Lighting Units (Appendix R)	Refer to AP-64.1 for a listing.	E	NA	TRS 3.7.B.1 TRS 3.7.B.7 TRS 3.7.B.8 TRS 3.7.B.9 TRS 3.7.B.10	NA
TRO 3.7.B.8 Condenser Make-up Isolation Capability.	CT-7-2, CT-8, CT-12, CT-45, CT-400	C	NA	TRS 3.7.B.12	NA
TRO 3.7.B.9 Secondary Steam Isolation (from Control Room, except MS-9-2 and MS-11-2)	MS-HCV-127-1, MS-HCV-127-2, MS-HCV-127-3, MS-HCV-127-4, MS-MOV-6-1, MS-MOV-6-2, MS-MOV-6-3, MS-MOV-6-4, MS-9-2 (locally), MS-11-2 (locally), PCV-1120, PCV-1121, PCV-1122, PCV-1123, PCV-1124, PCV-1125, PCV-1126, PCV-1127, PCV-1128, PCV-1129, PCV-1130, PCV-1131.	B & C	MSIV(s) vicinity	TRS 3.7.B.12 (from Control room, except MS-9-2 and MS-11-2 locally)	NA
TRO 3.7.B.10 Control Building Ventilation	CB Fan #31 CB Fan #32 CB Fan #33 CB Fan #34 FD-DF-1 (damper) FP-DF-2 (damper) FP-DF-9 (damper) FP-DF-10 (damper) FP-DF-11 (damper) FP-DF-50 (damper) CBL-320 (louver) CBL-319 (louver)	C	NA	TRS 3.7.B.6	NA

Table 3.7.B-1 Appendix R Alternate Safe Shutdown Equipment					
Function TRO	Required Component(s)	Condition	Fire Watch Area	Surveillance	Related Specification
TRO 3.7.B.11 Communication Capability	Eight Appendix R Radio Units	F	NA	TRS 3.7.B.5 TRS 3.7.B.15	NA

Table 3.7.B-2
No Discharge Test Criteria & Preventative Maintenance Replacement Criteria

Note 1: Criterion is not applicable to Ni-Cad Batteries.
Note 2: Criterion is not applicable when measurements are taken while batteries are in an environment below 60°F or above 110°F.
Note 3: *Criteria values must be adjusted up 1% of mhos for each 1.0°F above a 90°F environment.

Unit Type	Loading	Criteria for No Discharge Test (avg. of batteries)	Preventative Maintenance Replacement Criteria (min. each battery)
B-200	2 – 12 watt heads	150 mhos*	140 mhos*
	4 – 12 watt heads	180 mhos*	140 mhos*
	40 watt head	165 mhos*	140 mhos*
Big Beam in areas other than Electrical Tunnel & Intake Structure	All	350 mhos*	275 mhos*
Big Beam in areas of Electrical Tunnel & Intake Structure	All	480mhos*	275 mhos*

BASES

BACKGROUND

The equipment and systems listed in this Technical Requirement are credited in Appendix R Scenarios and are necessary to meet the requirements of 10CFR50.48 and 10CFR50, Appendix R, Section III.G.

10CFR50 Appendix R requires a licensee to demonstrate the ability to achieve MODE 3 from power operation conditions, bring the plant to MODE 5 conditions and maintain the plant in that condition. Additionally, Appendix R requires that one train of equipment necessary to achieve MODE 3 from either the control room or emergency control station(s) must be maintained free of fire damage by a single fire including an exposure fire.

To support the Appendix R Safe Shutdown Analysis, the plant was divided into distinct analysis zones/areas. These zones/areas are primarily based on Fire Area boundaries with consideration of approved exemptions. These zones/areas are as follows:

CNT-1	Containment Building
PAB-2(1)	Primary Auxiliary Building (15' elevation including RHR pump rooms and corridors)
PAB-2(2)	Primary Auxiliary Building (41' elevation CCW pump area)
PAB-2(3)	Primary Auxiliary Building (55' elevation Charging pump rooms)
PAB-2(4)	Primary Auxiliary Building (55' elevation MCC area)
PAB-2(5)	Primary Auxiliary Building (remaining areas not covered by other analysis areas)
CTL-3	Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
ETN-4(1)	Electrical Tunnel (entryway)
ETN-4(2)	Electrical Tunnel (upper electrical tunnel)
ETN-4(3)	Electrical Tunnel (upper electrical penetration area and fan room)
ETN-4(4)	Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
TBL-5	Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
AFW-6	Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
Yard-7	External yard areas including Intake Structure, Appendix R Diesel Generator Enclosure, Backup Service Water pump area, and the Condensate Storage Tank area.

APPLICABLE SAFETY ANALYSES

Appendix R Safe Shutdown Analysis for IP3, IP3-ANAL-FP –1503, Latest Revision
NSE 96-3-395FP, "Development of Administrative Procedure AP-64.1 and Evaluation of a Change to Operational Specification 3.2 and 3.5"
NSE-98-3-091EML, "Changes to Operational Specifications to Reflect a Change in Surveillance Testing of Emergency Lights"

TRO

This TRM ensures the OPERABILITY of a subset of the components that are necessary to address the Appendix R fire scenarios in the Appendix R Analysis. This TRM together with Technical Specifications and some other TRM specifications address the OPERABILITY of various components to meet the Appendix R Analysis. Some components credited by the analysis need not be specifically controlled because normal plant operation dictates that their credited function is maintained.

The components listed in Table 3.7.B-1 are credited in the IP3 Appendix R Analysis. These components are required to ensure the ability to achieve MODE 3 from MODE 1 conditions, bring the plant to MODE 5 conditions and maintain the plant in that condition either remotely or from the control room during an Appendix R fire scenario.

In addition, the allowed outage times established by the Technical Specifications or Technical Requirements do not bound the Appendix R requirements, and could result in a required component being out of service indefinitely or during MODEs where this component is required OPERABLE by the Appendix R Analysis.

This condition is outside the design of many of the systems and is not bounded by Technical Specifications or the TRM. Therefore, this TRO establishes actions necessary to ensure OPERABILITY of components credited in the Appendix R Analysis to maintain the components.

Separate condition entries are allowed to clarify the application of the completion time rules. The basis for this allowance is LCO 3.3.4, "Remote Shutdown System", of the Westinghouse Standard Technical Specifications (STS). This STS LCO allows separate entry for each function. The Appendix R Technical Requirements are modeled from the STS.

