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September 28, 2000

1CAN090001

U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station OP1-17
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Proposed Technical Specification Change Concerning the 4160 Volt Bus Loss-Of-Voltage Settings and 480 Volt Bus Degraded Voltage Settings

Gentlemen:

Attached for your review and approval is a proposed change to the Arkansas Nuclear One - Unit 1 (ANO-1) Technical Specifications (TS) to provide a range of acceptable values for the 4160 Volt bus loss-of-voltage and 480 Volt bus degraded voltage relays. TS 3.5.1.8 provides a range of allowable values for the 4160 Volt bus loss-of-voltage and 480 Volt bus degraded voltage relay requirements. The proposed change modifies the existing range of acceptable allowable values. The associated tolerance is consistent with the applicable safety analyses for loss-of-voltage and degraded voltage protection, while providing additional protection against unnecessary relay actuation during system transients. The proposed allowable values also account for channel uncertainties and calibration tolerances. The application of the tolerance values is consistent with Revision 1 of NUREG-1430, "Standard Technical Specifications for Babcock and Wilcox Plants."

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that this change involves no significant hazards considerations. The bases for these determinations are included in the attached submittal.

Since it is desirable to implement the proposed change in conjunction with the calibration of the associated relays during the next ANO-1 refueling outage (1R16), currently scheduled to begin on March 16, 2001, Entergy Operations, Inc. requests that the effective date for this change be March 1, 2001, with an implementation period within 60 days. Although this request is neither exigent nor emergency, your prompt review is requested.

A001

Very truly yours,

CGA/dbb
Attachment

To the best of my knowledge and belief, the statements contained in this submittal are true.

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for Pope **County and the State of Arkansas, this** 28 **day of** September, **2000.**

Notary Public
My Commission Expires 12/15/2007

"OFFICIAL SEAL"
Andrea Pierce
Notary Public, State of Arkansas
County of Pope
My Commission Exp. 12/15/2007

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ATTACHMENT

TO

1CAN090001

PROPOSED TECHNICAL SPECIFICATION

AND

RESPECTIVE SAFETY ANALYSES

IN THE MATTER OF AMENDING

LICENSE NO. DPR-51

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT ONE

DOCKET NO. 50-313

DESCRIPTION OF PROPOSED CHANGES

The proposed change to the Arkansas Nuclear One – Unit 1 (ANO-1) Technical Specifications (TS) affect the safety-related 4160 Volt (V) bus loss-of-voltage and 480 V bus degraded voltage relay allowable values. The following revisions are applicable:

- The loss-of-voltage relay setting allowable values of Limiting Condition for Operation (LCO) 3.5.1.8.a are changed from a range of > 3115 VAC but < 3177 VAC to a range of ≥ 1600 VAC but ≤ 3000 VAC. In addition, the time sequence in which these relays must actuate is added to this specification.

- The undervoltage relay setting allowable values of LCO 3.5.1.8.b are changed from a range of > 423 VAC but < 431 VAC to a range of ≥ 423.2 VAC but ≤ 436.0 VAC.

BACKGROUND

Two levels of undervoltage protection are provided for the ANO-1 on-site power system. One level of protection consists of two inverse-time undervoltage relays on each of the 4160 V safety buses that act to detect loss-of-voltage, isolate the safety buses, initiate load shedding, and start the associated emergency diesel generator (EDG). The undervoltage relays initiate load shedding and the starting of the associated EDG within approximately one second of a total loss-of-voltage. The isolation of the safety related buses is delayed approximately two seconds (for a total of approximately three seconds) to permit the off-site power to supply the safety-related loads in the event of a fast transfer failure.

An additional level of protection consists of two definite time undervoltage relays provided on each safety related 480 V load center bus with a coincident trip logic (2 out of 2) for the purpose of detecting a sustained undervoltage condition. The 480V bus undervoltage relay settings are based on long term motor voltage requirements plus the maximum feeder voltage drop allowance resulting in a nominal 92% setting of motor rated voltage of 460 V. Upon voltage degradation to nominal 92% of 460 V and after a delay of 8 seconds, both relays must operate to isolate the associated safety related 4160 V bus from offsite power, and start and connect the associated EDG. The relays are delayed 8.0 seconds to prevent spurious operation of the relays when large motors start on the safety related 4160 V and 480 V buses. The Loss of Power Start (LOPS) of the EDGs is further described in ANO-1 Safety Analysis Report (SAR) Section 8.3.1.

