

ENCLOSURE 1

PROPOSED TECHNICAL SPECIFICATION CHANGE

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

(TVA-SQN-TS-93-10)

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INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.#

ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-11:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.

- ~~b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.~~

- b/c.* The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8.1 Each of the above required fire detection instruments which are accessible during operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detection which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.8.2 The NFPA Code 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.8.3 The non-supervised circuits between the local fire protection panels and actuated equipment shall be demonstrated OPERABLE at least once per 6 months.

The fire detection instruments located within the containment are not required to be OPERABLE during the performance of Type A Containment Leakage Rate Tests.

up to the first valve off the loop header that isolate:

PLANT SYSTEMS

3/4.7.11 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

1. Spray and/or Sprinkler System(s) required to be OPERABLE per Specification 3.7.11.2, or
2. Hose standpipe(s) required to be OPERABLE per Specification 3.7.11.4

LIMITING CONDITION FOR OPERATION

3.7.11.1 The fire suppression water system shall be OPERABLE with:

- a. Two fire suppression pumps, each with a capacity of 1653 gpm, with their discharge aligned to the fire suppression header,
- b. An OPERABLE flow path capable of taking suction from the forebay and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves ~~to the yard hydrant curbs, valves, the last valve ahead of the water pressure alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system required to be OPERABLE per Specifications 3.7.11.2 and 3.7.11.4.~~

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APPLICABILITY: At all times.

ACTION:

- a. With only one pump OPERABLE, restore the inoperable equipment to OPERABLE status within 7 days or, ~~in lieu of any other report required by Specification 5.5.1, prepare and submit a Special Report to the Commission pursuant to Specification 5.9.2 within the next 30 days outlining the plans and procedures to be used to restore the inoperable equipment to OPERABLE status or to provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

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- b. With the fire suppression water system otherwise inoperable,

☒ Establish a backup fire suppression water system within 24 hours, ~~and The provisions of Specification 3.0.4 are not applicable.~~

2. ~~In lieu of any other report required by Specification 5.5.1, submit a Special Report in accordance with Specification 5.9.2:~~

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~~a) By telephone within 24 hours.~~

~~b) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and~~

PLANT SYSTEMS

ACTION: (Continued)

- c) In writing within 14 days following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.7.11.1 The fire suppression water system shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor driven pump and operating it for at least 15 minutes on recirculation flow.
- b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.
- * c. At least once per 6 months by performance of a system flush. R17
- d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:
 1. Verifying that each automatic valve in the flow path actuates to its correct position,
 2. Verifying that each pump develops at least 1653 gpm at a system head of 338 feet, R70
 3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and
 4. Verifying that the No. 1 fire pump starts to maintain the fire suppression water system pressure greater than or equal to 125 psig and that the No. 2 fire pump also starts automatically within 10 ± 2 seconds when the fire suppression water system is not maintained greater than or equal to 125 psig by the No. 1 pump.
- f. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

*Note: These flushes should coincide with the chlorination of the raw service and fire suppression water system. These flushes should be run, one between April 1 and June 30, and the other between September 1 and November 15. R17

Within the prescribed spring and fall test period, deviation from the six-month performance frequency is authorized.

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

For Spray and/or Sprinkler Systems inside Containment which are inoperable as a result of inoperable fire detection instrumentation, a continuous or hourly fire watch is not required when complying with the ACTION requirements of Specification 3.3.3.8.

LIMITING CONDITION FOR OPERATION

3.7.11.2 The following spray and/or sprinkler systems shall be OPERABLE:

- a. Reactor Building - RC pump area, Annulus
- b. Auxiliary Building - Elev. 669, 690, 706, 714, 734, 749, 750. ABGTS Filters, EGTS Filters, Cont. Purge Filters, and 125V Battery Rooms.
- c. Control Building - Elev. 669, Cable Spreading Room, MCR air filters, and operator living area.
- d. Diesel Generator Building - Corridor Area.
- e. Turbine Building - Control Building Wall.

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

ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas establish an hourly fire watch patrol. ~~Restore the system to OPERABLE status within 14 days, or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.~~
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

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SURVEILLANCE REQUIREMENTS

4.7.11.2 Each of the above required spray and/or sprinkler systems shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.
- b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

PLANT SYSTEMS

CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.11.3 The following low pressure CO₂ systems shall be OPERABLE.