This Technical Requirement allows changes in operating MODE while relying on Required Actions. Allowance of this exception to TRO 3.0.D is also based on the low probability of an event requiring the use of such components and reasoning that such components can generally be repaired during plant operation without a significant risk of a spurious plant trip. Changes in operating MODE while relying on required actions is allowed, even though those actions may eventually require plant shutdown.

The below identified fire zones/areas are the zones/areas that have a limited set of equipment available and therefore require the controls as specified in this TRO. Other zones/areas not listed (e.g. Yard-7) for the components contained in this TRO and others, were credited but need not be controlled by this TRO.

TABLE 3.7.B-1 COMPONENTS

Backup Service Water Pump (TRO 3.7.B.1)

Backup Service Water Pump 38 must be OPERABLE to demonstrate the capability to achieve MODE 3 from MODE 1 and maintain the plant in that condition. This pump is powered directly from MCC 312A. Acceptable levels for performance of an OPERABLE Backup Service Water Pump shall be that the pump starts and reaches its required developed head for at least fifteen minutes.

- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
- TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)

2. Steam Generator Atmospheric Dump Valve PCV-1137:

- CNT-1 Containment Building
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)

In addition, either PCV-1134 or PCV-1137 must be operable for all other areas of the plant not mentioned above.

Control Room Supplemental A/C (TRO 3.7.B.5)

The Supplemental Control Room Air Conditioning (all five units) must be OPERABLE to maintain an acceptable and habitable environment in the control room during Appendix R scenarios. An OPERABLE Supplemental Control Room Air Conditioning System constitutes the ability to start and maintain Control Room temperatures at acceptable levels. This includes the power supply for the A/C units including BM6 480V ac/120 V ac transformer and 208V ac distribution panel DP-CCR/AC.

The Supplemental Control Room Air Conditioning System is credited in various Appendix R fire scenarios to maintain an acceptable and habitable environment in the control room.

The Appendix R Safe Shutdown Analysis credits the use of the Supplemental Control Room Air Conditioning System, during shutdown in the event of a fire in the following zones/areas:

- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)

Control Room Emergency Lighting (TRO 3.7.B.6)

The control room emergency lighting is required in the event that normal control room lighting is lost during an Appendix R fire scenario. The function of the control room emergency lighting is to ensure that the control room operators have sufficient lighting to monitor critical plant parameters from the control room. OPERABLE Control Room Emergency Lighting constitutes the functioning of emergency lights upon loss of AC power to emergency lighting panel 39.

The control room emergency lighting is credited for various Appendix R fire scenarios.

Emergency Lighting Units (Appendix R) (TRO 3.7.B.7)

The Appendix R compliance strategy requires the use of remote control stations for safe shutdown during a fire in the control room. 10CFR50 Appendix R requires emergency lighting units with at least an 8 hour battery supply to be provided in all areas needed for the operation of safe shutdown equipment and in access and egress routes thereto.

An OPERABLE emergency light constitutes the ability to provide sufficient lighting to accomplish the safe shutdown operations.

The availability of at least 8 portable lights that have an 8 hour capacity must be staged and available in the Safe Shutdown Locker to ensure each member of the shutdown crew will have lighting while performing required tasks in ONOP-FP-1A and ONOP-FP-1B, and access/egress to shutdown stations.

Condenser Makeup Isolation Capability (TRO 3.7.B.8)

Valves CT-7-2, CT-8, CT-12, CT-45, and CT-400 are required in the event that a fire renders valves LCV-1158-1 and LCV-1158-2 inoperable. These valves are required to isolate the Condensate Storage Tank (CST) flow to the condensers and to align CST flow to the suction of the Auxiliary Feedwater Pumps. An acceptable level of performance for the determination of OPERABLE valve status is the ability to isolate.

Valves CT-7-2, CT-8, CT-12, CT-45, and CT-400 are credited in one postulated fire scenario to isolate flow to the condensers from the CST. The Appendix R Safe Shutdown Analysis credits the use of valves CT-7-2 , CT-8, CT-12, CT-45, and CT-400 for a postulated fire in the Auxiliary Feedwater Pump Room, area AFW-6.

Secondary Steam Isolation (from control room, except MS-9-2 and MS-11-2)(TRO 3.7.B.9)

The secondary steam isolation valves that are normally aligned during 100% power operation (Appendix R Initiating condition) are credited in Appendix R scenarios where the ability to isolate the main steam lines by utilizing the Main Steam Isolation Valves (MSIVs) is not available. MCC-32 provides control power to reheat valves MS-MOV-6-3 and MS-MOV-6-4. MCC-33 provides control power to reheat valves MS-MOV-6-1 and MS-MOV-6-2.

The secondary steam isolation valves are required in the event that main steam isolation cannot be maintained through the use of MSIVs. This function is required to isolate main steam loss from the steam generators and therefore these valves must be OPERABLE. OPERABLE valves constitute the following:

1. Main Turbine Stop Valves MS-HCV-127-1, -2, -3, -4 able to isolate, AND
2. All steam valves PCV-1120 through PCV-1131 able to isolate, AND
3. All reheat valves MS-MOV-6-1 through MS-MOV-6-4 able to isolate, AND
4. Main Steam to Air Ejectors MS-PCV-1132 Inlet Isolation Valve MS-9-2 able to isolate, AND
5. Main Steam to Hoggers MS-PCV-1133 Inlet Isolation Valve MS-11-2 able to isolate.

If any of these valves are isolated, then OPERABILITY of the isolated valves is not required.

The secondary steam isolation valves covered by this TRO are credited in various Appendix R scenarios to maintain steam generator integrity during MODE 3 and transition to MODE 5 with the MSIVs being open. The Appendix R Compliance Strategy credits the use of secondary steam isolation during a fire in the MSIV area (TBL-5).

Control Building Ventilation (TRO 3.7.B.10)

The Control Building Ventilation System must be OPERABLE to maintain an acceptable environment In the Cable Spreading Room and 480V Switchgear during normal, abnormal, and incident conditions.

An OPERABLE Control Building Ventilation System constitutes the ability to start and maintain the Cable Spreading Room and the 480V Switchgear Room at acceptable temperature levels.

