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OF

FACILITY CHANGES, TESTS AND EXPERIMENTS

CONDUCTED WITHOUT PRIOR APPROVAL

AND

CHALLENGES TO THE PRIMARY AND SECONDARY SYSTEM

PORV'S AND SAFETY VALVES

IE24

PLANT MODIFICATIONS COMPLETED IN 1983

EWR-1601B TURBINE AUXILIARY FEEDWATER PUMP VALVES LUBE OIL COOLER MODIFICATION

In response to a Nuclear Regulatory Commission (NRC) requirement that the Turbine Driven Auxiliary Feedwater Pump (TDAFP) be independent of AC power, the lube oil cooler for the

TDAFP requires a cooling water source that is independent of AC power. As such, this modification shall include a piping change that shall supply auxiliary feedwater to the TDAFP lube oil cooler and the outer pump shaft bearing in place of an equivalent amount of service water.

The modifications to the piping system will not involve any changes in the operation of the existing auxiliary feedwater system.

The consequences of the loss of normal feedwater flow event are unchanged. Because the input to the turbine remains unchanged, the ability of the pump to perform its safety function remains unchanged.

In the event of a loss of AC power to the station auxiliaries, the operability of the auxiliary feedwater pump turbine is assured by providing a cooling water source for the turbine lube oil system that does not requires AC power. This modification will assure that the TDAFP can function properly even with the loss of the onsite emergency AC diesel generators. Therefore, the margins of safety are, in fact, increased for this event.

The consequences of a steam or feedwater system pipe break outside containment remain unchanged by this modification. The Standby Auxiliary Feedwater System is designed to mitigate the consequences of a high or moderate energy pipe break in the Intermediate Building, therefore, this system does not have to be designed to withstand pipe whip or jet impingement. However, the new lube oil system components and piping shall be designed to maintain their capacity in a post-accident environment.

The consequences of a lube oil system pipe break remain unchanged by this modification and are negligible. The lube oil system is not required to meet pipe break or whip criteria because the Turbine Driven Auxiliary Feedwater Pump System is not pressurized during normal plant operation.

A portion of the new cooling water piping, where required for assurance of pressure retaining integrity of the auxiliary feedwater system, shall be designed to Class 3 requirements of ASME III, which include requirements for seismic loadings. Thus, the margins of safety provided for seismic events are not reduced by the modifications.

Heat removal greater than heat generation due to feedwater system malfunctions is a means of increasing core power above full power. This event can be caused by either the accidental opening of the condensate bypass valve or the accidental opening of the feedwater control valves. The results of both events would be the tripping of the reactor which would result in the activation of the auxiliary feedwater system. The consequences of such a transient are not changed by this modification.

This modification will not alter the pump's capacity to deliver 400 gpm of auxiliary feedwater to the steam generators.

Therefore, the margins of safety during normal operation and transient conditions anticipated during the life of the plant have not been reduced. It has also been determined that the adequacy of structures, systems and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-1869 AUXILIARY FEED PUMP INSTRUMENTATION UPGRADE

The purpose of this modification is to upgrade the flow and pressure instrumentation associated with the Motor Driven and Turbine Driven Auxiliary Feedwater pumps at Ginna Station. This modification involves the replacement of the following primary instrumentation: PT-2029, FT-2001, FT-2009, PT-2019, PT-2030, FT-2002, FT-2006, FT-2007. The instrumentation presently used does not have the desired accuracy and repeatability.

In addition, the existing flow transmitters are utilized to operate valves 4007, 4291 and 4008. Each of these flow transmitters have a built in switch which is actuated via a mechanical linkage. This mechanical linkage has enough inertia such that accurate and repeatable determination of switch actuation point is not possible. As part of this modification, these switches will be replaced with electronic bistables, which electronically compare flow transmitter output with setpoint and change state when the setpoint is reached.