- a. Computer Room.
- b. Auxiliary Instrument Room.
- c. Diesel Generator Rooms.
- d. Fuel Oil Pump Rooms.
- e. Diesel Generator Building Electrical Board Rooms.

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APPLICABILITY: Whenever equipment protected by the CO₂ systems is required to be OPERABLE.

ACTION:

- a. With one or more of the above required CO₂ systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. ~~Restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

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SURVEILLANCE REQUIREMENTS

4.7.11.3.1 Each of the above required CO₂ systems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.11.4 The fire hose stations shown in Table 3.7-5 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-5 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours. ~~Restore the fire hose station to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the station to OPERABLE status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.4 Each of the fire hose stations shown in Table 3.7-5 shall be demonstrated OPERABLE:

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- a. At least once per 31 days by visual inspection of the stations accessible during plant operations to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Visual inspection of the stations not accessible during plant operations to assure all required equipment is at the station,
 2. Removing the hose for inspection and re-racking, and
 3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above maximum fire main operating pressure, whichever is greater.

PLANT SYSTEMS

3/4.7.12 FIRE BARRIER PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.7.12 All fire barrier penetrations (including cable penetration barriers, fire doors and fire dampers) in fire zone boundaries protecting safety related areas shall be functional.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations non-functional, within one hour either, establish a continuous fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the non-functional fire barrier and establish a hourly fire watch patrol. ~~Restore the non-functional fire barrier penetration(s) to functional status within 7 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the non-functional penetration and plans and schedule for restoring the fire barrier penetration(s) to functional status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

R40

SURVEILLANCE REQUIREMENTS

4.7.12 Each of the above required fire barrier penetrations shall be verified to be functional:

- a. At least once per 18 months by a visual inspection
- b. Prior to returning a fire barrier penetration to functional status following repairs or maintenance by performance of a visual inspection of the affected fire barrier penetration(s).

PLANT SYSTEMS

BASES

SNUBBERS (Continued)

location, etc.), and the recommendations of Regulatory Guide 8.8 and 8.10. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

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3/4.7.10 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.7.11 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, CO₂, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met.

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the nuclear plant.

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.#

ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-11:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.
- ~~b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8.1 Each of the above required fire detection instruments which are accessible during operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detection which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.8.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.8.3 The non-supervised circuits between the local fire protection panels and actuated equipment shall be demonstrated OPERABLE at least once per 6 months.

The fire detection instruments located within the containment are not required to be OPERABLE during the performance of Type A Containment Leakage Rate Tests.

up to the first valve off the loop header that isolate:

PLANT SYSTEMS

3/4.7.11 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

1. Spray and/or Sprinkler System(s) required to be OPERABLE per Specification 3.7.11.2, or
2. Hose standpipe(s) required to be OPERABLE per Specification 3.7.11.4

3.7.11.1 The fire suppression water system shall be OPERABLE with:

- a. Two fire suppression pumps, each with a capacity of 1653 gpm, with their discharge aligned to the fire suppression header, and
- b. An OPERABLE flow path capable of taking suction from the forebay and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves ~~to the yard hydrant end valves, the last valve ahead of the water pressure alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system required to be OPERABLE per Specifications 3.7.11.2 and 3.7.11.4.~~

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APPLICABILITY: At all times.

ACTION:

- a. With only one pump OPERABLE restore the inoperable equipment to OPERABLE status within 7 days or, ~~in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to restore the inoperable equipment to OPERABLE status or to provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~
- b. With the fire suppression water system otherwise inoperable,

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- ☒ e. Establish a backup fire suppression water system within 24 hours, and ~~The provisions of Specification 3.0.4 are not applicable~~

- ~~2. In lieu of any other report required by Specification 6.9.1, submit a Special Report in accordance with Specification 6.9.2:~~
- ~~a) By telephone within 24 hours,~~
 - ~~b) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and~~

PLANT SYSTEMS

ACTION: (Continued)