The 4160 V loss-of-voltage protection system is designed to detect a loss of off-site power as described in the ANO-1 SAR Section 8.3.1.5. The system consists of four 4160 V buses: A1, A2, A3, and A4. The non-vital 4160 V buses (A1 and A2) supply power to auxiliaries which are not engineered safety features (ESF) and to safety buses A3 and A4. The vital 4160 V

ESF buses (A3 and A4) supply power to the ESF equipment essential for safe shutdown and accident mitigation. These vital buses are capable of being supplied from either the Unit Auxiliary Transformer, Startup Transformer #1, or Startup Transformer #2 via buses A1 and A2. Each vital 4160 V bus is also capable of being supplied by its associated emergency diesel generator. The alternate AC diesel generator is also capable of supplying 4160 V buses A1 or A3/A4 for ANO-1.

ESF buses A3 and A4 are designed with loss-of-voltage relays 127-A3/AB, 127-A3/BC, 127-A4/AB, and 127-A4/BC to monitor the voltage condition of the buses. If a loss of voltage on bus A3 or A4 is sensed by the associated loss-of-voltage relays, at 3120 V (approximately 78 percent of motor rated voltage), all loads except the 480 V ESF load centers B5 and B6 will be shed, the feeder breakers for off-site power supply to the A3 and A4 buses from A1 and A2 will open (after a short time delay), and the associated EDG will automatically start. When the EDG has attained rated speed and voltage (within 15 seconds), it will tie to its associated bus and the required ESF loads will connect automatically per a predetermined specified sequence.

The two 4160 V loss-of-voltage relays per bus identified above are connected in parallel. Operation of either relay will isolate its associated bus from its off-site power source. This prevents the possibility of a single relay failure resulting in a failure to isolate the safety bus from off-site power. Additional auxiliary relays initiate the actual safety functions of isolating and stripping the bus, starting the associated EDG, and closing the EDG output breaker.

As stated above, the 480 V bus degraded voltage relays (2 each on safety related 480 V load center buses B5 and B6) are designed to detect a sustained undervoltage condition. The 2 relays on each bus are connected in series to provide the required coincidence logic to preclude spurious isolation from the offsite power source. Upon detection of the undervoltage condition exceeding the time delay setpoint, the 4160 V safety bus will be isolated from the offsite power and the EDG will be started. These actions will ensure no damage is sustained to the connected Class 1E loads, nor spurious trips of breakers or fuses are incurred, due to the low voltage conditions.

The 4160 V bus and 480 V bus relay allowable value entries for TS 3.5.1.8.a and 3.5.1.8.b are currently unchanged from the original issuance of the ANO-1 Operating License in 1974. In the years that have passed since, new insights, calculational methods, and a better understanding of plant response to undervoltage and loss-of-voltage events have developed. Therefore, Entergy Operations, Inc. requests a change to the allowable values of the aforementioned relays to support the changes that have developed throughout the industry. The following section provides the justification for the proposed change.

DISCUSSION OF CHANGE

Recently completed design calculation revisions indicate that a substantial range of values will provide the necessary safety function for loss-of-voltage detection. The proposal changes the

loss-of-voltage relay setting allowable values from a range of > 3115 VAC but < 3177 VAC to a range of ≥ 1600 VAC but ≤ 3000 VAC. The proposed setting for the loss-of-voltage channels provides a range of acceptable values based on a maximum setting that is below the lowest allowed motor terminal momentary voltage of 75% of motor voltage rating, plus further reductions to include channel uncertainties and calibration tolerances. Additionally, an allowable value range for the time delay of ≥ 0.30 but ≤ 0.98 seconds is also proposed. A complete loss of off-site power will result in approximately a one-second delay in initiating the diesel generator actuation signal. The proposed relay time delay allowable values are also sufficient to avoid inadvertent actuation during a normal fast transfer of power sources or offsite power system transients, and includes channel uncertainties and calibration tolerances.

