Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

August 26, 1990

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Zion Station Units 1 and 2
Supplemental Information to Support an
Application for Amendment to Facility
Operating Licenses DRP-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

Reference: May 23, 1990, letter from R.A. Chrzanowski to
T.E. Murley

Dear Dr. Murley:

Reference (a) contained a proposed Technical Specification Amendment regarding the incorporation of the Post Accident Monitoring Instrumentation requirements from Generic Letter 83-37 into the Zion Station Technical Specifications. After numerous discussions with the NRC Project Manager, the attachment to this letter is being submitted to clarify the intent of the Core Exit Thermocouples, to clarify the PORV position indicators, and to increase the minimum number of channels and the required number of channels for the Auxiliary Feedwater Flowrate and the Steam Generator Water Level (Wide Range) indications.

The Attachments to this letter contain supplemental information presented with side bars noted in the margin of the affected pages. The entire submittal is contained in the attachments for completeness. No significant changes have been made with this submittal. The conclusions from the Significant Hazards Evaluation in reference (a) remain unaffected.

The supplemental information has been reviewed and approved by both onsite and offsite review in accordance with 10 CFR 50.92 (c).

Please direct any questions regarding this matter to this office.

Very truly yours,

R.A. Chrzanowski

R.A. Chrzanowski
Nuclear Licensing Administrator

cc: C. Patel - NRR
Zion Resident Inspector
Region III Office
Office of Nuclear Facility Safety - IDNS

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LIST OF CHANGES

The May 23, 1990, Commonwealth Edison submitted proposed Technical Specifications for the Regulatory Guide 1.97 Post Accident Monitoring Instrumentation. Based on discussions with the NRC Project Manager, additional information was requested. The purpose of this attachment is to summarize the changes that have been made from the original submittal to this submittal. The page numbers noted below correspond to those in this submittal.

Page	Issue
6	last paragraph was added to provide additional information pertaining to the control room ventilation system.
8	added reference to NRC letter dated October 31, 1980.
	deleted reference to NRC memorandum dated October 28, 1985.
10	deleted reference to NRC memorandum dated October 28, 1985.
11	revised wording in last paragraph for clarity.
12	revised last paragraph 4th line. Original submittal referenced Steam Generator level wide range instrumentation minimum number of channels operable was being changed from 1 to not applicable. This is revised in this submittal changing the minimum number of channels operable from 1 to 2.
	also revised this paragraph to delete the words, "and 48 hours in the event all 4 instruments failing".
13	the first paragraph has been reworded to support changing the minimum number of channels from 1 to 2.
	the second paragraph, third line, initially stated that the Auxilary Feed water flow instruments minimum number of channels was being changed from 1 to not applicable. After further discussions, this is changed from 1 to 2 minimum number of channels.
	in the second paragraph, 18th line, the words, "which is currently in Zion Technical Specifications" was added for clarity.
	in the second paragraph, last line, the words, "and 48 hours in the event of all 4 instruments failing" was deleted.
14	the first paragraph was added for clarity.
	in the second paragraph, 7th line, the words "Zion Technical" were added for clarity.
15	paragraphs 3, 4, and 5 were added to provide additional information on the PORVs.

16 paragraphs 1 and the first part of 2 were added/revised to discuss the PORVs.

the second paragraph deleted reference to NRC memorandum dated October 28, 1985.

17 paragr[illegible] 2 was reworded for clarity.

in paragraph 3, line 4, the word "was" was changed to "were".

paragraph 3, line 9, was added for clarity.

19 paragraph 1, line 6, deleted the redundant word "performing".

paragraph 2, line 23, date changed to October 31, 1990.

the last paragraph was deleted, that reference NRC memorandum dated October 28, 1985.

20 paragraph 1, line 23, deleted NRC memorandum dated October 28, 1985, and added reference to NRC letter dated April 14, 1989.

paragraph 2 was revised to provide additional information on Core Exit Thermocouples.

21 paragraph 1 revised wording for clarity on Core Esit Thermocouples.

22 paragraph 2, line 10, added a comma.

47 paragraph 1 deleted reference to NRC memorandum dated October 28, 1985

51 paragraph 2 added word "consequences" to line 8.

deleted initial submittal sentence of "The consequences of evaluated accidents will remain the same". It made redundant statement to previous amended sentence.

reworded sentence in line 11 to reflect changing the minimum number of channels from "1 to not applicable" to "1 to 2 channels".

52 paragraph 3, line 11, the words "2 or more channels" were added for clarity.

53 in paragraph 1, line 30, a comma was added.

56 variable 7 Steam Line Pressure deleted PT 514, 524, 534, and 544 instruments. They are not Type A variables.

58 the last part of the last paragraph was added for clarity.

Changes (continued)

The following Attachments are included in this submittal:

Attachment 1	Status of Generic Letter 83-37 NUREG 0737 Technical Specification Enclosure 1 Items.
Attachment 2	Purpose of the Accident Monitoring System.
Attachment 3	History
Attachment 4	Summary of Proposed Changes
Attachment 5	Technical Specification Pages
Attachment 6	Evaluation of Significant Hazards Consideration
Attachment 7	Environmental Assessment Statement
Attachment 8	Zion Station Type A Variable
Attachment 9	Post Accident Monitoring Instrumentation
Attachment 10	Unchanged Variables

ATTACHMENT 1

STATUS OF GENERIC LETTER 83-37 NUREG 0737 TECHNICAL SPECIFICATION ENCLOSURE 1 ITEMS

The following information provides a status of all Enclosure 1 Items to Generic Letter 83-37.

(1) Reactor Coolant System Vents (IIB.1)
At least one reactor coolant system vent path (consisting of at least two valves in series which are powered from emergency busses) shall be operable and closed at all times (except for cold shutdown and refueling) at each of the following locations:

a. Reactor Vessel Head
b. Pressurizer steam space
c. Reactor coolant system high point

STATUS:

This item has been complied with as addressed in Technical Specification 3/4.3.1.G

(2) Post-accident Sampling (II.B.3)

Licensees should ensure that their plant has the capability to obtain and analyze reactor coolant and containment atmosphere samples under accident conditions. An administrative program should be established, implemented and maintained to ensure this capability. The program should include:

a) training of personnel
b) procedures for sampling and analysis, and
c) provisions for maintenance of sampling and analysis equipment.

It is acceptable to the Staff, if the licensee elects to reference this program in the administrative controls section of the Technical Specifications and include a detailed description of the program in the plant operation manuals. A copy of the program should be easily available to the operating staff during accident and transient conditions.

STATUS:

The requirement to have Post-Accident Sampling Procedures is currently in Zion Station's Technical Specifications as Specification 6.2.1.L. This Specification is being revised in this submittal to address the program to include; the requirements of training personnel, procedures for sampling and analysis, and maintenance of sampling and analysis equipment.

(3) Long Term Auxiliary Feedwater System Evaluation (II.E.1.1)

The objective of this item is to improve the reliability and performance of the Auxiliary Feedwater (AFW) system. Technical Specifications depend on the results of the licensee's evaluation and staff review of each plant. The Limiting Conditions of Operation (LCO) and surveillance requirements for the AFW system should be similar to safety related systems.

STATUS:

This item has been complied with as addressed in Technical Specification 3/4.7.2.

(4) Noble Gas Effluent Monitors (II.F.1.1)

Noble gas effluent monitors provide information, during and following an accident, which are considered helpful to the operator in accessing the plant condition. It is desired that these monitors be operable at all times during plant operation, but they are not required for safe shutdown of the plant. In case of failure of the monitor, appropriate actions should be taken to restore its operational capability in a reasonable period of time Considering the importance of the availability of the equipment and possible delays involved in administrative controls, 7 days is considered to be the appropriate time period to restore the operability of the monitor. An alternate method for monitoring the effluent should be initiated as soon as practical, but no later than 72 hours after the identification of the failure of the monitor. If the monitor is not restored to operable conditions within 7 days after the failure a special report should be submitted to the NRC within 14 days following the event, outlining the cause of inoperability, actions taken and the planned schedule for restoring the system to operable status.

STATUS:

These monitors are currently contained in Zion Station Technical Specification Table 3.12-1. A new action statement is being proposed to incorporate the requirements of Generic Letter 83-37 in this submittal.

(5) Sampling and Analysis of Plant Effluents (II.F.1.2)

Each operating nuclear power reactor should have the capability to collect and analyze or measure representative samples of radioactive iodines and particulates in plant gaseous effluents during and following an accident. An administrative program should be established, implemented and maintained to ensure this capability. The program should include:

a) training of personnel
b) procedures for sampling and analysis, and
c) provisions for maintenance of sampling and analysis equipment

It is acceptable to the staff, if the licensee elects to reference this program in the administrative controls section of the Technical Specifications and include a detailed description of the program in the plant operation manuals. A copy of the program should be readily available to the operating staff during accident and transient conditions.

STATUS:

This item is being proposed for incorporation into Technical Specification 6.2.1.L, as addressed in Generic Letter 83-37 in this submittal.

(6) Containment High Range Radiation Monitor (II.F.1.3)

A minimum of two in containment radiation level monitors with a maximum range of 10^8 rad/hr (10^7 R/hr for photon only) should be operable at all times except for cold shutdown and refueling outages. In case of failure of the monitor, appropriate actions should be taken to restore its operational capability as soon as possible. If the monitor is not restored to operable condition within 7 days after the failure, a special report should be submitted to the NRC within 14 days following the event, outlining the cause of inoperability, actions taken and the planned schedule for restoring the equipment to operable status.

STATUS:

These monitors are currently contained in Zion Station Technical Specification Table 3.14-1. A new action statement is being proposed to incorporate the requirements of Generic Letter 83-37 in this submittal.

(7) Containment Pressure Monitor (II.F.1.4)

Containment pressure should be continuously indicated in the control room of each operating reactor during Power Operation, Start-up and Hot Standby modes of operation. Two channels should be operable at all times when the reactor is operating in any of the above mentioned modes. Technical Specifications for these monitors should be included with other accident monitoring instrumentation in the present Technical Specifications. Limiting conditions for operation (including the required Actions) for the containment pressure monitor should be similar to other accident monitoring instrumentation included in the present Technical Specifications.

STATUS:

This item is being proposed for incorporation into the Post Accident Monitoring Instrumentation Table 3.8.9-1. Reference to the Narrow Range Containment Pressure instrumentation will be changed to Wide Range to be consistent with the instrumentation approved in Zion Station's Regulatory Guide 1.97 submittal. This proposed change is being made in accordance with the guidance specified in Generic Letter 83-37.

(8) Containment Water Level Monitor (II.F.1.5),

A continuous indication of containment water level should be provided in the control room of each reactor during Power Operation, Start-up and Hot Standby modes of operation. At least one channel for narrow range and two channels for wide range instruments should be operable at all times when the reactor is operating in any of the above modes. Narrow range instruments should cover the range from the bottom to the top of the containment sump. Wide range instruments should cover the range from the bottom of the containment to the elevation equivalent to a 600,000 gallon (or less if justified) capacity. Technical Specifications for containment water level monitors should be included with other accident monitoring instrumentation in the present Technical Specifications. LCOs (including the required Actions) for wide range monitors should be similar to other accident monitoring instrumentation included in the present Technical Specifications. LCOs for narrow range monitor should include the requirement that the inoperable channel will be restored to operable status within 30 days or the plant will be brought to Hot Shutdown condition as required for other accident monitoring instrumentation.

STATUS:

This item is being proposed for incorporation into Accident Monitoring Instrumentation Table 3.8.9-1 in this submittal. This change is in accordance with the guidance specified in Generic Letter 83-37.

(9) Containment Hydrogen Monitor (II.F.1.6)

Two independent containment hydrogen monitors should be operable at all times when the reactor is operating in Power Operation or Start-up modes. LCO for these monitors should include the requirement that with one hydrogen monitor inoperable, the monitor should be restored to operable status within 30 days or the plant should be brought to at least a hot standby condition within the next 6 hours. If both monitors are inoperable, at least one monitor should be restored to operable status within 72 hours or the plant should be brought to at least hot standby condition within the next 6 hours.

STATUS:

This item has been complied with as addressed in Technical Specification 3/4.8.8.B.