- c) In writing within 14 days following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.7.11.1 The fire suppression water system shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor driven pump and operating it for at least 15 minutes on recirculation flow.
- b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.
- * c. At least once per 6 months by performance of a system flush. R4
- d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position,
 - 2. Verifying that each pump develops at least 1653 gpm at a system head of 338 feet, R58
 - 3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and
 - 4. Verifying that the No. 1 fire pump starts to maintain the fire suppression water system pressure greater than or equal to 125 psig, and that the No. 2 fire pump starts automatically within 10 ± 2 seconds if the fire suppression water system is not maintained at greater than or equal to 125 psig by the No. 1 pump.
- f. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

*Note: These flushes should coincide with the chlorination of the raw service and fire suppression water system. These flushes should be run, one between April 1 and June 30, and the other between September 1 and November 15.

Within the prescribed spring and fall test period, deviation from the six-month performance frequency is authorized.

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

For Spray and/or Sprinkler systems inside Containment which are inoperable as a result of inoperable fire detection instrumentation, a continuous or hourly fire watch is not required when complying with the ACTION requirements of Specification 3.3.3.8

3.7.11.2 The following spray and/or sprinkler systems shall be OPERABLE:

- a. Reactor Building - RC pump area, Annulus
- b. Auxiliary Building - Elev. 669, 690, 706, 714, 734, 749, 759, ABGTS Filters, EGTS Filters, Cont. Purge Filters, and 125V Battery Rooms.
- c. Control Building - Elev. 669, Cable Spreading Room, MCR air filters, and operator living area.
- d. Diesel Generator Building - Corridor Area.
- e. Turbine Building - Control Building Wall.

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

ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas establish an hourly fire watch patrol. ~~Restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.~~
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.2 Each of the above required spray and/or sprinkler systems shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.
- b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

PLANT SYSTEMS

CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.11.3 The following low pressure CO₂ systems shall be OPERABLE.

- a. Computer Room
- b. Auxiliary Instrument Room
- c. Diesel Generator Rooms
- d. Fuel Oil Pump Rooms
- e. Diesel Generator Building Electrical Board Rooms

APPLICABILITY: Whenever equipment protected by the CO₂ systems is required to be OPERABLE.

ACTION:

- a. With one or more of the above required CO₂ systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. ~~Restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.~~

- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.3.1 Each of the above required CO₂ systems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

4.7.11.3.2 Each of the above required low pressure CO₂ systems shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying the CO₂ storage tank level to be greater than 50% and pressure to be greater than 270 psig, and
- b. At least once per 18 months by verifying:
 1. The system valves and associated ventilation dampers and fire door release mechanisms actuate manually and automatically, upon receipt of a simulated actuation signal, and
 2. Flow from each nozzle during a "Puff Test."

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.11.4 The fire hose stations shown in Table 3.7-5 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-5 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise, route the additional hose within 24 hours. ~~Restore the fire hose station to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and plans and schedule for restoring the station to OPERABLE status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.4 Each of the fire hose stations shown in Table 3.7-5 shall be demonstrated OPERABLE.

- a. At least once per 31 days by a visual inspection of the fire hose stations accessible during plant operations to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Visual inspection of all the stations not accessible during plant operations to assure all required equipment is at the station.
 2. Removing the hose for inspection and re-racking, and
 3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above maximum fire main operating pressure, whichever is greater.

PLANT SYSTEMS

3/4.7.12 FIRE BARRIER PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.7.12 All fire barrier penetrations (including cable penetration barriers, fire doors and fire dampers) in fire zone boundaries protecting safety related areas, shall be functional.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations non-functional, within one hour either, establish a continuous fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the non-functional fire barrier and establish a hourly fire watch patrol. ~~Restore the non-functional fire barrier penetration(s) to functional status within 7 days or, in lieu of any other report required by Specification 6.6.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the non-functional penetration and plans and schedule for restoring the fire barrier penetration(s) to functional status.~~
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

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SURVEILLANCE REQUIREMENTS

4.7.12 Each of the above required fire barrier penetrations shall be verified to be functional:

- a. At least once per 18 months by a visual inspection.
- b. Prior to returning a fire barrier penetration to functional status following repairs or maintenance by performance of a visual inspection of the affected fire barrier penetration(s).

PLANT SYSTEMS

BASES

3/4.7.11 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, CO₂, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met.