Calculation revisions also indicate that a slightly increased range of values will continue to provide the necessary safety function for degraded voltage protection. The degraded voltage relay setting allowable values are proposed to be revised from a range of > 423 VAC but < 431 VAC to a range of ≥ 423.2 VAC but ≤ 436.0 VAC. The proposed allowable values will allow adjustment of the existing setting of nominal 92% of motor rated voltage of 460 V in order to incorporate channel uncertainties and calibration tolerances, per the guidance contained within the ANO-1 Design Guide, 1DG-001, "Instrument Loop Error Analysis and Setpoint Methodology Manual". While the degraded voltage setpoint change will afford additional protection of Class 1E components against the effects of low voltage, the results of ANO calculations demonstrate that the operability of the offsite power source is not jeopardized for the analyzed minimum normal grid condition. The allowable value range for the time delay will remain 8 seconds ± 1 second.

The proposed change to the 4160 V bus relay allowable values provides improved protection from unnecessary relay actuations during potential system transient events. Furthermore, the proposed change to the allowable values for both the 4160 V bus loss-of-voltage and 480 V bus degraded voltage relays incorporates industry guidance for setpoint uncertainty. In summation, the proposed change enhances the low voltage protection of the Class 1E equipment, while maintaining the assurance of the offsite power source for the transmission system's minimum normal condition. The proposed change contained within this submittal is similar to that approved by the NRC in TS Amendment 208 (SER dated January 26, 1999) for ANO – Unit 2.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Based on recently completed design calculation revisions Entergy Operations, Inc. has determined that an increased range of values will continue to provide the necessary safety function for loss-of-voltage and degraded voltage protection for the Arkansas Nuclear One – Unit 1 (ANO-1) 4160 Volt (V) and 480 V vital buses. Therefore, Entergy Operations, Inc. is proposing a change to the ANO-1 Technical Specifications (TS) to incorporate a new range of values concerning the loss-of-voltage and degraded voltage relay settings.

An evaluation of the proposed change has been performed in accordance with 10 CFR 50.91(a)(1) regarding no significant hazards considerations using the standards in 10 CFR 50.92(c). A discussion of these standards as they relate to this amendment request follows:

Criterion 1 - Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The two 4160 V vital bus loss-of-voltage protection relays that are provided on each of the 4160 V safety buses act to mitigate the consequences of an accident by detecting a loss of voltage, isolating the safety buses, initiating load shedding schemes, and starting the associated emergency diesel generator (EDG). The safety function of the relays is unchanged by the proposed setpoint revisions. The revised settings for the loss-of-voltage protection relays will continue to provide the safety function with no appreciable additional time delay. The proposed time delays are within those assumed in the ANO-1 safety analyses. Additionally, the lower voltage settings will aid in preventing unnecessary isolation from the off-site power sources, which in turn will reduce the probability of a loss of off-site power to the unit due to off-site power system transients. Since the proposed change does not adversely impact the mitigating function of the relays, the consequences of an accident previously evaluated remains unchanged.

The two degraded voltage protection relays that are provided on each of the 480 V safety buses act to mitigate the consequences of an accident by detecting a sustained undervoltage condition, isolating the safety buses from offsite power, and starting the associated EDG. This safety function is unchanged by the proposed setpoint revisions. The revised settings for the degraded voltage protection relays will continue to provide the safety function of protecting the associated Class 1E equipment from the effects of a low voltage condition. There is no proposed change to the existing timer setting and the time delays remain within those assumed in the ANO-1 safety analyses. Additionally, the revised allowable voltage settings will not result in any unnecessary isolation from the off-site power sources. Since the proposed change does not adversely impact the mitigating function of the relays, the consequences of an accident previously evaluated remains unchanged.

The ANO-1 technical specifications will continue to require the 4160 V bus loss-of-voltage functions and 480 V bus degraded voltage functions to be surveillance tested at their present frequency without changing the modes in which the surveillance is required or the modes of applicability for these components. The technical specifications will continue to require the same actions as currently exist for the inoperability of one or more of the 4160 V bus loss-of-voltage channels or the 480 V bus degraded voltage channels.