(10) Instrumentation for Detection of Inadequate Core Cooling (II.F.2)

Subcooling margin monitors, core exit thermocouples, and a reactor coolant inventory tracking system (e.g., differential pressure measurement system designed by Westinghouse, Heated Junction Thermocouple System designed by Combustion Engineering, etc.) may be used to provide indication of the approach to, existence of, and recovery from inadequate core cooling (ICC). These instrumentations should be operable during Power Operation, Start-up, and Hot Shutdown modes of operation for each reactor. Subcooling margin monitors should have already been included in the present Technical Specifications. Technical Specifications for core exit thermocouples and the reactor coolant inventory tracking system should be included with other accident monitoring instrumentation in the present Technical Specifications. Four core exit thermocouples in each core quadrant and two channels in the reactor coolant tracking system are required to be operable when the reactor is operating in any of the above mentioned modes. Minimum of two core exit thermocouples in each quadrant and one channel in the reactor coolant tracking system should be operable at all times when the reactor is operating in any of the above mentioned modes.

STATUS:

These items are being proposed for incorporation into the Post-Accident Monitoring Instrumentation Table 3.8.9-1 in this submittal. These changes are in accordance with the guidance specified in Generic Letter 83-37.

(11) Control Room Habitability Requirements (III.D.3.4)

Licensees should assure that control room operators will be adequately protected against the effects of the accidental release of toxic and/or radioactive gases and that the nuclear power plant can be safely operated or shutdown under design basis accident conditions. If the results of the analyses of postulated accidental release of toxic gases (at or near the plant) indicate any need for installing the toxic gas detection system, it should be included in the Technical Specifications. All detection systems should be included in the Technical Specifications. In addition to the above requirements, other aspects of the control room habitability requirements should be included in the Technical Specifications for the control room emergency air cleanup system. Two independent control room emergency air cleanup systems should be operable continuously during all modes of plant operation and capable of meeting design requirements.

STATUS:

Technical Specifications to address these concerns will be submitted at a later date. Several design and licensing issues must be reviewed to assure that the proposed specifications are properly written to address all of the appropriate concerns.

CECo is currently completing several modifications to the Control Room Ventilation System. The NRC was informed of these modifications in CECo letter from G.E. Trzyna to A.B. Davis (NRC) dated May 12, 1989.

ATTACHMENT 2

PURPOSE OF THE ACCIDENT MONITORING SYSTEM

The operability of the accident monitoring instrumentation assures that there is sufficient information available on selected plant parameters to perform manual actions, and to monitor and assess plant status and behavior following an accident. Regulatory Guide 1.97 specifies the types, design, and qualification criteria that must be met for these instruments. These instruments are categorized into several types; Type A, are those that supply information necessary for personnel to perform manual actions during an accident that are essential for direct accomplishment of specified safety functions for which no automatic control is provided. Type A variables do not include variables associated with contingency actions. Type B, variables supply information to indicate whether plant safety functions are being accomplished. Type C, variables supply information indicating the potential for or the actual breach of fission product barriers. Type D, variables supply information to indicate the operation of individual safety related or important to safety systems. Type E, variables supply information used in determining and continuously assessing the magnitude of radioactive releases. All Type A variables for Zion Station were identified in Zion Stations Regulatory Guide 1.97 revision 2 submittal dated August 1, 1986. As a minimum, these variables are included into the Technical Specifications to assure the availability of information required to perform manual actions following an accident. These variables are listed in Attachment 8 " Zion Station Type A Variables" of this submittal, identifying which Technical Specification they are incorporated into.

ATTACHMENT 3

HISTORY

Following is a listing of correspondence related to this submittal. This is included to provide a brief history regarding selected variables referenced in this submittal.

October 31, 1980, Post TMI Requirements from the NRC to All Utilities.

April 20, 1981, Zion Station was issued Amendments 63 and 60 to Facility Operating License No.'s DPR-39 and DPR-48. These amendments incorporated the requirements for implementation of the TMI-2 Lessons Learned Category "A" items.

November 1, 1983, Generic Letter 83-37 regarding NUREG 0737 Technical Specifications was issued.

August 1, 1986, Commonwealth Edison transmitted to H.R. Denton a review describing how the requirements of Regulatory Guide 1.97 have or will be met at Zion Station. At that time, Commonwealth Edison identified several instruments that required modifications to meet Regulatory Guide 1.97 design and qualification criteria. The following instruments related to this submittal were identified:

- Refueling Water Storage Tank Level,
- Core Exit Thermocouples,
- RCS Subcooling,
- Condensate Storage Tank Level.

February 2, 1987, Commonwealth Edison re-enforced commitments made to upgrade the Core Exit Thermocouples and RCS Subcooling Monitors to meet Regulatory Guide 1.97 revision 2 qualifications for Unit 2 by July 1, 1987, and Unit 1 during the Fall 1987 refueling outage. In addition, commitments were made to address the Refueling Water Storage Tank Level indicators, and Condensate Storage Tank indicators during the first scheduled refuel outages for Units 1 and 2, nine months following NRC approval of Zion Station's Regulatory Guide 1.97 revision 2 submittal.

May 15, 1987, the NRC issued an interim Technical Evaluation Report regarding Commonwealth Edison's August 1, 1986 Regulatory Guide 1.97 submittal. This report concluded that the exceptions to Regulatory Guide 1.97 Revision 2 items provided by Commonwealth Edison were acceptable, with the exception of 22 items. Commonwealth Edison was requested to review the interim report and provide a response to these items.

August 24, 1987, Commonwealth Edison responded to all but 2 of the items from the NRC interim Technical Evaluation Report dated May 15, 1987. At this time, Commonwealth Edison committed to upgrade the Pressurizer Safety Valve Temperature elements to comply with Regulatory Guide 1.97 revision 2 environmental qualification recommendations. These upgrades were to be scheduled pending final resolution of all Regulatory Guide 1.97 revision 2 issues, and evaluation of environmental qualification requirements.

December 8, 1987, Commonwealth Edison responded to the two remaining exceptions identified in the May 15, 1987 letter referenced above.

April 14, 1989, the NRC transmitted Zion Station's Regulatory Guide 1.97 revision 2 Safety Evaluation Report. The results of this review concluded that Zion Station was acceptable in respect to conformance with Regulatory Guide 1.97 revision 2 in all areas except for; accumulator level and pressure, neutron flux monitors, and containment isolation valve position indication. These three issues will be responded to separately from this submittal.

ATTACHMENT 4

SUMMARY OF PROPOSED CHANGES

The Technical Specification changes in this letter are being submitted in accordance with the guidance given in NRC Generic Letter 83-37, regarding NUREG 0737 Technical Specifications. Zion Station's Regulatory Guide 1.97 revision 2 submittal was utilized in the selection of all appropriate instrumentation. This submittal includes all of the Type A variables identified for Zion Station (Attachment 8). The instrumentation specified in this submittal currently meet or will be upgraded to meet the design and qualification criteria specified in Regulatory Guide 1.97 revision 2.

The following is a brief description of the proposed changes being submitted and their associated justifications. The alphabetic designators annotated in the left hand margin, designate the corresponding No Significant Hazards Consideration that the change was evaluated under.

A) The Table of Contents page iii was revised to change the following items:

- the appropriate page numbers were added to the bases sections where they were previously omitted,
- changed the title for Technical Specification 3.8.9 to "Accident Monitoring Instrumentation", to be consistent with the proposed amendment,
- changed the title for Technical Specification 3.12 to "Gaseous Effluent", to match the title of the Specification,
- changed Technical Specification 3.10.4 title from "End Anchorages and Concrete" to "End Anchorage and Concrete", to match the title of the Technical Specification.

A) The Table of Contents page v was revised to change the following items:

- correct the page references for items 6.2, 6.4, and 6.5 to accurately depict the appropriate pages, and
- changed the title of Technical Specification 6.3 to "Action to be Taken in the Event of a Reportable Event in Plant Operation" to match the title of the Specification.

A) The List of Tables page x was revised to change the following items:

- The page number for item 4.8.9-1 from 192b to 192c due to an additional page associated with this amendment, and

- the addition of table 4.8.9-2 titled "Accident Monitoring Instrumentation Numbers". This table was added to provide a cross reference of the accident parameter to the corresponding instrument.

E) The Mode of Applicability for Specification 3.8.9, Accident Monitoring Instrumentation has been revised to include Mode 7. Generic Letter 83-37 was written to address the modes of applicability as defined in the Standardized Technical Specifications. Mode 7 in the Zion Station Technical Specifications is defined as; less than or equal to 5% power with reactivity and temperature stated per the specific test. This mode is synonymous with Mode 2, incorporating specified tests from the Special Test Exemptions in the Standard Technical Specifications. This change will require the Accident Monitoring Instruments to be operable in Modes 1, 2, 3, and 7. This change is consistent with the intended Modes for the Post Accident Monitoring Instruments in Generic Letter 83-37.

A) Action statements a and b associated with Technical Specification 3.8.9 have been changed to reference Mode 4 as the shutdown requirement instead of HOT SHUTDOWN mode with T_{avg} less than 350 degrees F. Mode 4 is currently specified in the parenthesis following this statement to provide clarification in regards to the appropriate condition. This change will eliminate the ambiguity that exists in this action, because of the Technical Specifications containing 2 different Hot Shutdown modes, one at greater than 350 degrees F, and the other at greater than 200 degrees F and less than or equal to 350 degrees F. MODE 4 appropriately defines the required condition for the plant to be placed into. As such, the required mode for the plant to be placed into has not been changed.

A) Surveillance Requirement 3.8.9 has been renumbered to 4.8.9 to be consistent with the 3.0/4.0 numbering and usage rules. "INSTRUMENT CHANNEL CHECK AND CHANNEL CALIBRATION" have been revised to "CHANNEL CHECK and Instrument CHANNEL CALIBRATION", to be in conformance with the wording specified in the definitions section items 1.7, and 1.8. These changes are correcting inconsistencies in terminology. The intent of these items has remained the same.

The asterisk associated with action statement a and the asterisk note on the bottom of page 184 have been deleted. An asterisked note on the bottom of Table 3.8.9-1, to the PZR PORV, and to the PORV Block Valve indicators has been added to replace the asterisks deleted on page 184. These changes are addressed in detail, with the changes associated to the PZR PORV and PORV Block Valve indicators.

A) The titles associated with tables 3.8.9-1 and 4.8.9-1 have been relocated to the bottom of the page. This change was made to place the titles where they would be readily seen when in use.

B) Containment Pressure (Wide Range), Tables 3.8.9-1 and 4.8.9-1 item 1 has been revised, changing reference from narrow range to wide range. In addition, the total number of instrument channels in Table 3.8.9-1 has been changed from 4 to 2. These instruments are Type A variables, as identified in Zion Station's Regulatory Guide 1.97 revision 2 submittal. As such, the instrumentation specified in this table must meet Category 1 design and qualification criteria to assure availability of the parameter under accident conditions. Zion Station has a total of 2 containment pressure instruments that meet this criteria. Reference to the Containment Narrow Range Pressure instruments was deleted since these instruments do not meet the design and qualification criteria specified in Regulatory Guide 1.97. The action statements associated with these changes have remained unchanged. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes have been made to reference the appropriate instruments specified in Zion Station Regulatory Guide 1.97 submittal.

D) Steam Generator Water Level (Wide Range) Table 3.8.9-1 item 8 has been revised, changing the Required Number of Channels from a total of 2 to 1 per Steam Generator, and changing the Minimum Number of Channels from 1 to 2 channels. Zion Station has a total of 1 Wide Range Steam Generator Water Level Instrument per Steam Generator. One channel per Steam Generator was justified in Zion Station's Regulatory Guide 1.97 submittal based on, "additional instrumentation which indicates the effectiveness and adequacy of the secondary heat sink". The additional instrumentation listed were; the Steam Generator Narrow Range Level, with backup from the Reactor Coolant System Temperature and Reactor Coolant Pump Flow. The Steam Generator Narrow Range Level Instruments cover over 25% of the Steam Generators Wide Range Level Instruments range. By changing the required number to 1 per Steam Generator, a total of 4 channels will now be required instead of a total of 2. Based on the current Technical Specification's, operations could continue for a period of 7 days based on 3 Steam Generator Wide Range Level Instruments failing.