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the nuclear plant.

All hourly fire watch patrols require that a trained individual be in the specified area at intervals of 60 minutes with a margin of 15 minutes.

A continuous fire watch requires that a trained individual be in the specified area at all times, that the specified area contain no impediment to restrict the movements of the continuous fire watch, and that each compartment within the specified area is patrolled at least once every 15 minutes with a margin of 5 minutes.

A specified area for a continuous fire watch is one or more fire zones within a single fire area, which are easily accessible to each other and can be patrolled within 15 minutes. Easy access is defined as: no locked doors or inoperable card reader, no C-Zone entry required, or no hazards that will interfere with the continuous fire watch activity being performed within the 15-minute period.

BR-4

ENCLOSURE 2

PROPOSED TECHNICAL SPECIFICATION CHANGE

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

(TVA-SQN-TS-93-10)

DESCRIPTION AND JUSTIFICATION FOR AMENDING

LIMITING CONDITION FOR OPERATION

(LCO) 3.7.11.1.b, ACTION STATEMENTS

FOR LCOs 3.7.11.1, 3.7.11.2, 3.7.11.3,

3.7.11.4, 3.7.12, 3.3.3.8, AND

BASES 3/4.7.11

Description of Change

TVA proposes to modify the Sequoyah Nuclear Plant (SQN) Units 1 and 2 technical specifications (TSs) to amend the following fire protection specifications: (1) Fire Suppression Systems Specification 3/4.7.11, (2) Fire Barrier Penetration Specification 3/4.7.12, and (3) Fire Detection Instrumentation Specification 3/4.3.3.8. A description of SQN's fire protection program is provided in Section 9.5.1 of the Final Safety Analysis Report.

TVA's proposed amendment is divided into three parts. The first part revises Limiting Condition for Operation (LCO) 3.7.11.1.b that governs the operability requirements for the fire suppression water system flow path. SQN LCO 3.7.11.1.b currently states:

"An OPERABLE flow path capable of taking suction from the forebay and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the last valve ahead of the water pressure alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system required to be OPERABLE per Specifications 3.7.11.2 and 3.7.11.4."

TVA's proposed change deletes the words "to the yard hydrant curb valves, the last valve ahead of the water pressure alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system required to be OPERABLE per Specifications 3.7.11.2 and 3.7.11.4" and modifies the remaining words to read as follows:

"An OPERABLE flow path capable of taking suction from the forebay and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves up to the first valve off the loop header that isolate:

1. Spray and/or sprinkler system(s) required to be OPERABLE per Specification 3.7.11.2, or
2. Hose standpipe(s) required to be OPERABLE per Specification 3.7.11.4."

In addition to the above changes, an exemption to the provisions of TS 3.0.4 has been added to Action Statement (b) of 3.7.11.1.

The second part of TVA's proposed amendment involves a change to Action Statement (a) of LCO 3.7.11.2 for spray and/or sprinkler systems. The proposed change provides additional guidance within the action that obviates the requirement for maintaining continuous or hourly fire watch inside containment (i.e., reactor building - reactor coolant [RC] pump area). The proposed words that are being added are as follows:

"For spray and/or sprinkler systems inside containment which are inoperable as a result of inoperable fire detection instrumentation, a continuous or hourly fire watch is not required when complying with the ACTION requirements of Specification 3.3.3.8."

The third part of TVA's proposed TS change is an administrative change to delete various reporting requirements associated with SQN's fire protection systems. The current action statements of Specifications 3/4.7.11, "Fire Suppression Systems"; 3/4.7.12, "Fire Barrier Penetrations"; and 3/4.3.3.8, "Fire Detection Instrumentation," contain requirements for submitting a special report to the Commission when fire protection deficiencies occur. The current bases for Fire Suppression System Specification 3/4.7.11 also make reference to special reporting requirements. TVA's proposed amendment deletes these special reporting requirements from SQN's fire protection TSs.