The Control Building Ventilation System covered by this TRO is credited in the Appendix R Safe Shutdown Analysis to maintain an acceptable environment in the Cable Spreading Room and the 480V Switchgear Room. The Appendix R Safe Shutdown Analysis credits the use of the Control Building Ventilation System for all areas except the Control Building and the Diesel Generator Building.
With few exceptions, both exhaust fans of the 480V Switchgear Room Ventilation System are unaffected by a postulated fire. Control Building Fan 34 is credited in the Appendix R Safe Shutdown Analysis to maintain an acceptable environment in the 480V switchgear room in the event Control Building Fan 33 is lost as a result of a postulated fire in the following zones/areas:

- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)

Control Building Fan 33 is credited in the Appendix R safe shutdown analysis to maintain an acceptable environment in the 480V switchgear room in the event the flowpath through FP-DF-9 is affected as a result of a postulated fire in the following zone/area:

- TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)(near the damper)

Cooling of the Cable Spreading Room is accomplished by either the Cable Spreading Room Ventilation System or the Electrical Tunnel Ventilation System. With few exceptions both systems are unaffected by a postulated fire. Control Building Fans 31 and 32 are credited in the Appendix R Safe Shutdown Analysis to maintain an acceptable and habitable environment in the event the Electrical Tunnel Ventilation System is lost as a result of a postulated fire in the following zones/areas:

- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- PAB-2(5) Primary Auxiliary Building (remaining areas not covered by other analysis areas)
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)

Communication Capability (TRO 3.7.B.11)

The Appendix R compliance strategy at IP3 requires the use of remote control stations for safe shutdown during a fire in the control room. In the event that a fire prevents control of equipment required to achieve and maintain MODE 3, it would become necessary to perform a safe shutdown from outside of the Control Room. Portable radios would be relied upon to provide communications between various members of the operating crew during shutdown. An OPERABLE communication capability constitutes the following:

1. Eight portable radios, AND
2. Chargers for the eight radios.

ACTIONS

A. With any of the required functions listed in Table 3.7.B-1 inoperable, the conditions listed for the specific function must be entered and the related specification must also be entered without delay. This allows reasonable measures to be taken without jeopardizing plant safety. This Required Action ensures the appropriate Condition is entered and Required Actions taken as referenced in Table 3.7.B-1.

B. When components for a function listed in Table 3.7.B-1, become inoperable it is necessary to ensure that the equipment for which these components are credited to replace during an Appendix R scenario are guarded by a fire watch patrol. This helps to ensure that the failure of this equipment due to fire is minimized (e.g. fire watch in MSIV vicinity when Secondary Steam Isolation is inoperable).

A fire watch is not prescribed in this Technical Requirement for those areas that have fire detection or suppression systems governed by TRM 3.7.A. The fire detection or suppression equipment required by TRM 3.7.A provides the protection against fires that would be provided by a fire watch in its absence. Should this fire detection and suppression equipment become inoperable the applicable portion of TRM 3.7.A would prescribe the necessary compensatory measures.

The completion time of 1 hour was selected as a reasonable time in which to post a fire watch patrol. IP3 Administrative procedures control combustibles and ignition sources during power operations. Based on the existence of these controls, the addition of an hourly fire watch patrol is judged to be adequate to ensure the failure of the subject components due to fire is minimized.

C. This Required Action ensures that the OPERABILITY of the subject equipment is restored in a timely manner. For these components a 30 allowed outage time was established based on Technical Specification 3.3.4, Remote Shutdown. This allowed outage time of 30 days without other compensatory action is acceptable for these components because the plant meets TRM 3.7.A, Fire Protection Systems, or its required compensatory actions.

D. The functions listed in Table 3.7.B-1 are credited in the IP3 Appendix R Analysis. Appendix R requires that one train of equipment necessary to achieve MODE 3 from either the control room or emergency control station(s) must be maintained free of fire damage by a single fire including an exposure fire.

- When the credited equipment is not restored in a timely manner this Appendix R licensed condition cannot be met by the remaining equipment in table 3.7.B-1 for fires in the zones/areas credited for this equipment as listed in the bases discussion of Table 3.7.B-1.

Therefore, the plant must be placed in MODE 3 within 6 hours and in MODE 5 within 36 hours. The time requirements to place the plant in MODE3 and MODE 5 were chosen to be consistent with Technical Specification 3.0.3 and TRO 3.0.C.

E. The completion time of 1 hour was selected as a reasonable time frame in which to put compensatory measures in place. The use of portable lighting can support operations personnel to perform the required tasks until such time that the emergency lighting can be made OPERABLE.

The compensatory measures put in place (i.e. availability of at least 8 portable lights with 8-hour capacity) is adequate for extended periods of time. The allowed outage time of 30 days is based on Technical Specification 3.3.4, Remote Shutdown.

F. The allowed outage time of 30 days is based on Technical Specification 3.3.4, Safe Shutdown. The allowed outage time of 30days without other compensatory action is acceptable because the plant meets TRO 3.7.A or its required compensatory actions.

G. The failure of Appendix R Emergency Lighting Units, Control Room Emergency Lighting, or the Appendix R Communication Capability does not directly affect the OPERABILITY of safe shutdown equipment. The use of alternate equipment would provide the same function as the designated equipment. The purpose of this Required Action and associated Completion Time is to ensure that plant management is aware of the inoperable equipment and the subsequent delays in completing repairs to the system. After not restoring the proper equipment in a timely manner the 14 day report to OSRC in accordance with TRM 5.4.B provides the appropriate assessment and review.

SURVEILLANCE REQUIREMENTS

TRS 3.7.B.1- (Appendix R Emergency Lighting Units) - This test is designed to verify proper operation of the emergency lighting unit by simulating a loss of power and to ensure that no major equipment failure has been induced. This test is consistent with manufacturer's recommendations and guidance identified in EPRI/NMAC Report TR-100249.

TRS 3.7.B.2 - (Backup Service Water Pump 38, CCW Pumps [31, 32, 33], and Charging Pumps [31,32]) – This test is designed to demonstrate that the subject pumps are capable of providing their rated head and where appropriate using the IST program criteria. The frequency of 92 days is based on similar judgements used in determining the surveillance frequency of other pumps. The test interval of 92 days or where appropriate the IST program frequency is based on the judgment that more frequent testing would not significantly increase the reliability, yet more frequent testing would result in increased wear over a longer period.