Additional channels of flow instrumentation will be added to each auxiliary feedwater pump. This additional channel will be of the opposite channel designation from that of the primary channel. The primary channel for each feedwater pump will control that particular pump's discharge valve, whereas the secondary channel merely indicates flow.

The class IE portion of this modification shall be designed to be operational: 1) during all modes of normal plant operation, 2) after a safe shutdown earthquake, and 3) after a steam/feedwater line crack break event in the Intermediate Building.

The non Class IE portion of this modification shall be designed for operations during startup, hot shutdown, and power operations.

Qualified flame retardant cable insulation shall be used. A fire in the auxiliary feedwater pump area could have the potential of causing failure of the circuits routed to the field instrumentation, and as a result of cross-coupling (through fire induced short circuits) of instrumentation trains. Isolation between these circuits and the instrument buses is assured by protective circuitry in the analog process instrumentation. Therefore, there is no increase in the probability of a fire and reanalysis of a fire and its postulated effects as a result of this modification is not required.

The safety related portion of the modification shall be designed to withstand the effects of the safe shutdown earthquake. The safety related analog computation instrumentation is to be mounted in seismically qualified racks.

Field instrumentation will be seismically supported and also qualified. Therefore, the margins of safety during a seismic event have not been reduced.

During a high energy line break (HELB) in the Intermediate Building, the environmental conditions will rapidly approach saturation conditions (215 degrees F @ 1 psig). For the operator to have adequate knowledge as to the operability of the auxiliary feedwater pumps, the pump's primary instrumentaiton (i.e. pressure and flow) must be able to withstand and function during the HELB event. The field instruments shall be environmentally qualified. Therefore, the margins of safety or the effects of a HELB in the Intermediate Building have not been reduced or changed.

The modification is designed primarily to improve indication of auxiliary feedwater flow to the operator. As part of this modification the existing bistable device that interfaces with the control system (for each auxiliary feedwater pump) is being functionally replaced. This replacement will in no way affect the operation of the auxiliary feedwater pumps either in manual or automatic operation. Therefore the consequences and safety margins resulting from those events which require auxiliary feedwater for their mitigation have not been changed.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not ben reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

EWR-2606C POST ACCIDENT SAMPLING SYSTEM IMPLEMENTATION

This design consists of providing structural supports to post accident sampling system (PASS). The support will be designed to insure its structural integrity in the event of a seismic occurrence.

The new PASS implementation is non-seismic; however, the PASS support is designed to insure its structural integrity and the integrity of existing Seismic Category I structures in the event of a seismic occurrence.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not ben reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

EWR-2607A CONTAINMENT HIGH PRESSURE INDICATION

The purpose of this modification is to provide a wider range indication of containment high pressure. Specifically this modification involves the upgrading of existing containment high pressure (0-90 psig) transmitters and main control board pressure indicators.

Transmitters PT-946, 948, and 950 measure containment pressure (via tubing penetrations) and convert that measurement to a 10 - 50 m DC signal.

The pressure signal generated by the pressure transmitter and the power supply ((PQ) is fed to both a duplex alarm and an isolation amplifier. The duplex alarm (PC), (which contains two separate, adjustable alarm points) change state when the input exceeds either alarm setpoint. These state changes are fed to the logic for streamline isolation and containment spray. The isolation amplifier (PM) acts to isolate the transmitter signal from the signal going to the indicator and recorder mounted in the control room.

This modification shall be designed to indicate containment pressure over the range of 10-200 psia.

This modification shall be designed to be operable during the following modes of operation: normal power, shutdown, startup and accident.

The new transmitters shall be seismically qualified with an analysis to show the installation of these transmitters does not impose any new significant loading on the existing transmitter supports. Therefore, the margins of safety during a seismic event have not been reduced.