Reason for Change

SQN's current requirements for LCO 3.7.11.1.b (fire suppression flow path) specify operability boundaries for the various fire protection end devices such as spray and/or sprinkler systems and hose standpipes. The current wording in LCO 3.7.11.1.b has resulted in unnecessary entries into the flow path LCO when isolation of the various fire protection end devices for preplanned testing or when maintenance is required. The proposed change to the boundaries would not affect overall fire suppression operability. Accordingly, TVA's proposed change to LCO 3.7.11.1.b provides needed revision and clarification to the flow path operability boundaries and reduces the potential for any misinterpretation or misapplication of LCO requirements. Also, the addition of a TS 3.0.4 exemption is being provided to allow mode changes while relying upon Action Statement (b).

The proposed change to Action (a) of LCO 3.7.11.2 is necessary to provide clarification and guidance to the operator for a specific case involving inoperable fire detection instrumentation inside containment. SQN LCO 3.3.3.8 contains operability requirements for fire detection instrumentation. The action statement associated with LCO 3.3.3.8 (specifically Action [a]) distinguishes between actions necessary for inoperable fire detection instrumentation located inside and outside containment. In the event fire detection instrumentation becomes inoperable inside containment (specifically the fire detection instrumentation associated with the reactor building - RC pump area), under the current TS the associated spray or sprinkler system for the RC pump area would be declared inoperable and Action (a) of LCO 3.7.11.2 would apply. Action Statement (a) of LCO 3.7.11.2 does not currently make the distinction as to appropriate actions for an inoperable system inside containment. Consequently, a change to Action (a) of LCO 3.7.11.2 is necessary to clarify the action requirements for the spray and/or sprinkler systems inside containment.

TVA also proposes to eliminate the special reporting requirements contained in SQN's fire protection TSs and TS bases. Removing the special reporting requirements from SQN TSs reduces the regulatory burden.

Justification for Change

TVA's proposed change to LCO 3.7.11.1.b clarifies the boundary for an operable flow path by establishing the boundary at the first valve off the header (i.e., yard loop or building loop) leading to the particular end device(s) (i.e., spray and/or sprinkler system, or hose standpipe) rather than the last valve ahead of the particular end device(s). Figure 1 provides a representation of SQN's fire protection piping configuration. The boundary for an operable flow path that currently exists in LCO 3.7.11.1.b has resulted in an unnecessary overlap between TS LCO requirements for both the end device(s) and the flow path. This is an undesirable condition that leads to multiple LCO entries and action requirements for cases when preplanned maintenance and testing of SQN's fire protection system do not affect the flow path (i.e., only the end device[s] has been removed from service).

An example of this problem is illustrated in Figure 2. When a sprinkler system valve (Valve No. 37) is closed, the operator is required to enter the LCO for the end device (i.e., LCO 3.7.11.2 for the affected sprinkler). However, if Valve No. 34 were to be closed to perform repair on the piping, the operator would be required to enter the flow-path LCO (LCO 3.7.11.1.b) and the sprinkler-system LCO (LCO 3.7.11.2) under SQN's current TS requirements. Since the loop flow path is unaffected by the isolation of Valve No. 34, entry into LCO 3.7.11.1.b for flow path is inappropriate and results in multiple TS action requirements. TVA's proposed change would establish appropriate flow-path operability boundaries that would result in a more appropriate application of TS LCOs for SQN's fire protection systems. It should be pointed out that in this example, isolation of Valve Nos. 26 and 27 would have the same net effect as isolating Valve No. 34. TVA realizes that other valve configurations may exist that will have the same net effect as taking credit for the first valve off of the header that will also not affect the fire suppression water system's capability. However, difficulty remains in generically defining the boundaries for these other potential valve configurations.

The proposed change to add the exemption to TS 3.0.4 is consistent with guidance provided in Generic Letter (GL) 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications (STSs) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements." The GL states: "For an LCO that has action requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with these action requirements."

The proposed change to Action (a) of LCO 3.7.11.2 for spray and/or sprinkler systems is justified based on the current guidance given in Action (a) of LCO 3.3.3.8 for fire detectors. In the event fire detection instrumentation becomes inoperable, Action (a) of LCO 3.3.3.8 requires monitoring the containment air temperature at least once every hour for the affected locations. This action is appropriate for the detection of a fire inside containment and precludes establishing an hourly fire watch patrol to inspect the zone(s) with the inoperable fire

detection instrumentation inside containment. TVA's proposed change to Action (a) of LCO 3.7.11.2 provides similar guidance for distinguishing appropriate actions for an inoperable spray and/or sprinkler system located inside containment (inoperable solely because of inoperable detection instrumentation).