TRS 3.7.B.3 - (S/G ADVs) – This test is to ensure that the motive force utilized to operate the ADVs during an Appendix R event is available.

TRS 3.7.B.4 - (Control Room Supplemental A/C) – This test is used to ensure the availability and capability of the Control Room Supplemental Air Conditioning System to maintain the Control Room in a safe, habitable condition. The frequency check of 92 days is sufficient to ensure the availability of the system, if required.

TRS 3.7.B.5 - (Appendix R Radio Units) – The purpose of this test is to verify the availability of at least 8 radios to support Appendix R safe shutdown activities.

TRS 3.7.B.6 - (Control Building Ventilation) – This test ensures the availability and the capability of the Control Building Ventilation System to maintain the 480V Switchgear Room and Cable Spreading Room at an acceptable condition. The 92-day frequency check is sufficient to ensure the availability of the system, if required.

TRS 3.7.B.7 - (Appendix R Emergency Lighting Units) – This test is designed to ensure the batteries are maintaining a sufficient charge and through visual inspection of the electrolyte level that the structural integrity of the battery case has been maintained. In addition, this test ensures the lights are properly aimed to illuminate areas and equipment necessary for Appendix R safe shutdown activities. The 184-day frequency is sufficient to ensure OPERABILITY of the equipment. The test is consistent with manufacturer's recommendations and guidance identified in EPRI/NMAC Report TR-100249.

TRS 3.7.B.8 - (Appendix R Emergency Lighting Units) – This surveillance monitors battery conductance in accordance with Table 3.7.B-2 to determine which batteries are in a condition to exclude them from a discharge test program and which batteries should be scheduled for replacement under the preventative maintenance program. The conductance test method is not applicable to units with Ni-Cad batteries nor to batteries in environments above 110°F.

For temperatures below 60°F, the conductance values will be lower than the same battery at a warmer temperature. This may result in unnecessary action, hence it is allowed to wave the criterion if the last test performed 192 days ago ±25% passed the No Discharge Test criteria. If batteries are in environments above 90°F, the test and replacement criterion needs to be adjusted up 1% of mhos per each 1°F. Batteries governed under the conductance test program that do not satisfy the No Discharge Test Criteria in Table 3.7.B-2 will be either replaced or subjected to an 8 hour discharge test annually. Batteries in environments above 110°F require discharge testing.

TRS 3.7.B.9 - (Appendix R Emergency Lighting Units) – Annually, a 10% sample of batteries that pass the conductance No Discharge Test Criteria in Table 3.7.B-2 are subjected to an 8 hour discharge test to demonstrate the adequacy of the conductance test program. An additional 10% of each type that failed shall be tested. The sampling process shall continue until no failures are identified or the type is exhausted. Conductance testing methodology reviewed in NSE-98-3-091EML is based on EPRI/NMAC Report TR-106826.

TRS 3.7.B.10 - (Appendix R Emergency Lighting Units) – This test is designed to verify that the emergency lighting unit can operate for the design operating time. This test is consistent with the manufacturer's recommendations and guidance identified in EPRI/NMAC Report TR-100249. This test is applicable to EBLs with Ni-Cad or other types of batteries not within the scope of the conductance test program.

TRS 3.7.B.11 - (S/G ADVs) – This test is to ensure the capability of the subject valves to operate as required utilizing the nitrogen backup. The frequency of 24 months was selected to coincide with refueling outages so that normal plant operations would not be affected.

TRS 3.7.B.12 - (Charging Flow, Condenser Makeup, Secondary Steam Isolation) – The purpose of this test is to ensure the capability of the subject valves to operate as required. The frequency of 24 months is selected to coincide with refueling outages. The Condenser Makeup 24 month frequency is also based on Technical Specification 3.7.5, Auxiliary Feedwater, that requires other valves in the system to be tested every 24 months. These valves perform an isolation function and as such it is not practical to perform this surveillance during normal plant operations.

TRS 3.7.B.13 - (Charging flow) - The purpose of this test is to ensure the capability of the listed Charging System valves to operate as required. The frequency of once per 24 months is selected to coincide with refueling outages. As these valves are normally positioned to support overall CVCS system operation, it is not practical to perform this complete surveillance during normal plant operations.

TRS 3.7.B.14 - (CCW Pump 32, Charging Pumps [31, 32]) – The purpose of this test is to verify the ability to power the subject pumps from the electrical system lineup utilized in the Appendix R Compliance Strategy. The frequency of 24 months was selected to coincide with plant refueling outages in order not to interfere with normal plant operations. The frequency of 24 months is also consistent with testing requirements for auxiliary electrical equipment. Therefore it is judged that more frequent testing would not significantly increase the reliability of the system.
Note that operation via the local control station of the Charging Pumps is not credited during Appendix R fire scenarios but operation via this control station may be used for this surveillance.

TRS 3.7.B.15 - (Communication Capability) – The purpose of this test is to ensure that radio communications are achievable with the available equipment between the various local control stations. The 24 month frequency was selected to be consistent with refueling outages.

TRS 3.7.B.16 - (Control Room Lighting) – This test is designed to verify the proper operation of the emergency lighting unit by simulating a loss of power and to ensure that no major equipment failure has been induced. The frequency of 24 months was selected to coincide with refueling outages such that normal plant operations would not be affected.

REFERENCES:

1. FSAR 1.3.1
2. FSAR 7.2.1
3. FSAR 9.6.1
4. FSAR 9.6.2
5. FSAR 9.9.1
6. FSAR 10.2.6
7. NSE 96-3-395, Rev.1, "Development of AP-64.1 and Evaluation of Change to OS 3.2 and 3.5."

3.8 ELECTRICAL POWER

3.8.C Technical Support Center (TSC) Diesel Generator and TSC Plant Computer Uninterruptible Power Supply (UPS)

TRO 3.8.C The TSC Diesel Generator and TSC Plant Computer UPS shall be OPERABLE:

APPLICABILITY: MODES 1, 2, 3 and 4.