Therefore, this change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

Criterion 2 - Does Not Create the Possibility of a New or Different Kind of Accident from any Previously Evaluated.

The proposed change introduces no new modes of plant operation or new plant configuration that could lead to a new or different kind of accident from any previously evaluated being introduced. The 4160 V vital bus loss-of-voltage protection relays are required to operate following a complete loss of off-site power to initiate the bus power source transfer to on-site power, i.e., the EDGs, to prevent a loss of all AC power. Likewise, the 480 V bus degraded voltage relays are required to operate upon detection of a sustained undervoltage condition to protect the Class 1E components from damage from low voltage by initiating transfer of the 4160 V safety bus power source to the EDG. These safety functions are unchanged by the proposed setpoint revisions, and the proposed setpoints continue to provide the required actions consistent with the ANO-1 safety analysis.

Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

Criterion 3 - Does Not Involve a Significant Reduction in the Margin of Safety.

The two undervoltage relays located on each 4160 V safety bus are provided to detect loss-of-voltage, isolate the safety buses, initiate load shedding, and start the EDGs. The two undervoltage relays located on each 480 V safety bus are provided to detect sustained undervoltage, isolate the safety buses, and start the EDGs. These safety functions are unchanged by the proposed setpoint revisions. The proposed changes to the allowable values for both loss-of-voltage and degraded voltage relays incorporate channel uncertainties and calibration tolerances, while fully meeting their required safety functions of loss-of-voltage and degraded voltage protection without resulting in undesired tripping of the offsite power source.

The lower loss-of-voltage values do not affect the margin of safety since there is no appreciable time difference in reaching the lower setpoints during a loss-of-voltage event. The maximum proposed time delay allowable value with the minimum loss-of-voltage relay allowable value is within that used in the ANO-1 safety analysis. The revised allowable values for the loss-of-voltage relays will continue to provide the safety function with no appreciable additional time delay. Additionally, the lower voltage settings will help to prevent unnecessary isolation from the off-site power sources due to off-site perturbations in the electrical grid, and thus contribute to increasing the margin

of safety. Also, the slightly higher range of allowable values for the degraded voltage settings allows enhanced protection of the Class 1E components, but does not result in undesired tripping of the offsite power source for the analyzed grid minimum normal condition. The degraded voltage relays, therefore, also act to contribute to an increased margin of safety.

Therefore, this change does not involve a significant reduction in the margin of safety.

Therefore, based upon the reasoning presented above and the previous discussion of the amendment request, Entergy Operations, Inc. has determined that the requested change does not involve a significant hazards consideration.

ENVIRONMENTAL IMPACT EVALUATION

10 CFR 51.22(c) provides criteria for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration, (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released off-site, or (3) result in a significant increase in individual or cumulative occupational radiation exposure. Entergy Operations, Inc. has reviewed this license amendment and has determined that it meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the proposed license amendment. The basis for this determination is as follows:

1. The proposed license amendment does not involve a significant hazards consideration as described previously in the evaluation.

2. As discussed in the significant hazards evaluation, this change does not result in a significant change or significant increase in the radiological doses for any Design Basis Accident. The proposed license amendment does not result in a significant change in the types or a significant increase in the amounts of any effluents that may be released off-site.

3. The proposed license amendment does not result in a significant increase to the individual or cumulative occupational radiation exposure because no change is made to the method of system operation or components necessary to prevent a radioactive release.

PROPOSED TECHNICAL SPECIFICATION CHANGES

3.5.1.7 The Decay Heat Removal System isolation valve closure setpoints shall be equal to or less than 340 psig for one valve and equal to or less than 400 psig for the second valve in the suction line. The relief valve setting for the DHR system shall be equal to or less than 450 psig.

3.5.1.8 The degraded voltage monitoring relay settings shall be as follows:

a. The 4.16 KV emergency bus undervoltage relay setpoints shall be ≥1600 VAC but ≤3000 VAC with a time delay setpoint of ≥0.30 seconds and ≤0.98 seconds.

b. The 480 V emergency bus undervoltage relay setpoints shall be ≥423.2 VAC but ≤436.0 VAC with a time delay setpoint of 8 seconds ±1 second.