Each of the transmitters replaced by this modification feed a dual bistable device. This bistable has two outputs which independently change state when the input exceeds each output's setpoint. One output feeds to the steamline isolation logic, while the other to the containment spray logic. Any event, (such as LOCA) which results in containment pressurization will potentially result in actuation of these bistables. Specific analysis has demonstrated that these new setpoints and any new instrument errors will result in actuation of this system within the tolerances established by the original accident analysis. In addition, testing to verify proper actuation of this portion of the plant protection system shall be performed. Therefore, the margin of safety for those events which result in containment pressurization and rely on main steam line and/or initiation of containment spray has not been reduced by this modification.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not been reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

EWR-2608A HIGH RANGE EFFLUENT MONITOR

NUREG 0737 required that noble gas effluent monitors with an upper range capacity of 10^5 μCi/cc be installed on the plant vent and containment vent exhaust stacks at Ginna Station.

a. Noble gas effluent monitors with an upper range capacity of 10^5 μCi/cc (Xe-133) are considered to be practical and should be installed in all operating plants.

b. Noble gas effluent monitoring shall be provided for the total range of concentration extending from normal condition (ALARA) concentrations to a maximum of 10^5 μCi/cc (XE-133). Multiple monitors are considered to be necessary to cover the ranges of interest.

Each effluent monitor will continuously sample the air in the vent and analyze it for particulate, iodine, and noble gas concentrations. Control terminals in the Control Room and Technical Support Center will provide the automatic logging function and the operator-to-system interface.

The modification has been reviewed to ensure that failure of any electrical cable installed as a part of this modification will not result in the disabling of vital equipment needed to safely shut down the plant during postulated fires. Cables for this modification will be installed per IEEE-384 and isolated at the power source with appropriate isolation devices. No vital equipment cables will be used in this modification which have not been reviewed under a fire protection safe shutdown analysis.

Seismic qualification of the monitors is not required because none of the events for which the monitors are required to operate are postulated to be caused by a seismic event.

The primary purpose for installation of the high range effluent monitors is to quantify potential releases following a LOCA with extensive fuel damage or a fuel handling accident. For these types of accidents the monitors will not be exposed to a harsh environment and therefore will remain operational.

A LOCA with fuel damage or a fuel handling accident could cause the containment vessel to become a radiation source to the effluent monitors. Over the 40 year life of the plant, the total dose accumulated by the monitors, including the dose from a LOCA, is calculated to be 110 rad. The dose is negligible with respect to thresholds for material degradation in this system. Therefore, this modification will not be adversely affected by a loss of coolant accident or fuel handling accident.

A high energy line break in the intermediate building could subject the effluent monitors to an environment of high temperature (215 degrees F) and humidity. High energy line breaks are limited to relatively small break sizes in the intermediate building by the Augmented Inservice Inspection Program. High range radiation releases are not anticipated during this situation. Alternate techniques for radiological release assessment are available under existing plant programs for routine and emergency monitoring. These would include deployment off portable instrumentation for sample collection and radiation measurement to determine in-plant and offsite radiological levels. Releases from small high energy line breaks outside containment may be dominated by the break flow and not the releases through the plant to containment vents.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected. It has also been determined that the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-2608B HIGH RANGE CONTAINMENT MONITOR

In-containment radiation level monitors with a maximum range of 10^7 R/hr (Photon only) shall be installed. A minimum of two such monitors that are physically separated shall be provided. Monitors shall be designed and qualified to function in an accident environment.

The modification does not increase the possibility or impact of a fire because additional wiring and cable that will be added in this modification, which could add to the fire loading of the plant shall meet the IEEE 383-1974 flame test requirements. Because of this there will be no increase of fire loading caused by this modification.

The modification does not increase the impact of a seismic event because the modification shall be seismic.

This modification does not increase the possibility or impact of an accident inside containment because two redundant systems shall be qualified to withstand the full spectrum of accidents inside of containment and still perform their designed function.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected. It has also been determined that the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-2709 ZIRCONIUM GUIDE TUBE INTERLOCK MODIFICATION INSTALLATION

With the installation of Zirconium Guide Tubes in the fuel assemblies for the 1981 refueling, a condition exists which might lead to damage of the rod drive mechanisms if a cooldown were to occur with the control rod drives latched. This problem arises from the different thermal expansion rates of zirconium versus stainless steel and results in an interference problem which would place unnecessary stresses on the rod control cluster assemblies.