---NOTE---

1. TRO 3.0.C is not applicable.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	TSC Diesel Generator or TSC Plant Computer UPS inoperable.	A.1	Restore TSC Diesel Generator and TSC Plant Computer UPS to OPERABLE.	6 days
B.	Required Action and associated Completion Time of Condition A not met.	B.1	Prepare and submit a special report to the On-Site Safety Review Committee outlining the actions taken, the cause of the inoperability and the plans for restoring the inoperable components.	7 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TRS 3.8.C.1	Perform an inventory leakage test of the TSC Diesel Generator underground fuel storage tank DEMONSTRATE the leakage limit of less than or equal to (0.05) of a gallon per hour is being met.	12 months
TRS 3.8.C.2	Perform manual sampling of the interstitial space of the double walled TSC Diesel Generator tank to determine tightness by detecting if leaks are present.	7 days
TRS 3.8.C.3	----------NOTE---------- Battery charger OPERABILITY is not required to support TSC Diesel Generator OPERABILITY. ---------- DEMONSTRATE that total TSC Diesel Generator battery voltage is ≥ 28.0 VDC and single cell voltage is ≥ 1.35 VDC.	31 days
TRS 3.8.C.4	----------NOTE---------- Backup gasoline engine OPERABILITY is not required to support TSC Diesel Generator OPERABILITY. ---------- DEMONSTRATE start capability of the TSC Diesel Generator and the TSC Diesel Generator backup gasoline engine.	92 days
TRS 3.8.C.5	----------NOTE---------- Air Compressor OPERABILITY is not required to support TSC Diesel Generator OPERABILITY. ---------- DEMONSTRATE that fuel oil and air start capacities can support starting and running the TSC diesel generator. DEMONSTRATE oil temperature > 130 °F, water temperature >100 °F, main storage tank fuel oil level ≥ 2,158 gallons, fuel oil day tank level ≥ 3/4, battery charger float voltage in range of 28.0 - 32.0 VDC and air receiver pressure ≥ 125 psig.	7 days
TRS 3.8.C.6	DEMONSTRATE that total float voltage for each string (A, B and C) of TSC Plant Computer Batteries is ≥ 270.0 VDC and individual battery voltage is ≥12.5 VDC.	31 days

BASES

BACKGROUND

NUREG-0696, "Functional Criteria for Emergency Response Facilities" (Reference 1) describes the facilities and systems to be used to improve responses to emergency situations. The facilities include the Control Room, onsite Technical Support Center (TSC), onsite Operational Support Center (OSC), and nearsite Emergency Operations Facility (EOF). Data systems are the safety parameter display system (SPDS) and nuclear data link (NDL). Together, these facilities and systems make up the total Emergency Response Facilities (ERFs).

The Authority installed the Emergency Response Facilities Data Acquisition and Display System (ERFDADS) via modification MOD 82-03-049 COMP (Reference 2) to meet the requirements of NUREG-0696. The ERFDADS consists of the Qualified Safety Parameter Display System (QSPDS) and the Critical Functional Monitoring System (CFMS).

The ERFDADS is provided with battery backup, and uninterruptible power sources to eliminate momentary interruptions, and to filter out AC transients under normal conditions. The QSPDS is provided with battery backup from station batteries 31 and 32. The CFMS is provided with battery backup through the TSC Plant Computer UPS batteries. The CFMS provides all data acquisition and display capabilities required to support the TSC, EOF, NDL and the primary safety parameter in the Control Room. The TSC Plant Computer UPS is comprised of equipment located on the 15'-0" elevation of the Administration Service Building.

This Technical Requirement addresses only the Technical Support Center (TSC) Diesel Generator and TSC Plant Computer UPS. The QSPDS is addressed in Technical Requirement 3.3.A.

NUREG-0696 provides the following guidance: "Sufficient alternate or backup power sources shall be provided to maintain continuity of TSC functions and to immediately resume data acquisition, storage, and display of TSC data if loss of the primary TSC power sources occurs." The TSC Diesel Generator and TSC Plant Computer Battery UPS serve as these backup power sources.

The requirement to have a TSC comes from NUREG-0654 (Reference 3) and Article IV.E.8 of 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities" (Reference 4). NUREG-0654 requires that each licensee shall establish a Technical Support Center and an onsite Operations Support Center (assembly area) in accordance with NUREG-0696, Revision 1. Article IV.E of 10 CFR 50, Appendix E requires that adequate provisions shall be made and described for emergency facilities and equipment. Item 8 of article IV.E requires, "A licensee onsite technical support center and a licensee near-site emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency." The TSC is located on the west side of the second floor of the Administration Building adjacent to the Turbine Building.

The following equipment relies on the TSC Plant Computer UPS in the event of loss of normal power:

1. Master and slave CFMS computers (CFMS Computers A & B) and peripherals

2. All of data acquisition equipment (that processes non isolated signals) in the CFMS Multiplexer Room located on the turbine deck outside of the control room.

3. QSPDS Channel N (Non-safety related signals)

4. Historical Data Storage & Retrieval

5. Anticipated Transients Without Scram (ATWS) Mitigating Systems Actuation Circuitry (AMSAC) System

   The peripherals identified in item 1 above consist of the following terminals and printers:

   - Three (3) terminals in the TSC with corresponding printers
   - Four (4) terminals and 3 printers in the central control room (CCR)

Other CFMS display terminals (peripherals), which do not rely on the TSC Plant Computer UPS, are at the EOF and at the Alternate Emergency Operations Facility (AEOF) located at the NYPA headquarters in White Plains. Although the EOF and AEOF terminals do not rely on the TSC Plant Computer UPS for power they do receive their signals from the CFMS. Therefore, if CFMS were inoperable, the EOF and AEOF terminals would not have an input signal to display.

During emergency conditions the TSC terminals allow personnel assigned to the TSC to continuously monitor plant parameters. The CCR terminals provide the operators with CRT displays of individual plant parameters. Safety related signals that are displayed on the two (2) gas plasma displays in the CCR would not be affected upon loss of the TSC Plant Computer UPS because they are powered off of the station instrument busses. However, upon loss of normal power (MCC K and L) and TSC Plant Computer UPS the QSPDS Channel N (Non-safety related signals) would be lost to the gas plasma displays.