The proposed changes will allow operations to be continued for a period of 7 days based on a single instrument failure for any Steam Generator. Seven days is considered to be an acceptable period of time for a single instrument failing. If, the Required Number of Channels are not restored within this time frame, the unit will be placed in Mode 4 (HOT SHUTDOWN) within the next 12 hours. By specifying a total of 2 channels as the Minimum Number of Channels, action statement b of Specification 3.8.9 requiring restoration in 48 hours is still applicable to this item. The current Zion design has 1 channel of Wide Range Water Level Instrumentation per Steam Generator. By requiring a total of 2 channels to be operable, any combination of 2 Steam Generator Wide Range Indicators would fulfill this requirement. The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month Channel Calibrations and Monthly Channel Checks. Based on the above information it can be concluded that the overall changes being proposed for the Steam Generator Wide Range Level Instruments are more conservative than the current Specifications. In addition, the change is justifiable based on the availability of diverse instrumentation (Steam Generator Narrow Range Level Instruments) that provides the same information, thus assuring that a complete loss of indication for the parameter being monitored will not occur.

D) Auxiliary Feedwater Flow Rate Table 3.8.9-1 item 10 has been revised, changing the Required Number of Channels from a total of 2 to 1 per Steam Generator, and the Minimum Number of Channels from 1 to 2. Zion Station has a total of 1 Auxiliary Feedwater Flow Rate Instrument per Steam Generator, and 3 Auxiliary Feedwater Pump Systems. Each of the 3 pump systems are capable of providing flow to all 4 Steam Generators. The instrumentation provided indicates the combined flow rate to each Steam Generator from all 3 Auxiliary Feedwater Pump Systems. The 4 Auxiliary Feedwater Flow Rate instruments are powered from redundant instrument busses, 2 from instrument bus 111/211 and the remaining 2 from instrument bus 112/212. Backup indication is available from the Steam Generator Narrow Range Instruments, which is a direct indication of heat sink status. These instruments are Type A Category 1 variables. One channel per Steam Generator was reviewed and accepted in Zion Station's Regulatory Guide 1.97 submittal based on the above information. By changing the Required Number of Operable Channnels to 1 per Steam Generator, a total of 4 channels will now be required instead of a total of 2 which is currently in the Zion Technical Specifications. Based on the current Technical Specification's, operations could continue for a period of 7 days based on 3 Auxiliary Feedwater Flow Rate Instruments failing. The proposed changes will allow operations to continued for a period of 7 days based on a single instrument failure on any Steam Generator. Seven days is considered to be an acceptable period of time for a single instrument failing. If, the Required Number of Channels are not restored within this time frame the unit will be placed in Mode 4 within the next 12 hours.

By specifying a Minimum Number of Channels of 2, using 1 channel per Steam Generator, would require any combination of 2 Steam Generator Auxiliary Feedwater Flow Rate Channels to be operable. Action statement b of Specification 3.8.9 requiring restoration in 48 hours is still applicable for this item. As discussed in the Steam Generator Water Level Wide Range Instrumentation section above.

The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month Channel Calibrations and Monthly Channel Checks. Based on the above information it can be concluded that the overall changes being proposed for the Auxiliary Feedwater Flow Rate Instruments are more conservative than the current Zion Technical Specifications, and that the change is justifiable based on the availability of diverse instrumentation (Steam Generator Narrow Range Instruments) that provides the same information, thus assuring that a complete loss of indication for the parameter being monitored will not occur.

B) Reactor Coolant System Subcooling Margin Table 3.8.9-1 item 11 has been revised, deleting reference made to procedural calculations. Procedural calculations were an interim measure used until additional instrumentation was made available or upgraded. The reactor coolant system subcooling monitor consists of two independent monitoring systems. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames the unit will be placed in Mode 4 within the next 12 hours. The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These instruments are Type A Category 1 variables. In Zion Station's Regulatory Guide 1.97 submittal, a commitment was made to either environmentally qualify or replace unqualified components associated with these instruments with safety related components. These modifications have been completed. As such, the Reactor Coolant System Subcooling Margin Instruments being referred to by this change now meet Category 1 design and qualification criteria. This change is being made to place this item into conformance with the guidance given in Generic Letter 83-37.

PZR PORV Position Indicator Table 3.8.9-1 item 12 has been revised, changing the total and required number of channels from 2 to 1, and deleting reference to the double asterisk statement specifying the primary and backup PORV position indicators. In addition, an asterisked note has been added to the bottom of Table 3.8.9-1, and asterisks added to the PZR PORV, its Required Number of Channels, and Minimum Number of Channels. These items have been added to take the place of the asterisk note deleted from the bottom of page 184.

The proposed changes regarding the total and required number of channels, and deletion of the double asterisk statement are summarized as follows:

The Zion Station Technical Specifications currently require 2 position indicators per PORV. These indicators are designated as: 1) stem mounted limit switch, and 2) acoustical monitors which provides indication of flow through the PORV tail pipes. The current Zion design consists of 1) stem mounted limited switches, 2) temperature indication, and 3) acoustical monitors on the Pressurizer Safety Relief Valves all of which provides the control room with PORV Position Indication.

The stem mounted limit switches are the primary position indication for the PORVs. These limit switches not only provide positive valve indication, they also are safety grade, powered from an emergency power supply, seismically and environmently qualified with their displays and controls located in the control room as required by NUREG 0737. CECO has provided this information in response to NUREG 0737. In NRC letter dated February 29, 1980, section II.D.2 it was stated that the stem mounted limit switches are in compliance with the short term Lessons Learned requirements. CECO has enhanced the stem mounted limit switches by upgrading them to meet safety related Category 2 instrumentation criteria as required by Regulatory Guide 1.97.

Zion also has temperature indicators on the PORV tail pipes downstream from the PORVs. This indication can be used, in addition to the stem mounted limit switches, to provide PORV position indication. If the PORVs were to open, these temperature indicators would sense the increase in temperature thus indicating flow through the piping. This temperature increase would be seen in the control room by the operators and appropriate actions taken. In addition, if the PORVs would happen to open, thus allowing flow through the valve, it would go directly to the Pressurizer Relief Tank (PRT). The control room would see this increase in PRT level through the PRT level instrumentation in the control room as well as receive various alarms. The Zion EOPs contain specific guidance to the operators on what actions to take and how to determine if the PORVs do open, during an accident.

A third instrument available to further assist the operator in determining if a PORV opens is the acoustical monitors that currently exist on the Pressurizer Safety Relief Valves. These monitors are in close proximity to the PORVs. In the event that a PORV does actuate, the opening would be picked up by the acoustical monitors. Since the control room has direct indication of these acoustical monitors, the operators would be aware of the PORVs' change in position and take appropriate action. These acoustical monitors are physically located close to the PORVs and provide additional indication to the control room that the valves have actuated.

Two PORV position indicators per valve (stem mounted limit switches and temperature indication) were reviewed and accepted by the NRC in Zion Station's Regulatory Guide 1.97 submittal. NRC has stated that the only basis for a Technical Specification on backup indication of safety or relief valve position is when a non-safety grade channel is provided as the primary indication of valve position. Since Zion now has safety grade PORV stem mounted limit switches, there is no need to put the other backup systems in the Technical Specifications. The proposed change allows for the deletion of the acoustical monitoring backup indicators from the Technical Specifications. Based on the current Technical Specifications, operations could continue for a period of 7 days based on the inoperability of either a stem mounted limit switch, or acoustical monitors. If both of these indicators were inoperable, operations could continue for a period of time not to exceed 48 hours. In the event that the required number of channels or minimum operable channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. The proposed changes will allow operations to continue for a period of time not to exceed 48 hours based on the inoperability of the stem mounted limit switch alone. If the required number of channels (same as the minimum operable number) are not restored within this time frame, the unit will be placed in mode 4 within the next 12 hours. As such, if the acoustical monitors or the temperature indication is assumed to be inoperable, the action required would remain the same. The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The proposed change still requires periodic surveillances to be performed on the stem mounted limit switches. The surveillances specified in Table 4.8.9-1 are appropriate for this instrument to assure operability through the performance of the 18 month channel calibrations (indicator testing) and monthly channel checks.

A) The proposed changes regarding the addition of an asterisked note to the bottom of Table 3.8.9-9, and asterisks added to the PZR PORV, its required number of channels and minimum operable channels, are summarized as follows:

The note being deleted on the bottom of page 184 provided an exemption to the shutdown requirements associated with an inoperable PZR PORV or PORV Block Valve Position Indicator. This exemption was contingent on the position of the associated PORV Block Valve being known to be closed or verified closed within 7 days.

Action statements a and b associated with specification 3.3.1.F requires the PORV Block Valve associated with either an inoperable PORV or PORV Block Valve to be closed and de-energized anytime either of these valves is found inoperable in modes 1, 2, or 3. These actions must be taken within one hour, or a unit shutdown is required. The position indication for the PORV Block Valve is powered from the same source required to be de-energized in action statements a and b of Specification 3.3.1.F. This removes power from the PORV Block Valve and PORV Block Valve Indicator making both the valve and indicator inoperable. Specification 3.8.9 currently allows indefinite operation without PORV position indication or PORV Block Valve position indication, when the position of the associated PORV Block Valve is known to be closed or verified closed within 7 days. Specification 3.3.1.F actions a and b require the PORV Block Valve to be closed and de-energized within 1 hour. The proposed change deletes the requirement to maintain the PORV or PORV Block Valve associated with an isolated flowpath operable, when the flowpath has been isolated in accordance with Specification 3.3.1.F. As such, these changes result in no net change to the existing requirements.

PZR PORV Block Valve Position Indicator Table 3.8.9-1 item 13 has been revised. The Minimum Number of Channels is changing from 0 to 1, an asterisked note has been added to the bottom of Table 3.8.9-1 and to the PZR PORV Block Valve Indicator, its Required Number of Channels, and Minimum Number of Channels. These items have been added to take the place of the asterisk note deleted from the bottom of page 184 as addressed above for the PORV Position Indicators.

The proposed change regarding the Minimum Number of Channels is summarized as follows:

D) Zion Station has a total of 1 valve limit switch position indicator per PORV Block Valve. The PORV Block Valve Position Indicators are Safety Related Type D Category 2 variables. Two position indicators per PORV Block Valve were reviewed and accepted in Zion Station's Regulatory Guide 1.97 submittal. Backup indication of safety or relief valve position is only required if a non-safety grade channel is provided as the primary indication of valve position. This logic has been applied to the PORV Block Valves as well. The current Zion design provides safety grade PORV indication powered from an emergency power supply. As such, the Required Number of Channels has remained unchanged. The Minimum Number of Channels has been revised to 1 per valve, this is consistent with the guidance given in Generic Letter 83-37. Based on the current Technical Specifications, operations could continue for a period of 7 days based on the inoperability of the PORV Block Valve Position Indicator.

If, the Required Number of Channels is not restored within this time frame, the unit will be placed in Mode 4 within the next 12 hours. The proposed changes will allow operations to continue for a period of time not to exceed 48 hours based on the inoperability of the PORV Block Valve Position Indicator. If, the Required Number of Channels (the same as the Minimum Number of Channels) are not restored within this time frame, the unit will be placed in Mode 4 within the next 12 hours. The surveillances specified for this parameter in Table 4.8.9-1 have remained unchanged. The proposed change will still require periodic surveillances to be performed on the PORV Block Valve Position Indicators. The surveillances specified in Table 4.8.9-1 are appropriate for this instrument to assure operability through the performance of 18 month Channel Calibrations (indicator testing) and Monthly Channel Checks.