Current administrative procedures exist which require the operator to actuate the manual reactor trip push-button prior to cooldown. This EWR is for the design and installation of an automatic interlock to ensure the reactor trip breakers are open prior to cooling down.

The reactor trip and annunciation are actuated by two independent trains each containing a T_{hot} and a P7 permissive input. T_{hot} channels 409A and 410A will be set to provide a trip signal whenever the hot leg temperature is less than 500 degrees F. In addition, this signal will be blocked by permissive circuit P7 when 2/4 power range channels are greater than 8.0% or 2/2 turbine first stage pressure channels are greater than 8.0%. The main function of this modification is to automatically open one or both of the reactor trip breakers when T_{hot} falls below 500 degrees F if the operator has not already done so, however, this design will also prohibit the operator from closing the

breakers during startup until T-hot is above 500 degrees F. This reactor trip will be annunciated on the "first out" annunciator panel for as long as the signal persists to provide the operator with a visual reminder that the reactor trip breakers cannot be closed.

The trip logic in each train will be actuated by contacts from electromechanical relays wired into the trip circuit if each reactor trip breaker. For increased reliability, redundant T-hot and P7 relays are used.

This modification has been reviewed to ensure that failure of any electrical cable installed as a part of this modification will not result in the disabling of vital equipment needed to safely shut down the plant during postulated fires. Cables for this modification will be installed per IEEE-384 and isolated at the power source with appropriate isolation devices.

New instrumentation installed for this modification shall be qualified to IEEE 323-1974 and IEEE 344-1975 and therefore will not increase the impact of a seismic event.

This modification is designed so as not to block any reactor trip signals at any time. None of the existing reactor trip channels has been modified or utilized in any way. The only possible failure mode for this modification is to cause a trip, therefore, existing reactor trips are not affected.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected. It has also been determined that the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-2770 CONTAINMENT PERSONNEL HATCH CONTROLLED ACCESS

The modification will provide Security personnel monitoring controlled access through the Containment personnel hatch greater convenience. The design will interface with the existing Ginna Station security system, and will provide

control and identification of individuals entering and leaving Containment via the personnel hatch.

Modes of operation shall be controlled from the existing security system.

Additional wiring and cable will be added in this addition, which could add to the fire loading of the plant. However, all such cable shall meet the IEEE 383-1974 flame test requirements. Because of this there will be no increase of fire loading caused by this addition.

The addition does not increase the impact if a seismic event. None of the equipment associated with this addition is required to be functional during a seismic event and failure of this equipment during a seismic event will not degrade existing Seismic Category I structures or equipment.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected. It has also been determined that the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-3021 DIESEL GENERATOR COOLING

This modification provides an alternate source of cooling water for the diesels that is independent of the service water system. It consists of adding a tee, isolation valve and a fire hose fitting between the diesel generator heat exchanger and the service water isolation valve for each generator.

This modification will provide a continuous source of water to the pumps that is independent of the service water system. The modification consists of adding a fire hose fitting and any necessary valves or fittings to the six inch condensate line from the condensate supply tank to the suction of the pumps.

The modification shall be designed to be used in the event of loss of station service water.

The proposed modifications neither penetrate any existing fire barriers nor affect any existing in plant fire suppression systems. The modifications do not increase any previously determined fire loadings.

The modifications are not affected by a tornado or any other storm or flood, and held mitigate the consequences of these events.

The consequences of this event are not increased by the diesel modification because the modification will be designed to Seismic Category I standards.

The consequences of this event are not increased by the feedwater modification because the modification shall be attached to a non seismic portion of piping and shall be located so as not to affect adjacent seismic equipment.