The TSC Diesel Generator provides emergency power for MCC K and MCC L. Some of the loads off of these MCCs include TSC Heating Ventilation and Air Conditioning (HVAC) and TSC lighting (Reference 5). The normal supply for MCC K and L is Bus 313 and 312 respectively (Reference 6). The TSC Diesel Generator has auto start capability on loss of the normal supply to MCC K or L (auto start transfer switch OTSC-ATS-1, -2). The switches are normal seeking and will return to their normal position on the restoration of normal power.

The AMSAC system is normally powered from the TSC Plant Computer UPS Static Inverter via panel P48 (see Reference 5). The normal feed to the inverter is from the TSC Plant Computer UPS Battery Charger. The battery charger feed is from MCC "K". Should there be a failure of the inverter, battery charger or its normal feed an automatic electronic transfer switch transfers the P48 feed to MCC "L" (upon battery exhaustion). In the event of a problem with the battery charger or the inverter, or if maintenance is required, a manually operated maintenance bypass switch can be positioned to supply power directly to panel P48 from MCC "L". When the manually operated maintenance bypass switch is utilized, the automatic electronic transfer switch is isolated. These transfers (automatic or manual) are accomplished without a loss of power to AMSAC.

Should power be interrupted to MCC K and L, automatic bus transfer switches OTSC-ATS-1, and -2 will shift to divert power from the normal supplies of Bus 313 or Bus 312 respectively to the TSC Diesel Generator. During this type of transfer, power to AMSAC will be momentarily lost until the TSC Diesel Generator assumes full load. Restoration of power will cause the AMSAC system to go into a reboot mode (a design feature of AMSAC). There is a high degree of redundancy and flexibility to provide power to the AMSAC system if the TSC Plant Computer UPS Battery Charger or inverter are inoperable. However, AMSAC would rely on the TSC DG should power be interrupted to MCC "K" and "L". AMSAC is addressed in Technical Requirement 3.1.A.

The CFMS equipment identified above is also powered from the TSC Plant Computer UPS Static Inverter (see Reference 5). As identified above, the normal feed to the inverter is from the TSC Plant Computer UPS Battery Charger. The battery charger feed is from MCC "K". In this normal configuration, the CFMS is provided with battery backup through the TSC Plant Computer UPS batteries. In the event of a problem with the battery charger or the inverter a manually operated maintenance bypass switch can be positioned to supply power directly to panel P48 from MCC "L". However, with power being supplied from MCC "L" the CFMS would not have the battery backup from the TSC Plant Computer UPS batteries.

IP3 preventative maintenance program has procedures that were developed to address the appropriate vendor recommendations (See references 7 & 15).

APPLICABLE SAFETY ANALYSIS

On June 1, 1991, IP3 submitted to the NRC the conceptual design for upgrading the emergency support facilities (Reference 8). In this submittal, IP3 indicated that a standby emergency diesel generator set would start up automatically upon sensing normal power supply failure to the TSC. IP3 also indicated that a UPS would be utilized to eliminate normal line transients and those associated with the starting of the diesel generator. The NRC responded to IP3's June 1, 1991 submittal by letter dated November 19, 1981 (Reference 9). Reference 9 documents the NRC's evaluation of how well IP3's design plan met the overall design concepts of NUREG-0696. The NRC indicated that the electrical power equipment for the TSC facility met the concepts of NUREG-0696.

As indicated in NUREG-0696, "TSC instrumentation data system equipment and power supplies need not meet safety-grade or Class 1E requirements." The TSC Plant Computer Battery was installed by modification MOD 82-03-049 COMP (Reference 2) and is classified as Non-Category I (Reference 10).

TRO

The TSC Diesel Generator and TSC Plant Computer Battery must be OPERABLE to provide backup power to the TSC facility if loss of the primary TSC power source occurs.

An OPERABLE TSC Diesel Generator constitutes the following:

1. Greater than or equal to 2,158 gallons of fuel oil in the storage tank. This fuel must be automatically available to the day tank.
2. Day tank ≥ 3/4 full and day tank pump operable.
3. OPERABLE TSC Diesel Generator batteries.
4. OPERABLE Air receiver No. 31 and 32 at pressure ≥ 125 psig (Reference 14).
5. Automatic Transfer Switches OTSC-ATS-1 and OTSC-ATS-2.

The value of greater than or equal to 2,158 gallons of fuel oil in the 4,000 gallon TSC underground storage was made based on a requirement for the Emergency Diesel Generators (31, 32, 33) to have a volume of fuel required to operate two diesels at a minimum safeguards for at least 48 hours. The 2,158 gallon value for the TSC DG does not take into consideration allowances such as calibration tolerances, safety margin or possible unavailable fuel when tank is low. The TSC DG can run at full load for approximately 89 hours with a 4,000 gallon fuel supply and for approximately 48 hours with a 2,158 gallon fuel supply. The 48 hours of operating time that 2,158 gallons affords is sufficient time to bring in an alternate supply of fuel oil (e.g., tanker).

IF an alternate method of providing the 2,158 gallon fuel oil storage requirement is chosen, THEN the shift supervisor must ensure that the alternate method is capable of performing the intended functions in the intended manner. The delivery of fuel oil to the day tank occurs automatically when day tank level is low. Any alternate method must also be automatic (i.e., no operator action). In an accident scenario where the TSC diesel was relied upon, access around the plant site could be severely restricted because of radiological or toxic environments.

An OPERABLE TSC Plant Computer UPS constitutes the following:

1. Float voltage for battery string "A", "B" and "C is greater than or equal to 270.0 VDC.
2. All individual battery voltage is greater than or equal to 12.5 VDC.
3. OPERABLE UPS Static Inverter
4. OPERABLE UPS Battery Charger
5. OPERABLE Battery Disconnect Switch

A UPS energy status panel is located on the west wall of the TSC communications room. This panel provides status lights that indicate system status (e.g., system normal, computer now powered from bypass source, computer now powered from batteries, bypass source malfunction, and UPS system environment). The panel has an audible alarm to alert in case of abnormal system status.

Those required support systems that upon their failure do not require declaring the TSC Diesel Generator inoperable are as follows:

1. Air Compressor
2. Backup gasoline engine (for air compressor)
3. TSC Diesel Generator battery charger

APPLICABILITY

The TSC Diesel Generator and TSC Plant Computer UPS are required to be OPERABLE during all plant operating conditions above MODE 5 in accordance with NUREG-0696. The TSC has no MODE 5 unavailability goal while the reactor is in MODE 5.