A review of standard TSs (Revision 4A) for Westinghouse Electric Corporation pressurized water reactors and other utility TSs indicates that there are no special reporting requirements associated with fire protection systems. SQN's TSs currently contain special reporting requirements in the action statements of the following LCOs:

1. LCO 3.7.11.1, Fire Suppression Water System
2. LCO 3.7.11.2, Spray and/or Sprinkler Systems
3. LCO 3.7.11.3, CO₂ Systems
4. LCO 3.7.11.4, Fire Hose Stations
5. LCO 3.7.12, Fire Barrier Penetrations
6. LCO 3.3.3.8, Fire Detection Instrumentation

These special reporting requirements result in an unnecessary regulatory burden when preplanned maintenance or testing activities are conducted on SQN's fire protection systems and backup fire suppression equipment and fire watch patrols (if applicable) are established and are available.

Reporting requirements should be applicable to cases when there is an uncompensated loss-of-fire protection. In these cases, the reporting criteria of 10 CFR 50.72 and 10 CFR 50.73 may be applicable. TVA's proposed change to remove the special reporting requirements is consistent with the guidance provided in NRC GL 86-10, "Implementation of Fire Protection Requirements" (reference Item E), and Generic Letter 88-12, "Removal of Fire Protection Requirements From Technical Specifications."

Environmental Impact Evaluation

The proposed change request does not involve an unreviewed environmental question because operation of SQN Units 1 and 2 in accordance with this change would not:

1. Result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the staff's testimony to the Atomic Safety and Licensing Board, supplements to the FES, environmental impact appraisals, or decisions of the Atomic Safety and Licensing Board.
2. Result in a significant change in effluents or power levels.
3. Result in matters not previously reviewed in the licensing basis for SQN that may have a significant environmental impact.