A) - The proposed changes regarding the addition of an asterisked note to the bottom of Table 3.8.9-1, and asterisks added to the PZR PORV Block Valve Position Indicator, Required Number of Channels and Minimum Number of Channels are summarized as follows:

The note being deleted on the bottom of page 184 provided an exemption to the shutdown requirements associated with an inoperable PZR PORV or PORV Block Valve Position Indicator. This exemption is contingent on the position of the associated PORV Block Valve being known to be closed or verified closed within 7 days. Action statements a and b associated with specification 3.3.1.F requires the PORV Block Valve associated with either an inoperable PORV or PORV Block Valve to be closed and de-energized anytime either of these valves is found inoperable in modes 1, 2, or 3. These actions must be taken within one hour, or a unit shutdown is required. The position indication for the PORV Block Valve is powered from the same source required to be de-energized in action statements a and b of Specification 3.3.1.F. This removes power from the PORV Block Valve and PORV Block Valve Indicator making both the valve and indicator inoperable. Specification 3.8.9 currently allows indefinite operation without PORV position indication or PORV Block Valve position indication when the position of the associated PORV Block Valve is known to be closed or verified closed within 7 days. Specification 3.3.1.F actions a and b require the PORV Block Valve to be closed and de-energized within 1 hour. The proposed change deletes the requirement to maintain the PORV or PORV Block Valve associated with an isolated flowpath operable, when the flowpath has been isolated in accordance with Specification 3.3.1.F. As such, these changes result in no change to the existing requirements.

A) An asterisk note has been added to the bottom of Table 4.8.9-1 and asterisks have been added to PZR PORV and PORV Block Valve Position Indicators. These changes are being proposed in conjunction with the above changes proposed on the PORV and PORV Block Valve Indicators.

The PORV and PORV Block Valve Position Indicators are not required to be operable, when their associated flowpath is isolated as previously addressed. These changes will exempt the requirement to perform periodic surveillances on these indicators when the PORV Block Valve is closed and de-energized in accordance with Specification 3.3.1.F. The exemption from performing periodic surveillance on the PORV and PORV Block Valves currently exists under Specification 4.0.3. Specification 4.0.3 does not require surveillances to be performed on inoperable equipment. As such, this change results in no change to the existing requirements.

B) PZR Safety Valve Position Indicator (Primary Detector) Tables 3.8.9-1 and 4.8.9-1 item 14 have been revised, referencing this item as the PZR Safety Valve Position Indicator, primary indicator. In addition, the required number of channels has been changed from a total of 2 to 1 per valve, the minimum operable channels from a total of 1 to 1 per valve, and reference to a double asterisk note stating the origin of this item has been added. These changes are being proposed in conjunction with proposed item number 15 on Tables 3.8.9-1 and 4.8.9-1, requiring the operability of a backup indicator. Zion Station has 1 thermocouple located in the discharge line of each Safety Valve. These monitors provide an indication of safety valve position in the control room. Temperature was selected as the primary detector because, through the use of temperature indication it is possible to detect both large and small flows past the valve. These instruments are non-safety related Type D Category 3 variables. A commitment was made to upgrade these instruments to Category 2 qualifications in the supplemental report to Zion Station's Regulatory Guide 1.97 submittal dated August 24, 1987. The use of these detectors as a means of determining Pressurizer Safety Valve position was reviewed and approved in Zion Station's Regulatory Guide 1.97 submittal. The date for modificatic[illegible] these instruments to Category 2 criteria has not been determined yet. [illegible]e dates will be submitted in Zion Station's Regulatory Guide 1.97 [illegible]iance response. Zion Station's Regulatory Guide 1.97 compliance response will be submitted by October 31, 1990. Based on the current Technical Specifications, operations could continue for a period of 7 days based on 2 PZR Safety Valve Position Indicators failing, and 48 hours in the event of all 3 instruments failing. The proposed changes will allow operations to continue for a period of 48 hours based on a single failure of a PZR Safety Valve Position Indicator. If the required number of channels (same as the minimum operable channels) are not restored within this time frame the unit will be placed in Mode 4 within the next 12 hours. The surveillances specified for these instruments in Table 4.8.9-1 have remained unchanged. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. The double asterisk statement added to the PZR Safety Valve Position Indicator and to the bottom of this table provide reference to the origin of this requirement being NUREG 0578 item 2.1.3.a.

B) PZR Safety Valve Position Indicator (Backup Detector) has been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 15, specifying a total of 3 (1/valve) channels, 1/valve as the required number, and Not applicable as the minimum operable number. This change is being proposed in conjunction with item 14 above. Zion Station has 1 acoustic monitor per Safety Valve. These monitors provide indication of safety valve position in the control room. These instruments are type D Category 3 variables. The use of these instruments as a backup means of determining Pressurizer Safety Valve position was reviewed and approved in Zion Station's Regulatory Guide 1.97 submittal. With less than the required number of channels operable (1/valve), operations may continue for a period of time not to exceed 7 days. If, the required number of channels are not restored within this time frame the unit will be placed in Mode 4 within the next 12 hours. By specifying Not Applicable as the minimum operable number, action statement b of Specification 3.8.9 requiring restoration in 48 hours is not applicable to this item. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. This change is consistent with the NRC requirements of NUREG 0737 and guidance provided in the NRC letter concerning Regulatory Guide 1.97 compliance (NRC letter dated April 14, 1989).

B) Core Exit Thermocouples have been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 16. The Zion design has two channels of Core Exit Thermocouples. One channel has 32 thermocouples and the other has 33. The Required Number of Channels would consist of 2 channels. At least 2 Core Exit Thermocouples per channel per quadrant are required in Table 3.8.9-1 and 4.8.9-1. With less than the Required Number of Channels Operable, operations may continue for a period not to exceed 7 days. In the case of the Minumum Channels Operable, there would be 1 channel operable consisting of at least 2 Thermocouples per quadrant. With less than the Minimum Operable Channels, operations may continue for a period of time not to exceed 48 hours. This change is consistent with the guidance provided by the NRC in letter dated November 1, 1983. That letter provided Technical Specificaitons that would be acceptable for the utility. For the In Core Thermocouples (T/Cs) it stated that there should be a minimum of 4 T/Cs per quadrant as the Required Number of Channels. In addition, the NRC proposed Technical Specifications have a Minimun Number of Operable Channels as 2 per quadrant. The Zion proposed Technical Specifications are in agreement however, the Zion Technical Specifications provide more clarification specifically showing that there are two trains to T/Cs to be considered.

If, the minimum operable channels or the required number of channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. Requiring a minimum of 1 channel to be operable ensures that at least 2 T/Cs are operable in each quadrant of the reactor core. This provides sufficient monitoring capability. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These instruments are Type A Category 1 variables. The modifications to environmentally qualify and replace safety related components, stated in Zion Station's Regulatory Guide 1.97 submittal have been completed. As such, the Core Exit Thermocouples referred to in this submittal now meet Category 1 design and qualification criteria These changes are being made consistent with the guidance specified in Generic Letter 83-37.

B) Containment Water Level (Narrow Range) has been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 17. There are a total of 2 Narrow Range Containment Water Level Instruments, with 1 specified for the required number and 1 for the minimum number. The required and minimum operable number of channels have a pound sign notation associated with their action that provides for an allowable outage time of 30 days. This note has been added to the bottom of page 192b. As such, with less than the required number of channels operable or the minimum operable number, operations may continue for a period of time not to exceed 30 days. If, the minimum operable channels (same as the required number of channels) are not restored within this time frame the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes are being made consistent with the guidance specified in Generic Letter 83-37.

B) Containment Water Level (Wide Range) has been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 18. There are a total of 2 Wide Range Containment Water Level Instruments, with 2 specified for the required number, and 1 for the minimum operable number. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes are being made consistent with the guidance specified in Generic Letter 83-37.

B) The Reactor Coolant Inventory Tracking System has been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 19 and 20. The Reactor Coolant Inventory Tracking System has been divided into 2 separate line items. The reason for this change is to address the two different operating modes for this system. The Reactor Coolant Inventory Tracking System at Zion Station works on a differential pressure principle. This system consists of 4 channels, two of which are calibrated for Reactor Coolant Pumps in operation and the other two for pumps off.

- Reactor Vessel Water Level (Wide Range at least one RCP running) Table 3.8.9-1 item 19 has a total of 2 instruments, with 2 specified for the required number, and 1 for the minimum number. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes are being made consistent with the guidance specified in Generic Letter 83-37.

- Reactor Vessel Water Level (Narrow Range, all RCPs stopped) Table 3.8.9-1 item 20 has a total of 2 instruments, with 2 specified for the required number, and 1 for the minimum number. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes are being made consistent with the guidance specified in Generic Letter 83-37.

B) Condensate Storage Tank Level has been added to Accident Monitoring Instrumentation Tables 3.8.9-1 and 4.8.9-1 as item 21. There are a total of 2 Condensate Storage Tank Level indicators, with 2 specified as the required number, and 1 for the minimum operable number. These instruments are Type A Category 1 variables. Neither of the 2 Condensate Storage Tank Level instruments currently meet the design or qualification criteria of Regulatory Guide 1.97. The modifications to upgrade these instruments will be completed for Unit 1 and 2 during their cycle 13 Refueling Outages. After completion of these modifications, the Condensate Storage Tank Level Indicators will meet Category 1 design and qualification criteria. With less than the required number of channels operable (2), but not less than the minimum operable number (1), operations may continue for a period of time not to exceed 7 days. With less than the minimum operable channels (1), operations may continue for a period of time not to exceed 48 hours. If, the minimum operable channels or the required number of channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. This item has been added to Table 4.8.9-1 to assure operability of this parameter through the performance of periodic surveillance tests. The surveillances specified in Table 4.8.9-1 are appropriate for these instruments to assure operability through the performance of 18 month channel calibrations and monthly channel checks. These changes are being made consistent with the guidance specified in Generic Letter 83-37.

A) M: Monthly, and R: Refueling have been deleted from the bottom of page 192b. This item is not necessary since the frequencies associated with these two items are appropriately defined in the Definitions Section of the Technical Specifications, Table 1.2.

A) Table 4.8.9-2 "Accident Monitoring Instrument Numbers" has been developed to provide a cross reference between the accident parameter and the instrument used. These instruments are consistent with those submitted in Zion Station's Regulatory Guide 1.97 submittal. This table is intended to be a reference aid for personnel. No actions or requirements are imposed or altered as a result of this table.

A) Bases Page 195 was revised, to change the following items:

- page format to be consistent with that used for other bases pages after revision,
- added reference to NRC Generic Letter 83-37 into the bases for the accident monitoring instruments, and
- placing the revision number and date into the Bases to include which revision of Regulatory Guide 1.97 Zion Station's submittal was approved to.

C) Action Statement 4 has been added to Table 3.12-1. In addition, the actions associated with the Steam Generator Atmospheric Relief and Safety Valve Radiation Monitors, and the Vent Stack Noble Gas Effluent Radiation Monitors channels 7, and 9 have been revised to reference action 4. Action Statement 4 was chosen because it is not currently used in the Technical Specification. This action statement has been modeled after action 30 of Generic Letter 83-37. Only the actions associated with the Steam Generator Atmospheric Relief and Safety Valves, and the Vent Stack Noble Gas Effluent Radiation Monitors channels 7, and 9 have been revised to reference action 4. These are the only effluent path radiation monitors that must be considered accident monitors for the following reasons:

- The Vent Stack Noble Gas Monitor Channels 7, and 9 are located on the Unit 1 and 2 Ventilation Stacks downstream of all inputs into the stacks. The Ventilation Stacks are a common release point for all identified release pathways for gaseous radioactive materials with the exception of the Steam Generator Atmospheric Relief and Safety Valve discharges paths.

- Steam Generator Atmospheric Relief and Safety Valve discharges paths are the only exception to the above statement. As such this pathway has also been included for the purpose of accident monitoring. This position was reviewed and accepted in Zion Station's Regulatory Guide 1.97 submittal.

The Vent Stack Noble Gas Monitor Channels 7, and 9 and the Steam Generator Atmospheric Relief and Safety Valves Radiation Monitors have been changed to reference action 4. Based on the current Technical Specifications with these monitors inoperable, the inoperable monitor must be restored to operable status within 30 days, or an alternate means of monitoring the parameter must be established. The proposed changes will require an alternate method of monitoring the appropriate parameter to be established within 72 hours, and to restore the inoperable monitor to operable status within 7 days of the event, or to prepare and submit a report to the commission within 14 days following the event outlining the actions taken, the cause of inoperability, and the plans and schedule for restoring the monitor to operable status. The surveillances specified for these instruments in Table 4.12-2 have remained unchanged. These surveillances are appropriate for these instruments to assure operability. These changes are consistent with the requirements of Generic Letter 83-37.