The proposed modifications do not adversely effect the diesel generators availability to provide emergency on-site power in the event of loss of AC power. The proposed modifications are not adversely affected by the loss of AC power.

The proposed modifications will not be affected by any high or moderate energy line breaks. This modification will insure the availability of cooling water should postulated MELB's or HELB's cut off the supply of service water to the diesel generator cooling system, as well as to the steam generators via the Standby Auxiliary Feedwater Pumps.

The consequences of this event are not increased by these modifications. The feedwater modification shall provide a source of feedwater should service water not be available for this purpose.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not been reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

EWR-3030 REACTOR VESSEL HEAD SHIELD

The purpose of this modification is to install a lead-wool blanket radiation shield around the reactor vessel head (RVH) after the thermal insulation is removed for shutdown. This would be lifted with the RVH when it is moved to the storage pedestal. The shield is composed of nine chain mounted blanket modules to surround the head for full 360 degrees, with the blankets overlapping. The chains are attached to support ring brackets, which are clamped onto the RVH lifting members. The modules would be stored in steel chests (three per chest) with casters for ease of movement inside containment. The shield would reduce the man-rem exposure by a factor of 3:1, or more if a Control Rod Drive (CRD) Mechanism shield is installed. This would be placed after the RVH is on the storage pedestal, and consist of the same type of blanket modules. The CRD shield would be suspended from the detensioner hoists, which would not be in use at that time.

This modification shall be designed to retain structural integrity during cold shutdown and fire.

The containment floor underneath the Reactor Head storage pedestal will be analyzed and determined able to safely carry the additional imposed load of the RVH Shield. The Radioactive Materials Storage Building will house the shield storage chests during normal operations. A review of the movement of the chests to and from containment will determine that the contamination limits are within those prescribed by the Radiation Protection Manual, and as per the Ginna Station Administrative Procedure A-1, and other applicable Ginna Station Health Physics procedures and practices.

The containment crane has been analyzed to determine that the additional load of the shield is within allowable capacity. The current licensing issue "Control of Heavy Loads" may require additional changes to the containment crane due to these modifications (e.g., in the area of load testing) or that administrative controls be imposed on the installation of the shields so that head lift does not occur with the shields in place. The modification is acceptable at this time although additional changes may be required in the future to implement the requirements of Control of Heavy Loads.

The margin of safety for maintenance, normal operations and transient conditions will be increased as a result of this modification. The adequacy of the structures, systems and components provided for the prevention of accidents and the mitigation of the consequences of accidents will not be affected.

EWR-3057 RADWASTE STORAGE FACILITY

The purpose of this modification is to install a pre-engineered metal building over the existing fenced in area currently used for low level radwaste storage. The building will contain a bridge crane with a 3 ton capacity. This modification is required to allow plant personnel versatility in moving radwaste in and out of the existing bunker and to allow loading in a dry area.

Presently, all operations involving moving of any material must be accomplished by the acquisition of a crane limiting the loading operations pending its availability. In addition stringent restrictions imposed by the NRC pursuant to non-corrosive free liquids, which have been placed on the waste material packaged for transportation to burial sites eliminates loading the material during inclement weather. The problem of coordinating the acquisition of a crane with good weather will be eliminated. This modification will allow handling of radwaste when needed.

The proposed modification will cover the existing fenced-in-area presently used. No substantial new storage area will be provided.

This modification shall be designed to be functionable during the following: normal operation, shutdown, startup and in case of fire but not during or after a seismic event.

The radwaste storage building will be located over the existing storage facility approximately 300 feet northeast of the plant superstructure.

This modification will be a separate unit. No connections of any utilities will be made to any Seismic Category I structures. The failure of this structure will in no way affect the structural integrity of the plant.

All fire sprinkler systems and extinguishers shall be installed in accordance with NYS Building Codes and Station Operating Procedures. B-labeled doors will be used at two access points to the building in the event of a fire.