FIGURE 1

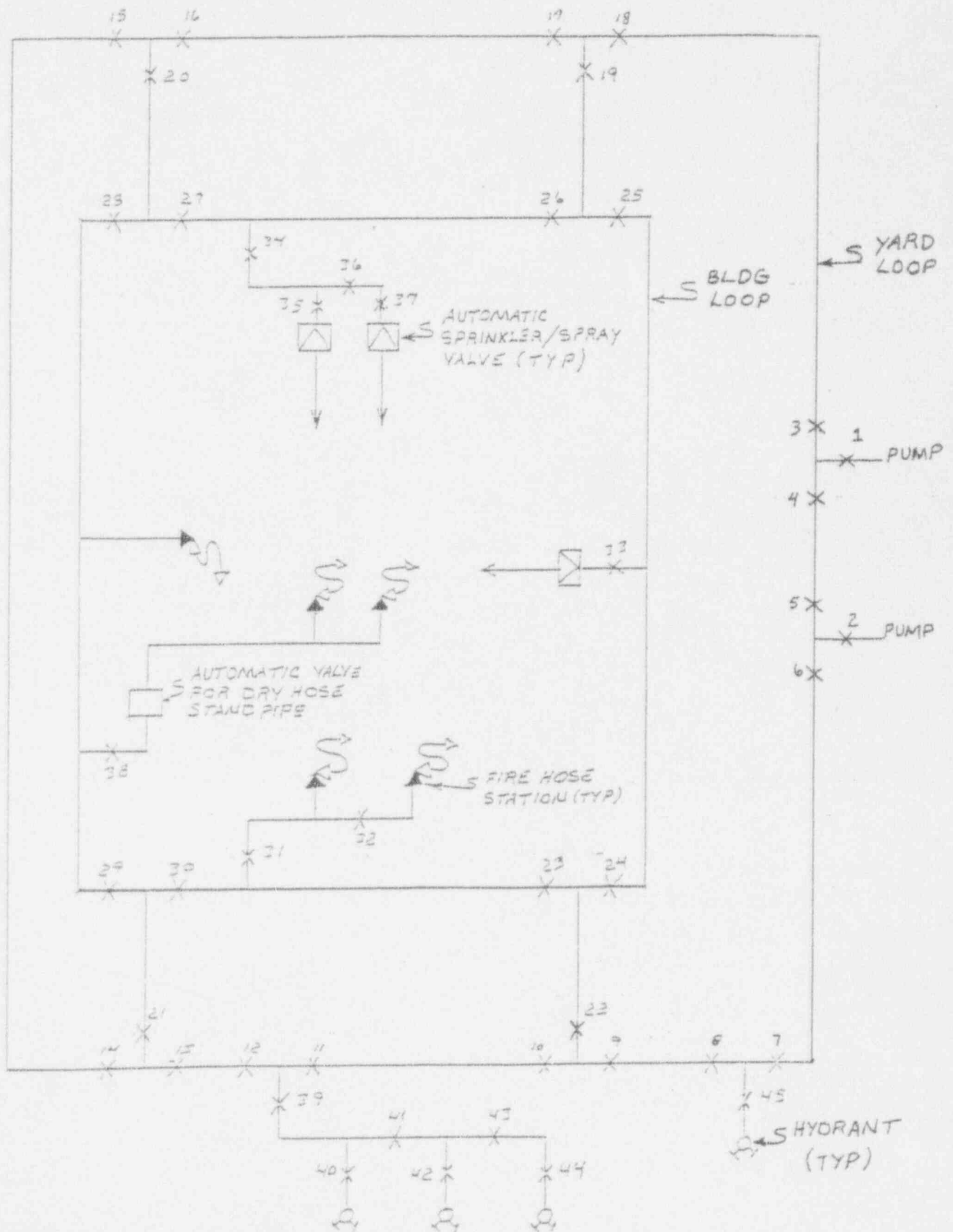
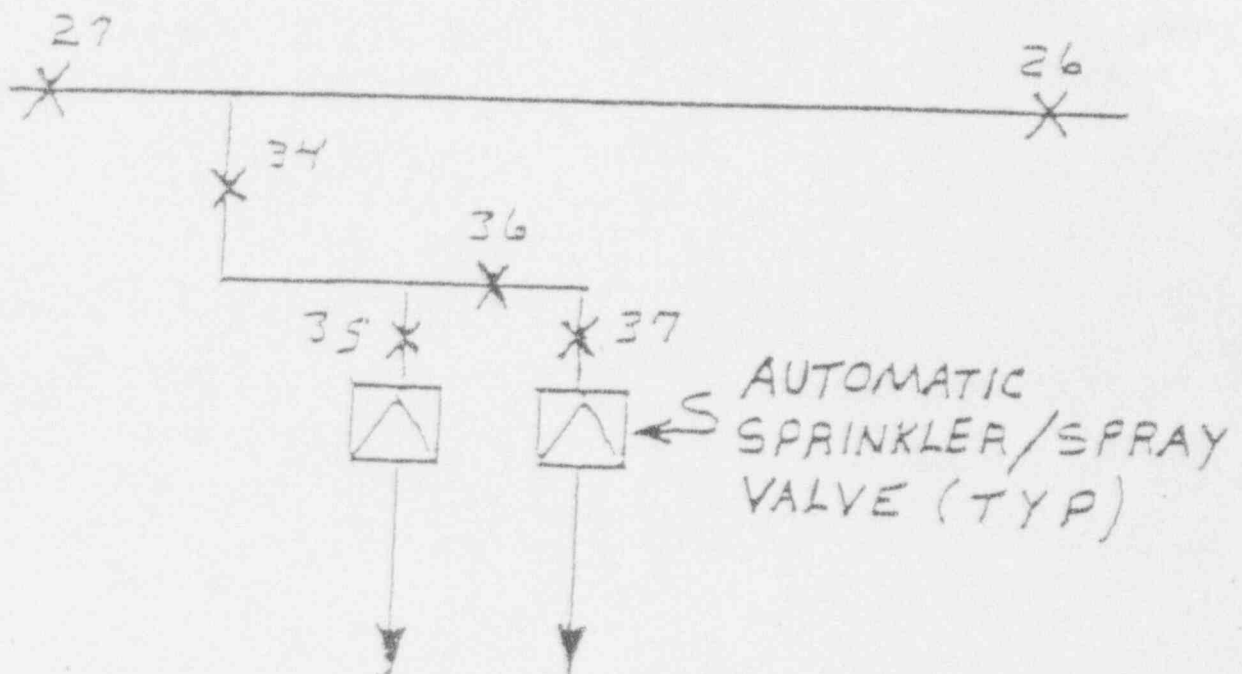