A) Item number 7.C.4, on page 236b has been changed from "1R-AR04B" to "2R-AR04B". This change has been made to correct a typographical error. This monitor should have been referenced as a Unit 2 Monitor.

C) Action Statement 31 has been added to Table 3.14-1. In addition, the actions associated with the Containment Area High Range Monitors have been revised to reference action 31. Action Statement 31 was chosen because it is not currently used in the Technical Specification. This action statement has been modeled after action 30 of Generic Letter 83-37. Based on the current Technical Specifications, with these monitors inoperable, an alternate method of monitoring the appropriate parameter (if feasible) must be initiated within 72 hours, and the inoperable monitor must be restored to operable status within 7 days of the event, or a Station Review will be conducted within 14 days to determine a plan of action to restore the monitor to operable status. The proposed changes will require an alternate method of monitoring the appropriate parameter to be established within 72 hours, and to restore the inoperable monitor to operable status within 7 days of the event, or to prepare and submit a report to the commission within 14 days following the event outlining the actions taken, the cause of inoperability, and the plans and schedule for restoring the monitor to operable status. The surveillances specified for these instruments in Table 4.14-1 have remained unchanged. These surveillances are appropriate for these instruments to assure operability. These changes are consistent with the requirements of Generic Letter 83-37.

C) Section 6.2.L. has been revised to include the requirement to have Post Accident sampling programs capable of obtaining and analyzing reactor coolant and containment atmosphere, and collect and analyze or measure radioactive iodines and particulates in plant gaseous effluents samples under accident conditions. This program includes; the training of personnel, procedures for sampling and analysis, and provisions for maintenance of sampling and analysis equipment. These changes are consistent with the guidance given in Generic Letter 83-37. As a result of adding this item, Specification 6.2.2 has been moved to page 310, and page 310 has been included as a revised page.

A) Item r has been added to Special Report Table 6.6-1 to address the 14 day written report that must be submitted any time a Post-Accident Radiation Monitor has been inoperable in excess of 7 days. Addition of this item reflects the addition of this reporting requirement to the Technical Specifications.

Boric Acid Tank Solution Level item number 10 of Generic Letter 83-37 was not incorporated into this submittal. The Boric Acid Tank Solution Level is not a Type A variable at Zion Station. Regulatory Guide 1.97 does not contain the Boric Acid Tank Level under any variable type. The safety function of the Boric Acid Storage Tanks is to maintain sufficient boric acid quantity, to borate the Reactor Coolant System to cold shutdown concentration anytime during the core cycle consistent with the Technical Specifications shutdown margin requirements. There are no automatic or manual actions required for Design Basis Accident mitigation associated with the Boric Acid Storage Tank.

ATTACHMENT 5

1. Copy of the current Technical Specifications, marked-up to denote the changes being proposed.
   Pages: iii
   v
   x
   184
   192a
   192b
   192c
   195
   236a
   236b
   237
   251
   252a
   309
   310
   324

2. Copy of the typed change being proposed.
   Pages: iii
   v
   x
   184
   192a
   192b
   192c
   192d
   192e
   195
   236a
   236b
   237
   251
   252a
   309
   310
   324

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List of Tables (Continued)

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT

ACCIDENT MONITORING INSTRUMENTATION

3.8.9 The accident monitoring instrumentation channels shown in Table 3.8.9-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 7

ACTION:

a. With the number of OPERABLE accident monitoring instrument channels less than the Required Number of Channels shown in Table 3.8.9-1, (Col. 2), restore the inoperable channel(s) to OPERABLE status within 7 days, or be in at least MODE 4 within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Operable Channels requirements of Table 3.8.9-1, (Col. 3), restore the inoperable channel(s) to OPERABLE status within 48 hours, or be in at least MODE 4 within the next 12 hours.

c. The provisions of Specifications 3.0.4 are not applicable.

ACCIDENT MONITORING INSTRUMENTATION

4.8.9 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and Instrument CHANNEL CALIBRATION operations at the frequencies shown in Table 4.8.9-1.

INSTRUMENT (PARAMETER)	1. TOTAL NO. OF CHANNELS	2. REQUIRED NO. OF CHANNELS	3. MINIMUM OPERABLE CHANNELS
1. Containment Pressure (Wide Range)	2	2	1
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	4-(1/loop)	2	1
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	4-(1/loop)	2	1
4. Reactor Coolant Pressure (Wide Range)	2	2	1
5. Steam Line Pressure	12-(3/SG)	2/SG	1/SG
6. Pressurizer Water Level	3	2	1
7. Steam Generator Water Level (Narrow Range)	12-(3/SG)	2/SG	1/SG
8. Steam Generator Water Level (Wide Range)	4-(1/SG)	1/SG	2
9. Refueling Water Storage Tank Level	2	2	1
10. Auxiliary Feedwater Flow Rate	4-(1/SG)	1/SG	2
11 Reactor Coolant System Subcooling Margin	2	2	1

Accident Monitoring Instrumentation
Table 3.8.9-?

INSTRUMENT (PARAMETER)	1. TOTAL NO. OF CHANNELS	2. REQUIRED NO. OF CHANNELS	3. MINIMUM OPERABLE CHANNELS
12. PZR PORV Position Indicator*	1/valve	1/valve*	1/valve*
13. PZR PORV Block Valve Position Indicator*	1/valve	1/valve*	1/valve*
14. PZR Safety Valve Position Indicator**(Primary: Temperature Detectors)	3-(1/valve)	1/valve	1/valve
15 PZR Safety Valve Position Indicator (Backup: Acoustic Monitors)	3-(1/valve)	1/valve	N/A
16. Core Exit Thermocouples	2****	2***	1***
17. Containment Water Level (Narrow Range)	2	1#	1#
18. Containment Water Level (Wide Range)	2	2	1
19. Reactor Vessel Water Level (Wide Range) [At least one RCP running]	2	2	1
20. Reactor Vessel Water Level (Narrow Range) [All RCPs stopped]	2	2	1
21. Condensate Storage Tank Level	2	2	1

* Not required if the PZR PORV Block Valve is closed and de-energized in accordance with specification 3.3.1.F.

** Direct indication of PZR Safety Valve Position - NUREG 0578, Item 2.1.a.

*** An OPERABLE channel consists of at least 2 core exit thermocouples per core quadrant.

**** 1 Channel consists of 32 thermocouples and the other consists of 28 thermocouples.

\# Operation may continue up to 30 days with less than the REQUIRED NO. OF CHANNELS or less than the MINIMUM OPERABLE CHANNELS .

Accident Monitoring Instrumentation (Continued)

Table 3.8.9-1 (Continued)

INSTRUMENT (PARAMETER)	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure (Wide Range)	M	R
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	M	R
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	M	R
4. Reactor Coolant Pressure (Wide Range)	M	R
5. Steam Line Pressure	M	R
6. Pressurizer Water Level	M	R
7. Steam Generator Water Level (Narrow Range)	M	R
8. Steam Generator Water Level (Wide Range)	M	R
9. Refueling Water Storage Tank Level	M	R
10. Auxiliary Feedwater Flow Rate	M	R
11 Reactor Coolant System Subcooling Margin	M	R
12. PZR PORV Position Indicator*	M	R
13. PZR PORV Block Valve Position Indicator*	M	R
14. PZR Safety Valve Position Indicator**(Primary: Temperature Detectors)	M	R
15. PZR Safety Valve Position Indicator**(Backup: Acoustic Monitors)	M	R
16. Core Exit Thermocouples	M	R
17. Containment Water Level (Narrow Range)	M	R
18. Containment Water Level (Wide Range)	M	R
19. Reactor Vessel Water Level (Wide Range)	M	R
20. Reactor Vessel Water Level (Narrow Range)	M	R
21. Condensate Storage Tank Level	M	R

* Not required if the PZR PORV Block Valve is closed and de-energized in accordance with Specification 3.3.1.F.

** Direct indication of PZR Safety Valve Position - NUREG 0578, Item 2.1.3.a.

Accident Monitoring Instrumentation Surveillance Requirements

Table 4.8.9-1

ACCIDENT PARAMETER	SENSOR INSTRUMENT NUMBER
1. Containment Pressure (Wide Range)	PT-CS50, PT-CS51
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	TE-413A, TE-423A, TE-433A, TE-443A
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	TE-413B, TE-423B, TE-433B, TE-443B
4. Reactor Coolant Pressure (Wide Range)	PT-403, PT-405
5. Steam Line Pressure	PT-514, PT-515, PT-516, PT-524, PT-525, PT-526, PT-534, PT-535, PT-536, PT-544, PT-545, PT-546
6. Pressurizer Water Level	LT-459, LT-460, LT-461
7. Steam Generator Water Level (Narrow Range)	LT-517, LT-518, LT-519, LT-527, LT-528, LT-529, LT-537, Lt-538, LT-539, LT-547, LT-548, LT-549
8. Steam Generator Water Level (Wide Range)	LT-501, LT-502, LT-503, LT-504
9. Refueling Water Storage Tank Level	LT-920, LT-921
10. Auxiliary Feedwater Flow Rate	FT-FW02, FT-FW03, FT-FW04, FT-FW25
11. Reactor Coolant System Subcooling Margin	RCC01A, RCC01B Pressure Inputs: PT-403, PT-405 Temperature Inputs: T-0001 thru T-0065
12. PZR PORV Position Indicator	Valve Limit Switches
13. PZR PORV Block Valve Position Indicator	Valve Limit Switches
14. PZR Safety Valve Position Indicator (Primary: Temperature Detectors)	TE-464, TE-465, TE-466

Accident Monitoring Instrument Numbers

Table 4.8.9-2

ACCIDENT PARAMETER	SENSOR INSTRUMENT NUMBER
15. PZR Safety Valve Position Indicator (Backup: Acoustic Monitors)	Acoustic Monitors LL025, LL026, LL027
16. Core Exit Thermocouples	T-0001 thru T-0065
17. Containment Water Level (Narrow Range)	LT-CS48, LT-CS49
18. Containment Water Level (Wide Range)	LT-CS46, LT-CS47
19. Reactor Vessel Water Level (Wide Range)	LT-1321, LT-1322
20 Reactor Vessel Water Level (Narrow Range)	LT-1311, LT-1312
21. Condensate Storage Tank Level	LT-CD94, LT-CD139

Accident Monitoring Instrument Numbers

Table 4.8.9-2 (continued)

The OPERABILITY of the Service Water System ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. In the split discharge header OPERATING mode (Unit 1 & 2 with separate discharge headers), two OPERATING pumps and one standby are required for normal operation. In the cross-tied discharge header OPERATING mode (Unit 1 & 2 with common discharge header), three pumps have sufficient capacity for normal operation, but five pumps being OPERABLE with only one pump from either unit satisfying this requirement for the other unit, are required to provide sufficient redundancy. In an accident or shutdown mode, only one pump per unit is required.

For the Service Water System, the OPERABILITY requirements include consideration of the standby AC & DC power supplies so that a single failure of the "0" diesel will not cause a common mode failure in the Service Water System; "0" diesel powers the emergency busses for Service Water pumps 1A and 2A.

A Hydrogen Recombiner System is installed to remove the hydrogen and oxygen gases that accumulate in the containment atmosphere following a loss-of-coolant accident. (7) The containment Hydrogen Monitoring System is used to determine the effectiveness of this system.

The CHANNEL CALIBRATION of the hydrogen monitors requires disassembly and electronic testing, adjustment and reassembly of the instrument, therefore the REFUELING CYCLE frequency is deemed adequate.

The instrumentation, equipment, and procedures for the tests which are required on the ventilation filter system will generally conform to the recommendations of ANSI N510-1975.

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97 Rev. 2, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1980, NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations", July 1979 and NRC Generic Letter 83-37 "NUREG-0737 Technical Specifications," November 1, 1983.