3.5.1.9 The following Reactor Trip circuitry shall be operable as indicated:

1. Reactor trip upon loss of Main Feedwater shall be operable (as determined by Specification 4.1.a and item 35 of Table 4.1-1) at greater than 5% reactor power. (May be bypassed up to 10% reactor power.)

2. Reactor trip upon Turbine Trip shall be operable (as determined by Specification 4.1.a and item 41 of Table 4.1-1) at greater than 5% reactor power. (May be bypassed up to 45% reactor power.)

3. If the requirements of Specifications 3.5.1.9.1 or 3.5.1.9.2 cannot be met, restore the inoperable trip within 12 hours or bring the plant to a hot shutdown condition.

3.5.1.10 Deleted

3.5.1.11 For on-line testing of the Emergency Feedwater Initiation and Control (EFIC) system channels during power operation only one channel shall be locked into "maintenance bypass" at any one time. If one channel of the NI/RPS is in maintenance bypass, only the corresponding channel of EFIC may be bypassed.

3.5.1.12 The Containment High Range Radiation Monitoring instrumentation shall be operable with a minimum measurement range from 1 to 10^7 R/hr.

Power is normally supplied to the control rod drive mechanisms from two separate parallel 480 volt sources. Redundant trip devices are employed in each of these sources. If any one of these trip devices fails in the untripped state, on-line repairs to the failed device, when practical, will be made and the remaining trip devices will be tested. Four hours is ample time to test the remaining trip devices and, in many cases, make on-line repairs.

The 4.16 KV bus undervoltage relay settings are based on a maximum setting, which is below the lowest allowed motor terminal momentary voltage of 75% of motor voltage rating of 4000 V. The settings are further reduced to include channel uncertainties and calibration tolerances. The 480V bus undervoltage relay settings are based on long term motor voltage requirements plus the maximum feeder voltage drop allowance resulting in a nominal 92% setting of motor rated voltage of 460 V. These settings are also adjusted to include channel uncertainties and calibration tolerances.

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 recommendation of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

The subcooled margin monitors (SMM), and core-exit thermocouples (CET), Reactor Vessel Level Monitoring System (RVLMS) and Hot Leg Level Measurement System (HLLMS) are a result of the Inadequate Core Cooling (ICC) instrumentation required by Item II.F.2 NUREG-0737. The function of the ICC instrumentation is to increase the ability of the plant operators to diagnose the approach to and recovery from ICC. Additionally, they aid in tracking reactor coolant inventory. These instruments are included in the Technical Specifications at the request of NRC Generic Letter 83-37 and are not required by the accident analysis, nor to bring the plant to cold shutdown conditions. The Reactor Vessel Level Monitor is provided as a means of indicating level in the reactor vessel during accident conditions. The channel operability of the RVLMS is defined as a minimum of three sensors in the upper plenum region and two sensors in the dome region operable. When Reactor Coolant Pumps are running, all except the dome sensors are interlocked to read "invalid" due to flow induced variables that may offset the sensor outputs. The channel operability of the HLLMS is defined as a minimum of one wide range and any two of the narrow range transmitters in the same channel operable. If the equipment is inaccessible due to health and industrial safety concerns (for example, high radiation area, low oxygen content of the containment atmosphere) or due to physical location of the fault (for example, probe failure in the reactor vessel), then operation may continue until the next scheduled refueling outage and a report filed.

MARKUP OF CURRENT ANO-1 TECHNICAL SPECIFICATIONS

(FOR INFO ONLY)

3.5.1.7 The Decay Heat Removal System isolation valve closure setpoints shall be equal to or less than 340 psig for one valve and equal to or less than 400 psig for the second valve in the suction line. The relief valve setting for the DHR system shall be equal to or less than 450 psig.