FIGURE 2



Enclosure 3

PROPOSED TECHNICAL SPECIFICATION CHANGE

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

(TVA-SQN-TS-93-10)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Significant Hazards Evaluation

TVA has evaluated the proposed technical specification (TS) change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CFR 50.92(c). Operation of Sequoyah Nuclear Plant (SQN) in accordance with the proposed amendment will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

TVA's proposed TS change is a three-part change. The first part provides a clarification to the requirements of the existing fire suppression system flow path operability (Limiting Condition for Operation [LCO] 3.7.11.1.b). The current LCO wording leads to misinterpretations and misapplication of the LCO requirements associated with flow path when isolating portions of SQN's fire protection system for preplanned maintenance or testing. This has resulted in unnecessary entries into multiple fire protection LCOs and multiple action requirements. TVA's proposed amendment modifies LCO 3.7.11.1.b to establish clear boundaries for maintaining flow-path operability and provides a more appropriate application of the LCO requirements.

The second part of TVA's proposed amendment involves a change to Action Statement (a) of LCO 3.7.11.2 for spray and/or sprinkler systems. The proposed change provides additional guidance within the action that obviates the requirement for maintaining continuous or hourly fire watch inside containment (i.e., reactor building - reactor coolant [RC] pump area). The activation of the spray and/or sprinkler system in the RC pump area (inside containment) is dependent upon operable fire detection instrumentation in this area. The TS that governs operability requirements for the fire detection instrumentation is governed by Specification 3.3.3.8. The action requirements of Specification 3.3.3.8 are based on the location of the inoperable fire detection instrumentation (outside containment versus inside containment). TVA's proposed change applies the "location-based" action requirements of Specification 3.3.3.8 to the action requirements of Specification 3.7.11.2 when a spray and/or sprinkler system inside containment becomes inoperable solely because of inoperable fire detection instrumentation.

The third part of TVA's proposed change is the elimination of special reporting requirements from SQN's fire protection TSs. SQN TSs currently contain special reporting requirements in the action statement of the following LCOs:

1. LCO 3.7.11.1, Fire Suppression Water System
2. LCO 3.7.11.2, Spray and/or Sprinkler Systems
3. LCO 3.7.11.3, CO₂ Systems
4. LCO 3.7.11.4, Fire Hose Stations
5. LCO 3.7.12, Fire Barrier Penetrations
6. LCO 3.3.3.8, Fire Detection Instrumentation

The elimination of the special reporting requirements reduces an unnecessary regulatory burden and is consistent with the guidance provided in NRC Generic Letter 86-10, "Implementation of Fire Protection Requirements" (reference Item E), and Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications."

TVA's proposed amendment, as described above, is administrative in nature and does not affect SQN's ability to maintain fire protection at the site or achieve and maintain safe shutdown in the event of a fire. Consequently, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

TVA's proposed TS change to the fire suppression system flow-path boundaries in LCO 3.7.11.1.b does not alter the protective functions or reduce the level of fire protection required by TSs. The proposed change to Action (a) of LCO 3.7.11.2 for spray and/or sprinkler systems provides consistency with a related action for fire detection instrumentation (Action [a] of LCO 3.3.3.8). The proposed change to remove the special reporting requirements from SQN TSs is an administrative change that reduces the regulatory burden for TS compliance.

TVA's proposed change does not result in any new scenarios that would affect SQN's fire protection program. Consequently, the change does not create the possibility of a new or different kind of accident from any previously analyzed.

3. Involve a significant reduction in a margin of safety.

TVA's proposed TS amendment continues to maintain TS operability requirements for SQN's fire detection instrumentation, the fire suppression water system, the spray and/or sprinkler systems, the CO₂ systems, the fire hose stations, the yard fire hydrants, and the fire barrier penetrations. The performance of surveillance requirements to ensure operability of these systems is retained in TSs. The ability to achieve and maintain safe shutdown in the event of fire has not been affected by the proposed TS change. Accordingly, the proposed change will not involve a reduction in the margin of safety.