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(1) FSAR Chapter 9
(2) FSAR Section 6.2
(3) FSAR Section 6.2.3
(4) FSAR Section 14.3
(5) FSAR Section 9.3
(6) FSAR Section 9.6 & FSAR answer to question 9.1
(7) FSAR Section 6.8

Instrument	Minimum Channels Operable	Action	Applicable Modes
4. Auxiliary Building Ventilation and Miscellaneous Ventilation Stack			
A. Gas Activity Monitor			
1. OR-0014 or	1	6	All
2. 1R-PR25 and 2R-PR25	1	6	All
3. OR-PR18B Gas	1	6	All
4. 1R-PR49E (Channel 5)	1	6	All
5. 2R-PR49E (Channel 5)	1	6	All
B. Iodine Monitor			
1. 1R-PR49C (Channel 3)	1	8	All
2. 2R-PR49C (Channel 3)	1	8	All
C. Particulate Monitor			
1. OR-PR18A Particulate	1	6	All
1. 1R-PR49A (Channel 1)	1	8	All
2. 2R-PR49A (Channel 1)	1	8	All
D. Flow Rate Monitor			
1. 1LP-084	1	9	All
2. 2LP-084	1	9	All
5. Service Building Ventilation			
A. Gas Activity Monitor			
1. OR-PR22	1	8	All
B. Particulate/Iodine Monitor			
1. OR-PR36	1	8	All
6. Steam Generator Atmospheric Relief and Safety Valves			
1. 1R-PR58	1	4	1,2,3,7
2. 2R-PR58	1	4	1,2,3,7
3. 1R-PR59	1	4	1,2,3,7
4. 2R-PR59	1	4	1,2,3,7
5. 1R-PR60	1	4	1,2,3,7
6. 2R-PR60	1	4	1,2,3,7
7. 1R-PR61	1	4	1,2,3,7
8. 2R-PR61	1	4	1,2,3,7

Radioactive Gaseous Effluent Monitor Instrumentation (Continued)

Table 3.12-1 (Continued)

TSC 90-02

Instrument	Minimum Channels Operable	Action	Applicable Modes
7. Accident Monitoring			
A. Containment			
1. 1R-PR40G (Channel 7)	1	10	1,2,3,4,7
2. 2R-PR40G (Channel 7)	1	10	1,2,3,4,7
3. 1R-PR40I (Channel 9)	1	10	1,2,3,4,7
4. 2R-PR40I (Channel 9)	1	10	1,2,3,4,7
B. Miscellaneous Vent Stack			
1. 1R-PR49G (Channel 7)	1	4	1,2,3,4,7
2. 2R-PR49G (Channel 7)	1	4	1,2,3,4,7
3. 1R-PR49I (Channel 9)	1	4	1,2,3,4,7
4. 2R-PR49I (Channel 9)	1	4	1,2,3,4,7
C. Containment Fuel Handling Area Monitor			
1. 1R-AR04A	1	11	6 When purging during
2. 1R-AR04B	1	11	6 fuel handling
3. 2R-AR04A	1	11	6 operations
4. 2R-AR04B	1	11	6

Radioactive Gaseous Effluent Monitor Instrumentation (Continued)

Table 3.12-1(Continued)

ACTION 4 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirements, initiate an alternate method of monitoring the appropriate parameter(s) within 72 hours, and:
1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or
2. prepare and submit a Special Report to the Commission pursuant to Specification 6.6.3.B 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.

ACTION 5 - With the number of channels OPERABLE less than the minimum number required, the contents of the tank may be released to the environment provided that prior to initiating the release:
1. At least two independent samples of the tank's content are analyzed, and
2. At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge flow path valving; otherwise suspend release of radioactive effluents via this pathway.

ACTION 6 - With the number of channels OPERABLE less than the minimum number required, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per shift and these samples are analyzed for gross activity within 24 hours.

ACTION 7 - With the number of channels OPERABLE less than the minimum number required, and no redundant monitor OPERABLE in this flow path, immediately suspend PURGING of radioactive effluents via this pathway.

ACTION 8 - With the number of channels OPERABLE less than the minimum number required, effluent releases via this pathway may continue for up to 30 days provided samples are continuously collected with auxiliary sampling equipment as required in Table 4.12.1.

ACTION 9 - With the number of OPERABLE channels less than the minimum number required, effluent releases via this pathway may continue provided the flow rate is estimated at least once per shift while release is in progress.

ACTION 10 - With the number of OPERABLE channels less than the minimum number required, restore the inoperable monitor to OPERABLE status within 30 days or establish an alternate means of monitoring the parameter.

ACTION 11 - With the number of OPERABLE channels less than the minimum number required, suspend vent and purge operations and close each vent and purge valve providing direct access from the containment atmosphere to the outside atmosphere or suspend the movement of nuclear fuel and reactor components in the vicinity of the reactor, refueling cavity, and transfer canal (containment side).

ACTION 12 - With the number of OPERABLE channels less than the minimum number required, effluent releases via this pathway may continue provided the effluent flow is being accounted for in the total plant effluent.

Instrument	Minimum Channels Operable	Action #	Applicable Modes
1. Area Monitors			
A. Fuel Storage Pool Area			
1. OR-0005	1	24	All
2. OR-AR03	1	21	During Fuel Handling Operations or Crane Operation in or near SFP.
3. OR-AR13	1	21	During Fuel Handling Operations
B. Containment Purge Isolation			
1. 1R-AR04A	1	22	6 When purging during
2. 1R-AR04B	1	22	6 fuel handling
3. 2R-AR04A	1	22	6 operations
4. 2R-AR04B	1	22	6
C. Containment Area (High Range)			
1. 1R-AR02	1	31	1,2,3,4,7
2. 2R-AR02	1	31	1,2,3,4,7
3. 1R-AR03	1	31	1,2,3,4,7
4. 2R-AR03	1	31	1,2,3,4,7
D. Control Room			
1. OR-0001	1	24	All
E. Technical Support Center			
1. Portable Area Monitor	1	24	All

RADIATION MONITORING INSTRUMENTATION
TABLE 3.14-1

Action 27: With the number of channels OPERABLE less than the minimum number required, effluent via this pathway may continue provided the gross radioactivity level (beta/gamma or isotopic) is determined at least once per day. If the inoperable channel is not returned to OPERABLE status within 30 days conduct a Station Review to determine a plan of action to restore the channel to operability.

Action 28: With the number of channels OPERABLE less than the minimum number required, comply with the surveillance requirements 4.3.3.A.2 and 4.3.3.B.

Action 30: With the number of channels OPERABLE less than the minimum number required, initiate an alternate method (if feasible) of monitoring the appropriate parameter(s) within 72 hours, and :

1) Either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2) Conduct a Station Review within 14 days to determine a plan of action to restore the channel to OPERABLE status.

ACTION 31: With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements, initiate an alternate method of monitoring the appropriate parameter(s) within 72 hours, and:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or
2. prepare and submit a Special Report to the Commission pursuant to Specification 6.6.3 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.

TABLE NOTATION (Continued)

TABLE 3.14-1 (Continued)

6.2. Plant Operating Procedures

1. Written procedures including applicable checkoff lists covering items listed below shall be prepared, implemented, and maintained:

   A. Normal startup, operation, and shutdown of the reactor and other systems and components involving nuclear safety of the facility.

   B. Refueling operations.

   C. Actions to be taken to correct specific and foreseen potential malfunctions of systems or components including responses to alarms, suspected primary system leaks, and abnormal reactivity changes.

   D. Emergency conditions involving potential or actual release of radioactivity - "Generating Stations Emergency Plan" and station emergency and abnormal procedures.

   E. Instrumentation operation which could have an effect on the safety of the facility.

   F. Preventive and corrective maintenance operations which could have an effect on the safety of the facility.

   G. Surveillance and testing requirements.

   H. Tests and experiments.

   I. Procedures to ensure safe shutdown of the plant.

   J. Station Security Plan and implementing procedures.

   K. Fire Protection Program implementation.

   L. Post Accident Sampling Program which will ensure the capability to: obtain and analyze reactor coolant and containment atmosphere samples, and collect and analyze or measure radioactive iodine and particulates in plant gaseous effluents under accident conditions. The program shall include the following:
   (i) Training of personnel,
   (ii) Procedures for sampling and analysis,
   (iii)Provisions for maintenance of sampling and analysis equipment.

   M. Working hours of the Shift Engineer, Shift Control Room Engineer, Shift Foreman, and Nuclear Station Operator such that the heavy use of overtime is not routinely required.

6.2 (Continued)

2. Radiation control procedures shall be prepared, implemented and maintained. These procedures shall specify permissible radiation exposure limits and shall be consistent with the requirements of 10CFR 20. The radiation protection program shall meet the requirements of 10CFR 20.

3. Procedures for items identified in Specification 6.2.1 and any changes to such procedures shall be reviewed and approved by the Operating Engineer and the Technical Staff Supervisor in the areas of operation and fuel handling, and by the Maintenance Assistant Superintendent and Technical Staff Supervisor in the areas of plant maintenance, instrument maintenance, and plant inspection. Procedures for items identified in Specification 6.2.2 and any changes to such procedures shall be reviewed and approved by the Technical Staff Supervisor and the Health Physics Supervisor/Chemistry Supervisor or designees. At least one person approving each of the above procedures shall hold a valid Senior Reactor Operator's license. In addition, these procedures and changes thereto must have the authorization of the Station Manager or designee before being implemented.

   Work and instruction type procedures which implement approved maintenance or modification procedures shall be approved and authorized by the Production Superintendent. The "Maintenance/Modification Procedure" utilized for safety related work shall be so approved only if procedures referenced in the "Maintenance/Modification Procedure" have been approved as required by 6.2.1. Procedures which do not fall within the requirements of 6.2.1 or 6.2.2 may be approved by the Department Heads.

4. Temporary changes to procedures identified in Specifications 6.2.1 and 6.2.2 above may be made provided:

   A. The intent of the original procedure is not altered.

   B. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.

   C. The change is documented, reviewed by the Onsite Review and Investigative Function and approved by the Station Manager or designee within 14 days of implementation.

5. Drills of the emergency procedures described in Specification 6.2.1.D shall be conducted at the frequency specified in the Generating Station Emergency Plan. These drills will be planned so that during the course of the year, communication links are tested and outside agencies are contacted.

6.3 Action to be Taken in the Event of a Reportable Event in Plant Operation:

Any Reportable Event shall be promptly reported to the Vice President PWR Operations or his designated alternate. The incident shall be promptly reviewed pursuant to Specification 6.1.7.B.2.(j) and a separate report for each reportable event shall be prepared in accordance with the requirements of 10CFR 50.73.

6.6.3.B Special Reports (Continued)

	TOPIC	SUBMITTAL DATE
i.	Pressurizer PORV or Safety Valve challenges	Document the event in the Annual Report
j.	(Future)	
k.	Steam generator tube inspection and/or plugging.	Per surveillance requirements 4.3.1.B.5
l.	Emergency Core Cooling System (ECCS) actuation and injection when RCS temp ≥ 350°F	Within 30 days as LER - include nozzle usage factor per T.S. 3.3.2.F.3
m.	Fire detector inoperability	Within 30 days per T.S. 3.21.1.C
n.	Fire pump system inoperability	Within 30 days per T.S. 3.21.2.B
o.	Fire suppression system inoperability	Within 30 days per T.S. 3.21.2.C or 3.21.2.D
p.	Sprinkler system inoperability	Within 30 days per T.S. 3.21.3.C
q.	Low pressure CO_2 system inoperability	Within 30 days per T.S. 3.21.4.C
r.	Post Accident Radiation monitor inoperable greater than 7 days.	Within 14 days per T.S. Tables 3.12-1 and 3.14-1 to the Regional Administrator of the NRC Regional Office.

SPECIAL REPORTS

Table 6.6-1 (Continued)

ATTACHMENT 6

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

For ease of review, the proposed changes have been broken down into 5 distinct categories, based on the changes made. The No Significant Hazards Considerations has been broken down into separate assessments, to reflect these categories, and to appropriately address all the changes made. The alphabetic designators following the categorical title, designates the corresponding proposed change that is addressed in the No Significant Hazards Considerations.

Commonwealth Edison has evaluated this proposed amendment and determined that it involves no significant hazards considerations. According to 10 CFR 50.92(c), a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not:

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

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

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

ADMINISTRATIVE CHANGES (A)

The following changes have been categorized as administrative in nature. These changes do not involve a change in intent, requirement, or regulation. As such, this No Significant Hazards Considerations will address these items:

- Page number changes and additions,
- Title changes, relocations, and additions,
- Location and wording of notes associated with the PORVs and PORV Block Valves,
- Clarified proper mode to eliminate ambiguity
- Changes in terminology,
- Generation of new table to be used for reference purposes,
- Addition of notes clarifying current exemptions to performing periodic surveillances,
- Changes providing reference to base documents and revision numbers,
- Deletion of surveillance frequency notation addressed appropriately elsewhere in the Technical Specifications,
- Reformating of pages,
- Equipment identification changes that are typographical in nature, and
- Inclusion of reporting requirements into the administrative section of the Technical Specifications, required to be performed under an action statement.