ACTIONS

A.1

NUREG-0696 requires the total TSC data system reliability shall be designed to achieve an operational unavailability goal of 0.01 during all plant operating conditions above MODE 5. According to the NUREG, the operational unavailability goal shall be defined in units of time as follows:

$$\text{Operational unavailability} = \frac{\text{Downtime}}{\text{Operating time}}$$

With a 24 month fuel cycle, 60 day refueling outage and no scheduled midcycle maintenance outage the operating time is at most considered to be 22 months. The downtime allowed to maintain an operational unavailability goal of 0.01 is 6.6 days. Therefore, the completion time of Required Action A.1 has been conservatively established as 6 days instead of the calculated 6.6 days.

The inoperability of the TSC Diesel Generator or TSC Plant Computer UPS does not constitute a major loss of emergency assessment capability, and does not require notifying the NRC Operations Center via the Emergency Notification System in accordance with 10CFR50.72 (b)(1)(v). As noted in NUREG-0696, the TSC is one of the facilities that make up the total emergency response facilities (ERFs). Code of Federal Regulations 10CFR50.72 (b)(1)(v) requires a one hour report for any event that results in a major loss of emergency assessment capability, or communications capability (e.g., significant portion of control room indication, Emergency Notification System, or offsite notification system). There is no corresponding Part 50.73 requirement. Therefore, no Licensee Event Report is required.

Section 3.2.7 of NUREG-1022 (Reference 11) indicates that unavailability of certain systems and facilities (including the TSC) constitute a major loss of emergency assessment, offsite response, or communications capability. The NUREG clarifies that a major loss of emergency assessment capability would include those events that significantly impair safety assessment capability.

Some engineering judgement is needed to determine the significance of the loss of particular equipment. Based on the following engineering judgement the loss of TSC Diesel Generator or TSC Plant Computer UPS equipment alone does not constitute a major loss of emergency assessment, offsite response, or communications capability and one hour reporting does not apply.

A one hour report due to "unavailability" of the TSC would result from the following scenario (this is the only scenario identified to date, however, this may not be the only possible scenario):

1. Condition where the TSC was uninhabitable (e.g., due to fire, radiation, high temperature due to complete loss of TSC HVAC). If the TSC becomes uninhabitable when it is supposed to be activated, the TSC manager will send several individuals to the Central Control Room (CCR) to perform accident assessment and will request that various members of the TSC staff report to the EOF and establish communication with the accident assessment team in the CCR.

The following scenarios would not constitute "unavailability" of the TSC:

1. Loss of both normal and backup power to the TSC. Normal power supply for MCC K and L is Bus 313 and 312 respectively. Backup power is provided by the TSC Diesel Generator and TSC Plant Computer UPS. Loss of the TSC Plant Computer UPS alone would not constitute unavailability of the TSC because only the three (3) TSC CRTs would be affected. Long term TSC functions (e.g., TSC HVAC, and TSC lighting) would be unaffected. Even the CRTs would be OPERABLE once the TSC diesel is started and the plant computer is restarted.

2. Condition where all three (3) TSC CRTs are inoperable. These CRTs are in place to continuously monitor plant parameters. Emergency Plan Procedure IP-2106 (Reference 12) indicates that if SPDS is not available in the TSC (through the TSC CRTs), the information can be obtained via fax from the CCR. Therefore, with this source of information, TSC personnel would still be able to perform their functions.

B.1

Prepare and submit a special report to the On-Site Safety Review Committee outlining the actions taken, the cause of the inoperability, the plans for restoring the inoperable components and the impact upon the availability goal. The 7 day completion time was chosen because it is assumed that for the first 6 days, efforts were concentrated on returning the equipment to OPERABLE. Seven additional days is sufficient time to prepare a report for OSRC. At the end of the additional seven days, the availability goal for the TSC data system has been exceeded by two times. The OSRC should be informed, in the special report, of the impact that the inoperable condition has had upon the availability goal.

SURVEILLANCE REQUIREMENTS

TRS 3.8.C.1

By design the TSC diesel generator tank is unmetered (i.e., there is no device installed which measures inventory usage) and contains petroleum for consumptive use on the premises. For unmetered underground tanks, the requirements of Westchester County Department of Health (WCDOH) Petroleum Bulk Storage Regulation §873.2516, "Inventory Monitoring for Underground Storage Facilities" are met by performing a WCDOH approved tightness test of the tank in lieu of daily inventory monitoring. If the required testing is not performed or if the tank is found to be leaking, it must be taken out of service as required by §873.2517(1)(c) and §873.2516(4) respectively.

IP3 registered the TSC diesel generator tank with the New York State Department of Environmental Conservation (NYSDEC) via letter dated July 30, 1993 (Reference 13). In this letter IP3 indicated that the tank would be designed and installed in accordance with 6 NYCRR Part 614. Part 614 is entitled, "Standards for New and Substantially Modified Petroleum Storage Facilities". Section 614.2(c) requires that a new tank must employ all practices and equipment for handling and storage of petroleum required in Part 613 before the tank is placed in-service. As described above, the annual standpipe analysis serves to comply with 613.4. In July 1998 the NYSDEC delegated enforcement of petroleum bulk storage regulations to the WCDOH. The WCDOH petroleum bulk storage regulations are a reiteration of the NYSDEC regulations. Consequently the annual standpipe analysis is also required in order to comply with §873.2516(b).

Indian Point 3 Technical Specifications entitled, "Environmental Technical Specification Requirements Non-Radiological Environmental Protection Plan" states in section 1.0 that one of the principal objectives of the Environmental Protection Plan (EPP) is to coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection. Therefore, meeting the state requirement of performing the annual standpipe analysis is also meeting the intent of our license.

TRS 3.8.C.2

In accordance with WCDOH Regulation §873.2524(2), "Monitoring of double-walled tanks" the interstitial space of the double walled TSC diesel tank must be monitored for tightness once per week. Manual sampling is an acceptable method. This surveillance is a Westchester County requirement and is required to meet the intent of our license for the same reasons that surveillance requirement 3.8.C.1 (above) is required to meet the intent of our license.