At no time will a potential failure of the Radwaste Storage Building influence the operations of the plant. Packaged low-level radioactive wastes stored in the Radwaste Storage Building will consist of solidified waste evaporator bottoms, solidified liquid waste filters, and dry waste. Spent resins will be stored in the facility only after solidification and packaging, or after dewatering and placement in a certified high integrity container and shipping cask.

In the event of a fire, the remote location of the Radwaste Storage Building in relation to the main plant superstructure eliminates any adverse effects which may be caused by such an occurrence. The proposed building structure will contain an adequate fire protection system and components provided for the mitigation of fire emergencies. External contamination levels on the outside of stored radioactive waste packages are administratively controlled by plant procedures and practices and will not pose undue radiological hazard if sprayed with fire protection system water.

During a postulated seismic event, the failure of the Radwaste Storage Building would not release significantly more radioactive contamination to the environment than that which would be released from packaged waste material housed inside the plant Auxiliary Building.

A postulated rupture or puncture of a low-level radioactive waste container during handling would entail no significant release of airborne radioactivity from the Radwaste Storage Building. Waste evaporator bottoms, liquid waste filters and resins not otherwise stored in certified high integrity containers and shipping casks would be bound in a solid matrix with no free-standing water. This would prevent the off-site release of significant inhalable quantities of radioactive material in the event the waste container is ruptured or puncturer during handling. Other material stored in the Radwaste Building would consist of packaged dry waste (e.g. tools, rags, clothing, discarded equipment) or wrapped and/or packaged plant ancillary equipment. Similarly,

the nature of the dry waste materials would preclude the off-site release significant inhalable airborne radioactivity.

The margin of safety for maintenance, normal operations and transient conditions will be increased as a result of this modification. The adequacy of the structures, systems and components provided for the prevention of accidents and the mitigation of the consequences of accidents will not be affected.

EWR-3163 SOUTH PLANT DOOR #25 MODIFICATION

The purpose of this modification is to nullify the problems associated with door closure on door #25 during high wind conditions by installation of an electrically opened sliding door. The door and frame shall be of aluminum and glass construction equal to that existing in the area. This modification will provide ample access to the plant, while maintaining the high degree of security required for entrances. The number of open door alarms should decrease drastically. In order to install the sliding door, the existing doors and frame will be removed including the transom. The new door will be installed, sliding horizontally upon actuation by electronic sensor. The existing access control and alarm equipment will be removed from the exterior door and installed on the interior door. The interior door will be security door S25.

The addition does not increase the possibility or impact of a fire.

Additional wiring and cable will be added in the addition, which could add to the fire loading of the plant. Therefore, the design criteria requires that all such cable meet the IEEE 383-1974 flame test requirements. Because of this there will be no increase of fire loading caused by this addition.

The addition does not increase the impact of a seismic event. None of the equipment associated with this additions required to be functional during a seismic event and failure of this equipment during a seismic event will not degrade existing seismic category I structures or equipment.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected.

EWR-3418 REFUELING WATER STORAGE TANK LEVEL INDICATION

This modification will require a second refueling water storage tank level indication system and a second set of alarms be installed at Ginna Station.

The existing refueling water storage tank (RWST) level indication system consists of a level transmitter (LT-920) connected to the RWST which signals a percent-scale level indicator on the main control board and actuates two annunciator alarm windows ("RWST Lo Lo Level" and "RWST Hi/Lo Level") on the main control board by way of two bistables, one corresponding to each alarm window. There is also a differential pressure unit linked to the RWST on a separate line which actuates one of the same annunciator alarm windows ("RWST Hi/Lo Level") at LT-920.

The second RWST level indication system will replace the differential pressure unit presently linked to the RWST. This modification shall designed with the same actuation levels and actuate the same two annunciator alarm windows as the first RWST level indication system.

This modification has been reviewed to ensure that failure of any electrical cable installed as a part of this modification will not result in the disabling of vital equipment needed to safely shutdown the plant during postulated fires. Cables for this modification will be installed per IEEE-384-1977 and isolated at the power source with appropriate isolation devices.