The proposed changes do not result in a significant increase in the probability or consequences of accidents previously evaluated. The proposed changes to the Technical Specification listed above have been determined to be administrative in nature. The proposed amendment to the Technical Specifications does not change or alter any current operator actions, or requirements for the mitigation of any previously evaluated accident. These changes have no impact on assumed margins or actions during an evaluated accident. Plant response to previously evaluated accidents will not be altered as a result of these changes. As such, the probability and consequences associated with evaluated accidents have remained unchanged.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. These proposed changes will not impose or result in plant operation that differ from any existing requirements. No new equipment is being introduced as a result of these changes. As such, the possibility of a new or different kind of accident from any accident previously evaluated will not occur as a result of these changes.

The proposed changes do not involve a significant reduction in a margin of safety. These changes do not alter the manner in which equipment required for safe operation of the plant is operated. There are no setpoint, or operational limitations being altered or changed as a result of these revisions. As such, these changes have no significant effect on the margin of safety.

ADDITION OR CHANGES OF INSTRUMENTATION (B)

The following changes involve the addition of instrumentation as a result of the guidance given in, Generic Letter 83-37 regarding "NUREG 0737 Technical Specifications". As such, this No Significant Hazards Considerations will address the following items:

- Containment Pressure (Wide Range) changing from narrow range to wide range. In addition, the total number of instrument channels has been changed from 4 to 2 to address the appropriate number of qualified instruments,

- Changing of the Pressurizer Safety Valve Position Indicator to include both a Technical Specification for the primary and the backup indicators,

- Revision of the RCS Subcooling Monitor, to delete previously approved manual calculations in lieu of utilization of installed instrumentation, and

- The addition of the following instrumentation into the Technical Specifications:
  Core Exit Thermocouples,
  Containment Water Level Wide Range,
  Containment Water Level Narrow Range,
  Reactor Coolant Inventory Tracking System, and
  Condensate Storage Tank Level.

The proposed change does not result in a significant increase in the probability or consequences of accidents previously evaluated. The purpose of the Accident Monitoring Instrumentation is to provide sufficient information to perform required manual actions, and to monitor and assess plant status and behavior during and following an accident. The instrumentation referenced in the Technical Specifications to perform these functions must be capable of providing this information under assumed accident conditions. Therefore, there must both be an adequate number of parameters monitored, and these parameters must be monitored by appropriately qualified instrumentation. The probability for an evaluated accident is independent of the number and type of instruments designated for monitoring purposes. The probability for an accident is linked to the precursor events leading to an accident. None of the accident monitoring instrument changes addressed here are linked in any fashion to these precursor events.

As such, the probability for previously evaluated events has remained unchanged. The consenuences of evaluated events are lessened by assuring that the minimum number of parameters required to perform required manual actions, and monitor and assess plant status following an accident are available.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes will not approve or result in plant operation that could create a new or different kind of accident. The addition of these instruments to the technical specifications will provide assurance in regards to their availability, through the establishment of Limiting Conditions for Operation, Remedial Actions, and appropriate Surveillance Requirements. The accident monitoring instrumentation is directly tied to accident mitigation, through the accomplishment of manual actions and assessment. Through proper decision making the possibility of different type of accident or accident conditions propagating in a differing manner will be prevented.

The proposed change does not involve a significant reduction in a margin of safety. The inclusion of these instruments into the Technical Specification will provide assurance that an adequate number of the appropriate instruments are available to monitor required plant parameters in the event of an accident. By referencing instrumentation that is appropriately qualified for the expected condition, assurance is gained that these parameters will be available if required. By reducing the total number of channels for the Containment Wide Range Pressure Instruments from 4 to 2 the appropriately qualified instruments are referenced. However, the margin of safety has remained unchanged by virtue of the required number of channels remaining the same. For the instrumentation being added, these changes will enhance the safety of the plant through the establishment of minimum acceptable levels of performance and availability for these instruments in the Technical Specifications. Through the establishment of these minimum levels, information required for appropriate decision making during and following an accident can be assured. Surveillance requirements are being specified for the purpose of determining operability. The remedial actions associated with the added Specifications will require the plant to be placed into a shutdown condition, after providing an appropriate time frame to restore the inoperable instrument(s) to operable status. As such, these proposed changes to the Technical Specifications will result in an increase in the current margin of safety.

ACTION AND PROGRAMATIC CHANGES (C)

The following assessment involves the revision of the action statements associated with the accident radiation monitoring instruments. This assessment also addresses the addition of programatic control to assure these monitoring capabilities. As such, this No Significant Hazards Considerations will address the following items:

- Addition of action statement 4 regarding the actions associated with the Steam Generator Atmospheric Relief and Safety Valve Radiation Monitors, and the Vent Stack Noble Gas Radiation Monitors,

- Addition of action statement 31 regarding the actions associated with the Containment High Range Radiation Monitors, and

- The addition of the requirement to have Post Accident sampling programs capable of obtaining and analyzing reactor coolant and containment atmosphere, and to collect and analyze or measure radioactive iodines and particulates in plant gaseous effluents samples under accident conditions.

The proposed changes do not result in a significant increase in the probability or consequences of accidents previously evaluated. The radiation monitor action statement changes and programs being added to the administrative section of the Technical Specifications of themselves have no impact on the probability of any events that are inputs to evaluated accidents. As such, the probability for evaluated events has remained the same. The changes made are providing assurance to the availability of these monitors or alternative methods of providing comparable information during and following an accident. Through assuring the availability of these parameters and programs, the consequences of evaluated accidents remain the same.

The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes address the revisions to programs and action statements. There is no new equipment being proposed for installation that could present the possibility for a new or different type of accident, as a result of these changes. Plant operations will not be altered in any fashion that could create the possibility for a new or different type of accident. Through assuring the availability of these parameters during an accident, proper decision making can be assured. As such, these changes will not create the possibility for a new or different type of accident. In addition, the potential for accident conditions propagating in a differing manner will be prevented.

The proposed change does not involve a significant reduction in a margin of safety. The proposed actions will result in the establishment of alternate methods of monitoring the effluent release paths for the Steam Generator Atmospheric Relief and Safety Valves, and Vent Stack within 72 hours instead of 30 days as addressed in the current Technical Specifications. The reduction in these time frames will provide for an increase in the readiness to monitor these parameters in the unlikely event of an accident. The administrative changes being added to the Technical Specifications involve the addition of the requirements to have Post Accident sampling programs capable of obtaining and analyzing reactor coolant and containment atmosphere, and to collect and analyze or measure radioactive iodines and particulates in plant gaseous effluents samples under accident conditions. These programs include; the training of personnel, procedures for sampling and analysis, and provisions for maintenance of sampling and analysis equipment. These changes provide assurance that these capabilities and programs will be established and maintained. The results of these changes are viewed as an improvement in the plants overall ability to assess accident conditions, and the potential for or quantification of releases. As such, these changes do not result in a significant reduction in the margin of safety.

CHANGES TO REQUIRED NUMBER OF INSTRUMENTS (D)

The following assessment involves changes to the required number of instruments, and parameters that must be monitored. As such, this No Significant Hazards Considerations will address the following items:

- Changes to the Required and Minimum Number of Instruments for the Steam Generator Wide Range Level Indicators,
- Changes to the Required and Minimum Number of Instruments for the Auxiliary Feedwater Flow Rate Monitoring Instruments,
- The deletion of the PZR PORV acoustic monitors from the Technical Specification, and
- Revision of the PZR PORV Block Valve Position Indicator, increasing the Minimum Number of channels from 0 to 1.

The proposed changes do not result in a significant increase in the probability or consequences of accidents previously evaluated. The above noted instruments provide monitoring capabilities of parameters important for the proper assessment of plant status. These proposed changes are not linked to increasing the probability of any accident. These changes do not alter any of the assumed initial conditions for evaluated accidents at the Zion Station. As such, the probability and consequences for an evaluated accident has remained unchanged. In the case of the Steam Generator Wide Range Level and the Auxiliary Feedwater Flow Monitoring Instruments, the required number of instruments have become more restrictive. In addition, the PZR PORV Block Valve Position Indicator, the Minimum Number of Channels has also become more restrictive. The proposed change will increase the Minimum Number of Channels required for the Steam Generator Wide Range Level and Auxiliary Feedwater Flow Monitoring instruments based on the more restricive limits imposed on the Required Number of Channels operable. In addition, the Steam Generator Narrow Range Level instruments provide redundant indication of heat sink status for both the Steam Generator Wide Range Level instruments, and the Auxiliary Feedwater Flow Rate instruments. As such, there is redundancy available for monitoring these parameters. The Steam Generator Narrow Range Level instruments have a required number of 2, and a minimum number of 1, and are powered from redundant safety related power supplies. In this fashion, it can be shown that there is sufficient redundancy available to justify a 7 day action statement alone for the Steam Generator Wide Range Level and Auxiliary Feedwater Flow Rate instruments. In reference to the PORV Position Indicator, the safety related limit switch position indicators will still be retained in the Technical Specifications.

These indicators on their own are sufficient to provide valve status indication in the Control Room. In this fashion, the consequences of previously evaluated accidents will remain unchanged. Based on the diversity available for monitoring the parameter associated with the Steam Generator Wide Range Level and the Auxiliary Feedwater Flow Rate indicator, in addition to the safety related limit switches associated with the PZR PORV Position indication, sufficient monitoring capability will be maintained. As such, the consequences of evaluated events will remain the same through the assurance that the minimum number of parameters required to perform required manual actions, and monitor and assess plant status following an accident are available.

The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes will not impose or result in plant operation that will challenge the integrity of any fission product barriers. Post accident monitoring instrumentation is directly tied to accident mitigation in regards to assessment and decision making process. The number and type of instruments specified in the Technical Specifications, of there own will not result in the possibility of a different type of accident. All of these items as proposed, will still have adequate indication available through either safety related or diverse indication. Through the assurance that the required parameters necessary for appropriate decision making during and following an accident are available, it can be determined that the possibility of a different type of accident or an accident conditions propagating in a differing manner will be prevented.

The proposed change does not involve a significant reduction in a margin of safety. These changes will enhance the safety of the plant through the establishment of more restrictive minimum acceptable levels of performance and availability for the Steam Generator Wide Range Level and Auxiliary Feedwater Flow Rate instruments in the Technical Specifications. The current Technical Specifications do not invoke any required remedial actions until at least 3 instruments fail. In the event of 3 failures, a 7 day action statement would be entered. In the event of all 4 instruments failing, a 48 hour action statement time clock is entered. The proposed changes would invoke a 7 day time clock based on a single failure and a 48 hour time clock would apply for two or more channel failures. The Steam Generator Narrow Range Level instruments provide redundant indication of heat sink status for both the Steam Generator Wide Range Level instruments, and the Auxiliary Feedwater Flow Rate instruments. As such, there is redundancy available for monitoring these parameters. The Steam Generator Narrow Range Level instruments have a required number of 2, and a minimum number of 1. In this fashion, it can be shown that there is sufficient redundancy available to justify a 7 day action statement alone for the Steam Generator Wide Range Level and Auxiliary Feedwater Flow Rate instruments.