TRS 3.8.C.3

This surveillance requirement captures IP3's engineering judgement for DEMONSTRATING the readiness of TSC Diesel Generator support systems. This engineering judgement was developed from the recommendations of Institute of Electrical and Electronics Engineers (IEEE) Standard 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations" which recommends that inspection readings should be taken in accordance with the manufacturer's instructions.

TRS 3.8.C.4

This surveillance requirement captures IP3's engineering judgement for DEMONSTRATING the OPERABILITY of the TSC Diesel Generator and gasoline power motor. This engineering judgement was developed from a review of vendor maintenance recommendations (Reference 7).

TRS 3.8.C.5

This surveillance requirement captures IP3's engineering judgement for DEMONSTRATING the readiness of TSC Diesel Generator support systems. This engineering judgement was developed from a review of vendor maintenance recommendations (Reference 7).

TRS 3.8.C.6

This surveillance requirement captures IP3's engineering judgement for DEMONSTRATING the readiness of TSC UPS support system. This engineering judgement was developed from the recommendations of Institute of Electrical and Electronics Engineers (IEEE) Standard 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations" which recommends that inspection readings should be taken in accordance with the manufacturer's instructions.

REFERENCES:

1. NUREG-0696, "Functional Criteria for Emergency Response Facilities", Published February 1981.
2. Modification Procedure MOD 82-03-049 COMP, Revision 3, "Emergency Facilities Data Acquisition and Display System and Plant Computer Replacement Installation".
3. NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".
4. Code of Federal Regulations 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities".
5. Drawing No. 9321-F-91493, "MCC "K" & "L" One Line Diagram Administration Service BLDG."
6. Drawing No. 9321-F-33853, "Electrical Distribution & Transmission System".
7. Cummins Construction/Industrial Diesel Engines Operation and Maintenance Manual (NYPA Vendor Manual No. 1108-100000814) (CU-004).
8. Letter to the NRC dated June 1, 1981 (IPN-81-37), "Conceptual Design for Upgrading Emergency Support Facilities".
9. Letter from Steven A. Varga (NRC) to George T. Berry (NYPA) dated November 19, 1981.
10. Material Substitution Evaluation MSE 92-03-242 COMP, "TSC Computer UPS Battery Replacement (RES 92-03-125 COMP, Changed from DCPWR)".
11. NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and50.73", Rev. 1, Second Draft.
12. Emergency Plan Procedure IP-2106, "TSC Clerks", Rev 0.
13. Letter from Nicholas Rella (NYPA) to the NYSDEC dated July 30, 1993.
14. IP3-CALC-TSCDG-1386, "TSC D/G Starting Air System Pressure Switch Setpoint Change, " dated 01/20/95; and IP3-95-008, Change Request, dated 01/30/95.
15. IP3-95-046, Change Request, dated 8/16/95.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibilities

5.1.A The plant manager shall be responsible for overall unit operation in accordance with Technical Requirements Manual.

5.1.B The shift manager shall be responsible for ensuring plant operations are in accordance with Technical Requirements Manual.

Example: Technical Requirements for Operation (TRO) are met or Required Actions are met within associated Completion Time.

5.1.C Department managers shall be responsible for ensuring work activities are performed in accordance with Technical Requirements Manual.

Example: Technical Requirement Surveillance (TRS) are met; Technical Requirements for Operations (TRO) are met.

5.1.D The Quality Assurance Manager shall be responsible for reviewing effectiveness of Technical Requirements Manual implementation at least once every three years.

5.0 ADMINISTRATIVE CONTROLS (continued)

5.2 Technical Requirements Manual Update & Basis Control

5.2.A Changes to the Technical Requirements Manual (TRM) and Basis shall be made in accordance with SMM-LI-113, "Technical Specification Bases, Technical Requirements Manual and Updated Final safety Analysis (UFSAR) Amendment Preparation and Control."

5.0 ADMINISTRATIVE CONTROLS

5.3 Procedures

5.3.A Written procedures shall be established, implemented, and maintained covering the Technical Requirements Manual activities.

5.3.B Each procedure of Requirement 5.3.A, and changes thereto, shall be reviewed and approved in accordance with an approved process that meets the requirements of the Quality Assurance Program Manual (QAPM) prior to implementation.

5.0 ADMINISTRATIVE CONTROLS

5.4 Reporting Requirements

5.4.A The following reports shall be made in accordance with 10 CFR 50.72 and 10 CFR 50.73.

- AMSAC Actuation as per Technical Requirements Manual 3.1.A Condition D.
- AMSAC Inoperability as per Technical Requirements Manual 3.1.A Condition C.

5.4.B Submit a Special Report to the OSRC outlining the cause of the inoperability of required fire protection equipment, the extent of condition, and the plans and schedule for restoring the inoperable equipment to OPERABLE status. The review of the inoperability must consider, in aggregate, the other fire equipment inoperability/TROs. The review must determine whether or not the condition would adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. A copy of the report should be sent to the senior manager responsible for oversight of the Fire Protection.

5.0 ADMINISTRATIVE CONTROLS

5.5 Record Retention

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

5.5.A The following records shall be retained for at least 5 years:

a. Records of changes made to the procedures required by Technical Requirements Manual.

b. Records and logs of principal maintenance activities, inspections, repair, and replacement of principal items of equipment related to Technical Requirements Manual.

c. Records of surveillance activities, inspections, and calibrations required by the Technical Requirements Manual.

5.5.B The following records shall be retained for the duration of the unit Operating License:

a. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments required by Technical Requirements Manual and pursuant to 10 CFR 50.59;

b. Records of the reviews and audits required by Technical Requirements Manual.

c. Records of service lives of all safety-related snubbers including the date at which the service life commences and associated installation and maintenance records.

5.0 ADMINISTRATIVE CONTROLS

5.6 Audits

5.6.A Quality Assurance shall perform an effectiveness audit of Technical Requirements Manual implementation at least once every three years.

5.0 ADMINISTRATIVE CONTROLS

5.7 Training & Organization

5.7.A A training program for the Fire Brigade shall be maintained and shall meet or exceed the requirements of NFPA 27-1975 with the exception of the training program schedule.

5.7.B A Fire Brigade of at least five members shall be maintained on site. This excludes four members of the minimum shift crew necessary for safe shutdown of the plant and any personnel required for other essential functions during a fire emergency. During periods of cold shutdown the Fire Brigade will exclude two members of the minimum shift crew.