Each of the annunciator windows is provided with two light bulbs although each annunciator is dependent upon a single circuit for proper operation of the "horn silence", "acknowledge" and "reset" buttons. The redundant RWST level inputs to the alarm, the redundant annunciator power supplies, and the trouble free annunciator operation over a ten year period provide reasonable assurance that the alarms will alert the operators. In addition to the alarms, redundant

level indication will provide the information necessary for the operator to complete the required tasks.

The new level transmitter, the signal processing modules, and the level indicator installed for this modification shall be seismically qualified. In addition, the new level transmitter, conduit, and instrument tubing shall be seismically supported. Therefore, this modification does not increase the impact of a seismic event.

This modification has been reviewed to ensure that failure of the level transmitter, the signal processing modules, the level indicator, or the electrical cable installed as a part of this modification will not result in disabling of vital equipment needed to safely shut down the plant during postulated fires or a seismic event.

The design requires that equipment installed for this modification be located away from areas subject to HELB, therefore this modification will not be affected by HELB.

It has, therefore, been determined that the margins of safety during normal operations and transient conditions anticipated during the life of the station have not been affected. It has also been determined that the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents have not been affected.

EWR-3716 3A LOW PRESSURE FEEDWATER HEATER

The purpose of this modification is to maximize the effectiveness of low pressure feedwater heater 3A and to maintain performance by increasing the reliability of the tubing.

As of July 15, 1982, 4.6% of the 3A heater's tubes were plugged. This results in decreased heat transfer area and increased feedwater system pressure losses.

The restored 3B low pressure feedwater heater in storage at Ginna Station shall be rebuilt and used to replace the 3A heater. The existing shell and channel head of the 3B heater shall be reused. A new tube bundle shall be fabricated along with a new tube sheet.

A primary consideration in the rebuilt heater shall be the tube material. Current design specifies admiralty (a copper zinc alloy). Copper has been determined to be a contributing factor in the corrosion process which causes steam gene ator tube wastage. Stainless steel shall be specified as the new tube material due to its corrosion resistant characteristics.

The length of the heater shell and tube bundle shall be extended approximately 44 inches to compensate for the change in thermal performance of stainless steel versus admiralty tubing. The entire 44 inch extension can be accomodated entirely within the condenser neck, the present location of heater 3A.

Feedwater temperature decrease, is analyzed in the FSAR as the accidental opening of the condensate bypass valve 3959, a fail open, air operated, diaphragm actuated control valve; or the accidental movement of the feedwater control valves to the full open position. The effect of either event would be to deliver feedwater to the steam generators at a reduced temperature. An unsafe condition would result due to excess heat removal from the primary system.

Installing a new 3A heater has no effect on the actions of valves mentioned above.

Loss of normal feedwater flow, is analyzed in the FSAR as that accident (pipe break, pump failure, valve malfunction, or loss of outside ac power) which results in a reduction in capability of the secondary system to remove heat generated in the core.

Neither the consequences nor the margins of safety have been changes for this event since this modification does not introduce additional piping or equipment to the plant.

An accident identified with the 3A heater is that of a multiple, double ended tube rupture. This accident would require the removal of the heater from operational service. Removal of the 3A heater from service requires the use of manual isolation valves which would also isolate the 1A, 2A and 4A heaters. However, since turbine operating constraints require load reduction for removal from service

of two or more adjacent heater, an unsafe condition would not be created. The modification does not increase the consequences of the event, does not reduce the margins of safety provided for the event, and does not present an unreviewed safety question.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not been reduced.. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

TSR-80-26 INSTALLATION OF NITROGEN SUPPLY TO ACID AND CAUSTIC TANK LEVEL BUBBLERS

This modification involves the installation of a nitrogen bottle supply for the bubbler level indicating systems of the acid and caustic tanks in the water treatment room. The present air supply to the bubbler level indicating systems is causing corrosion.