Based on the diversity available for monitoring this parameter, it can be concluded that sufficient monitoring capability will be maintained. As such, based on the redundancy in indication, and the lower threshold for action statement entry, it has been concluded that the overall margin of safety has been enhanced. In regards to the PZR PORV Valve Position Indicators, valve position indication will be available from the safety related limit switches associated with these valves. Based on the current Technical Specifications, operations could continue for a period of 7 days based on the inoperability of either a stem mounted limit switch, or an acoustical monitor. If both of these indicators were inoperable, operations could continue for a period of time not to exceed 48 hours. If, the required number of channels or minimum operable channels are not restored within these time frames, the unit will be placed in Mode 4 within the next 12 hours. The proposed changes will allow operations to continue for a period of time not to exceed 48 hours based on the inoperability of the stem mounted limit switch alone. If, the required number of channels (same as the minimum operable number) are not restored within this time frame, the unit will be placed in Mode 4 within the next 12 hours. In the event that the acoustical monitor is inoperable, the actions required will remained the same. As such, it can be concluded that the restoration time frame for an inoperable limit switch is the same in the proposed change, is the same as the current Technical Specifications assuming loss of the acoustical monitor. Regarding the PZR PORV Block Valve Position Indicators, valve position indication will be available from the safety related limit switches associated with these valves. Based on the current Technical Specifications, operations could continue for a period of 7 days based on the inoperability of a stem mounted limit switch. If the required number of channels is not restored within this time frame, the unit will be placed in Mode 4 within the next 12 hours. The proposed changes will allow operations to continue for a period of time not to exceed 48 hours based on the inoperability of the stem mounted limit switch. If, the required number of channels (same as the minimum operable number) are not restored within this time frame, the unit will be placed in Mode 4 within the next 12 hours. In this fashion, the margin of safety will remain the same.

MODE OF APPLICABILITY CHANGE (E)

The following No Significant Hazards Considerations addresses the addition of Mode 7 as a required mode for the accident monitoring instrumentation.

The Mode of Applicability for Specification 3.8.9 Accident Monitoring Instrumentation has been revised to include Mode 7. Generic Letter 83-37 was written to address the Modes of Applicability as defined in the Standardized Technical Specifications. Mode 7 in the Zion Station Technical Specifications is defined as; less than or equal to 5% power with reactivity and temperature stated per the specific test. This mode is synonymous with Mode 2, incorporating specified tests from the Special Test Exemptions in the Standard Technical Specifications. This change will require the Accident Monitoring Instruments to be operable in Modes 1, 2, 3, and 7.

The proposed change does not result in a significant increase in the probability or consequences of accidents previously evaluated. Mode 7 at the Zion Station is Low Power Physics Testing. Low Power Physic Testing involves operation at power levels not to exceed 5% of rated thermal power. In order to establish these conditions, the plant must transition Mode 3. In transitioning Mode 3 the plant is in a condition where the accident monitoring instruments are required to be operable. The probability for a previously evaluated accident has remained unchanged. The addition of this mode has no effect on an events or conditions that are precursors to any evaluated accidents. By assuring the operability of these instruments, in all appropriate modes, the consequences of previously evaluated accidents will remain the same.

The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change does not approve or result in the installation of new equipment. The proposed changes will not impose or result in plant operation that will deviate from current practices. In order to establish Mode 7, the plant must first enter Mode 3. The Accident Monitoring Instruments are currently required operable in Mode 3. As such, this change does not result in operations different from current. As such, the proposed change will not create the possibility for a new or different kind of accident from those previously evaluated.

The proposed change does not involve a significant reduction in a margin of safety. This proposed change will result in the accident monitoring instruments specified in table 3.8.9, being required to be operable in Mode 7. The inclusion of this mode provides assurance that these instruments would be maintained operable during low power physics testing. As such, the margin of safety will not be significantly reduced.

ATTACHMENT 7

ENVIRONMENTAL ASSESSMENT STATEMENT

Zion Station has evaluated the proposed amendment against the criteria for and identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR51.21. The proposed changes do not individually or cumulatively have a significant impact on the human environment. As such, this change has been evaluated against the criteria for a categorical exclusion. It has been determined that the proposed change meets the criteria for a categorical exclusion as provided for under 10 CFR51.21(c)(9). This determination is based on; involving the issuance of an amendment to a license for a reactor issued pursuant to 10 CFR50, which changes both the requirements for and the surveillance requirements associated with components located within the restricted area, do not involve any significant hazards considerations, there is no change in the amount or type of releases made offsite, and there is no increase in individual or cumulative occupational radiation exposure.

ATTACHMENT 8

ZION STATION TYPE A VARIABLES

This attachment provides a listing of the Type A variables identified in Zion Station's Regulatory Guide 1.97 submittal. The instrument numbers and Technical Specification locations are provided for cross referencing purposes.

VARIABLE	SPECIFICATION INSTRUMENT	TABLE 3.8.9-1 ITEM
1) RCS Hot Leg Temperature (Wide Range)	TE-413A	2
	TE-423A	2
	TE-433A	2
	TE-443A	2
2) RCS Cold Leg Temperature (Wide Range)	TE-413B	3
	TE-423B	3
	TE-433B	3
	TE-443B	3
3) RCS Pressure (Wide Range)	PT-403	4
	PT-405	4
4) Steam Generator Level (Wide Range)	LT-501	8
	LT-502	8
	LT-503	8
	LT-504	8
5) Steam Generator Level (Narrow Range)	LT-517, 518, 519	7
	LT-527, 528, 529	7
	LT-537, 538, 539	7
	LT-547, 548, 549	7
6) Pressurizer Level	LT-459	6
	LT-460	6
	LT-461	6
7) Steam Line Pressure	PT- 515, 516	5
	PT- 525, 526	5
	PT- 535, 536	5
	PT- 545, 546	5
8) Containment Pressure	PT-CS50	1
	PT-CS51	1
9) Refueling Water Storage Tank Level (Note 1)	LT-920	9
	LT-921	9

10) Containment Water Level[1] (Wide Range)	LT-CS46 LT-CS47	18 18
11) Auxiliary Feedwater Flow	FT-FW02 FT-FW03 FT-FW04 FT-FW25	10 10 10 10
12) Containment Area Radiation	RE-AR02 RE-AR03	Note 3 Note 3
13) Core Exit Temperature	T-0001 thru T-0065	16
14) RCS Subcooling	PT-403, 405, 456, 457, 458, and T-0001 thru T-0065	11
15) Condensate Storage Tank Level (Note 2)	LT-CD94 LT-CD139	21 21

Note 1: As addressed in Regulatory Guide 1.97 submittal dated August 1, 1986, these transmitters do not met Environmental qualification. These instruments will be upgraded during the Unit 1 and 2 Cycle 13 Refueling Outages.

Note 2: As addressed in Regulatory Guide 1.97 submittal dated August 1, 1986, neither of these level indicators met the criteria for Type A variables. Instrumentation upgrades will be performed during the Unit 1 and 2 Cycle 13 Refueling Outages.

Note 3: Containment High Range Radiation Monitors addressed in Specification 3.14.1, Table 3.14-1 item 1.C.

10) Containment Water Level (Wide Range)	LT-CS46 LT-CS47	18 18
11) Auxiliary Feedwater Flow	FT-FW02 FT-FW03 FT-FW04 FT-FW25	10 10 10 10
12) Containment Area Radiation	RE-AR02 RE-AR03	Note 3 Note 3
13) Core Exit Temperature	T-0001 thru T-0065	16
14) RCS Subcooling	PT-403, 405 and T-0001 thru T-0065	11
15) Condensate Storage Tank Level (Note 2)	LT-CD94 LT-CD139	21 21

Note 1: As addressed in Regulatory Guide 1.97 submittal dated August 1, 1986, these transmitters do not met Environmental qualification. These instruments will be upgraded during the Unit 1 and 2 Cycle 13 Refueling Outages.

Note 2: As addressed in Regulatory Guide 1.97 submittal dated August 1, 1986, neither of these level indicators met the criteria for Type A variables. Instrumentation upgrades will be performed during the Unit 1 and 2 Cycle 13 Refueling Outages.

Note 3: Containment High Range Radiation Monitors addressed in Specification 3.14.1, Table 3.14-1 item 1.C.

ATTACHMENT 9

POST ACCIDENT MONITORING INSTRUMENTATION

This attachment provides a listing of the Type B through E variables referenced in this change. The instrument numbers and Technical Specification locations are provided for cross referencing purposes. These instruments are consistent with those specified in Zion Station's Regulatory Guide 1.97 submittal.

TECHNICAL SPECIFICATION ITEM	INSTRUMENT	TABLE 3.8.9-1 ITEM
1) PORV Position Indicator	Direct Limit Switch	12
2) PORV Block Valve Position	Direct Limit Switch	13
3) Safety Valve Position (Primary Detector) (Note 6)	TE-464	14
	TE-465	14
	TE-466	14
4) Safety Valve Position (Backup Detector)	Acoustic Monitor LL025	15
	Acoustic Monitor LL026	15
	Acoustic Monitor LL027	15
5) Containment Water Level (Narrow Range)	LT-CS48	17
	LT-CS49	
6) Reactor Vessel Water Level (Narrow Range)	LT-1311	20
	LT-1312	
7) Reactor Vessel Water Level (Wide Range)	LT-1321	19
	LT-1322	19
8) Vent Stack Monitor	RIA-PR49 channels 7, and 9	Note 4
9) Steam Generator Atmospheric Relief and Safety Valve Monitors	RIM-PR58	Note 5
	RIM-PR59	Note 5
	RIM-PR60	Note 5
	RIM-PR61	Note 5

Note 4: Vent Stack Monitors addressed in Specification 3.12.3, Table 3.12-1 items 4.A.5, and 7.B.

Note 5: Steam Generator Atmospheric Relief and Safety Valve Monitors addressed in Specification 3.12.3, Table 3.12-1 item 6.

Note 6: These transmitters do not meet the criteria for a Category 2 variable. The date for completing modification of these instruments has not been determined yet. The design and modification packages are currently being reviewed by the plant. The schedule for the modifications will be submitted in August, 1990 in Zion Station's Regulatory Guide 1.97 compliance response.

ATTACHMENT 10

UNCHANGED PARAMETERS

This attachment provides a listing of parameters that have remained unchanged. These items are currently in conformance with the guidance given in Generic Letter 83-37. A brief statement summarizing compliance to the design and qualification criteria established in Regulatory guide 1.97 is provided for each of these parameters. These items have not been changed, as such no justifications have been provided.

Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range) Table 3.8.9-1 item 2 has remained the same. These instruments are Type A Category 1 variables. The Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range) instruments referred to by this table meet Category 1 design and qualification criteria.

Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range) Table 3.8.9-1 item 3 has remained the same. These instruments are Type A Category 1 variables. The Reactor Coolant Outlet Temperature - T_{COLD} (Wide Range) instruments referred to by this table meet Category 1 design and qualification criteria.

Reactor Coolant Pressure (Wide Range) Table 3.8.9-1 item 4 has remained the same. These instruments are Type A Category 1 variables. The Reactor Coolant Pressure (Wide Range) instruments referred to by this table meet Category 1 design and qualification criteria.

Steam Line Pressure Table 3.8.9-1 item 5 has remained the same. These instruments are Type A Category 1 variables. The Steam Line Pressure instruments referred to by this table meet Category 1 design and qualification criteria.

Pressurizer Water level Table 3.8.9-1 item 6 has remained the same. These instruments are Type A Category 1 variables. The Pressurizer Water Level instruments referred to by this table meet Category 1 design and qualification criteria.

Steam Generator Water Level (Narrow Range) Table 3.8.9-1 item 7 has remained the same. This specification deviates from the required number of channels specified in Generic Letter 83-37. In Generic Letter 83-37 the required number of channels is 1, while the current Technical Specifications require 2. These instruments are Type A Category 1 variables. Regulatory Guide 1.97 requires Category 1 instrumentation to be redundant. In order to assure redundancy is maintained, 2 Steam Generator Narrow Range Water Level Instruments are required. The Steam Generator Narrow Range Water Level Instruments referred to by this table meet Category 1 design and qualification criteria.

Refueling Water Storage Tank level Table 3.8.9-1 Item 9 has remained the same. These instruments are Type A Category 1 variables. The Refueling Water Storage Tank Level instruments referred to by this table meet Category 1 criteria, with the exception of environmental qualifications. This exception was discussed in Zion Station's Regulatory Guide 1.97 submittal. Modifications to upgrade these instruments are being processed at this time. The commitment made to upgrade these instruments to Regulatory Guide 1.97 revision 2 qualifications was summarized in Attachment 3 of this submittal. The modifications to upgrade these instruments will be completed for Unit 1 and 2 during their cycle 13 Refueling Outages. After completion of these modifications, the Refueling Water Storage Tank Level Indicators will meet Category 1 design and qualification criteria.