3.5.1.8 The degraded voltage monitoring relay settings shall be as follows:

a. The 4.16 KV emergency bus undervoltage relay setpoints shall be ≥1600~~>3115~~ VAC but ≤3000~~<3177~~ VAC with a time delay setpoint of ≥0.30 seconds and ≤0.98 seconds.

b. The 4~~8~~60 V emergency bus undervoltage relay setpoints shall be ≧~~>~~423.2 VAC but ≦~~<~~436.0~~1~~ VAC with a time delay setpoint of 8 seconds ±1 second.

3.5.1.9 The following Reactor Trip circuitry shall be operable as indicated:

1. Reactor trip upon loss of Main Feedwater shall be operable (as determined by Specification 4.1.a and item 35 of Table 4.1-1) at greater than 5% reactor power. (May be bypassed up to 10% reactor power.)

2. Reactor trip upon Turbine Trip shall be operable (as determined by Specification 4.1.a and item 41 of Table 4.1-1) at greater than 5% reactor power. (May be bypassed up to 45% reactor power.)

3. If the requirements of Specifications 3.5.1.9.1 or 3.5.1.9.2 cannot be met, restore the inoperable trip within 12 hours or bring the plant to a hot shutdown condition.

3.5.1.10 Deleted

3.5.1.11 For on-line testing of the Emergency Feedwater Initiation and Control (EFIC) system channels during power operation only one channel shall be locked into "maintenance bypass" at any one time. If one channel of the NI/RPS is in maintenance bypass, only the corresponding channel of EFIC may be bypassed.

3.5.1.12 The Containment High Range Radiation Monitoring instrumentation shall be operable with a minimum measurement range from 1 to 10^7 R/hr.

Power is normally supplied to the control rod drive mechanisms from two separate parallel 480 volt sources. Redundant trip devices are employed in each of these sources. If any one of these trip devices fails in the untripped state, on-line repairs to the failed device, when practical, will be made and the remaining trip devices will be tested. Four hours is ample time to test the remaining trip devices and, in many cases, make on-line repairs.

~~The Degraded Voltage Monitoring relay settings are based on the short term starting voltage protection as well as long term running voltage protection.~~ The 4.16 bus KV undervoltage relay ~~setpoints~~ settings are based on a maximum setting, which is below the lowest allowed motor terminal momentary voltage of 75% of motor voltage rating of 4000 V. The settings are further reduced to include channel uncertainties and calibration tolerances.~~the allowable starting voltage plus maximum system voltage drops to the motor terminals, which allows approximately 78% of motor rated voltage at the motor terminals.~~ The 48~~6~~0V bus undervoltage relay ~~setpoint is~~settings are based on long term motor voltage requirements plus the maximum feeder voltage drop allowance resulting in a nominal 92% setting of motor rated voltage of 460 V. These settings are also adjusted to include channel uncertainties and calibration tolerances.

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 recommendation of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

The subcooled margin monitors (SMM), and core-exit thermocouples (CET), Reactor Vessel Level Monitoring System (RVLMS) and Hot Leg Level Measurement System (HLLMS) are a result of the Inadequate Core Cooling (ICC) instrumentation required by Item II.F.2 NUREG-0737. The function of the ICC instrumentation is to increase the ability of the plant operators to diagnose the approach to and recovery from ICC. Additionally, they aid in tracking reactor coolant inventory. These instruments are included in the Technical Specifications at the request of NRC Generic Letter 83-37 and are not required by the accident analysis, nor to bring the plant to cold shutdown conditions. The Reactor Vessel Level Monitor is provided as a means of indicating level in the reactor vessel during accident conditions. The channel operability of the RVLMS is defined as a minimum of three sensors in the upper plenum region and two sensors in the dome region operable. When Reactor Coolant Pumps are running, all except the dome sensors are interlocked to read "invalid" due to flow induced variables that may offset the sensor outputs. The channel operability of the HLLMS is defined as a minimum of one wide range and any two of the narrow range transmitters in the same channel operable. If the equipment is inaccessible due to health and industrial safety concerns (for example, high radiation area, low oxygen content of the containment atmosphere) or due to physical location of the fault (for example, probe failure in the reactor vessel), then operation may continue until the next scheduled refueling outage and a report filed.