The nitrogen bottles are used to supply pressure to the bubbler level indicating systems for the acid and caustic storage tanks. The pressure regulator on the bottles reduces the pressure supplied to the level indicating system to the pressure of instrument air (100 psig).

The bubbler level indicating system will be supplied with a constant pressure of 100 psig by the nitrogen bottle regulator.

Control of the level indicating system will be unchanged by changing the bubbler to a nitrogen bottle supply.

The modes of operation of the level indicating system are unchanged for various plant conditions. The system is permanently valved in and indicates level in the caustic and acid tanks independent of plant conditions.

This modification involves replacing the instrument air supply to the level bubbler system for the acid and caustic tanks with a bottled nitrogen supply. The water treatment system is not required for safe shutdown of the plant to for long term cooling of the plant after an accident. The water treatment system is not required to be operable post-seismic event. Therefore, these level bubbler systems are not safety related.

Therefore, a) the margins of safety during normal operations and transient conditions anticipated during the life of the station will be unchanged by the installation of this modification, b) the adequacy of structures, systems and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the installation of this modification.

TSR-82-07 STATION EMERGENCY D/G AIR INLET FILTER ASSEMBLY

This modification involves the replacement of the air inlet filters for the station emergency diesel generator units with an upgraded model. The present generator manufacturer has specified a replacement filter for this application. The replacement filter has different dimensions than the original filters, so a replacement bolt-on housing for the filter is also being installed. The housing is a bolt on flange assembly and the filters are a washable type element. The filter and housing are a vendor supplied replacement for the present assembly.

This modification will not change 1) the assumptions in any safety analysis in the FSAR and its supplements 2) the probability of occurrence of an accident, and 3) the consequences of an accident. The filter replacement is a vendor supplied like for like (like for better) replacement and will have no adverse affect on the operability of the diesel generator unit.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the station will be unchanged by the installation of this modification. The adequacy of structures, systems and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the installation of this modification.

TSR-83-01 LOCKED HIGH RADIATION AREA EXIT LATCH

This modification involves the installation of 15 new "Logan mortise" locks on the barrier doors (gates) to all locked high radiation areas, to replace the existing padlock on gates located in the auxiliary and intermediate buildings. The new lock will have a recessed knob on the inside of the gate so that the gate can be opened from the inside without a key. This will prevent individuals from becoming locked inside a high radiation area. Locked high radiation areas will still remain under the control of the shift supervisor via "R" keys.

This modification will not change 1) the assumptions in any safety analysis in the FSAR and its supplements, 2) the probability of occurrence of an accident, and 3) the consequences of an accident.

Therefore, a) the margins of safety during normal operations and transient conditions anticipated during the life of the station will be unchanged by the installation of this modification, and b) the adequacy of structures, systems and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the installation of this modification.

TSR-83-03 INSTALLATION OF CONTAINMENT EQUIPMENT HATCH AREA 480 VOLT POWER SUPPLY

This modification involves installation of a 480 volt, 3 phase supply on the exterior north wall of the auxiliary building near the containment equipment hatch. A permanent supply is needed for the welding and for other 480 volt loads in this area. Temporary cables are routed to this area along the ground at present from the auxiliary building MCC.

MCC 1E will provide a source of power and the MCC breaker will provide a means for disconnecting power to the disconnect switch. The disconnect switch itself is suitable for outdoor service and is the connection point for 480 volt loads in the area. The disconnect switch is equipped with replaceable fusible elements which provide interruption capability in the event of an overload.

The disconnect switch is energized by closing the breaker at position 6DD of MCC1E. The switch is also equipped with a disconnect handle which must be closed to supply 480 volt power to the loads.

The disconnect switch may be energized or de-energized at the MCC depending upon the need for 480 volt power in the vicinity of the equipment hatch.

This modification involves installation of a 480 volt 3 phase disconnect switch to be located on the exterior north wall of the auxiliary building near the containment equipment hatch. The switch will be connected to a non-vital MCC

powered from a non-vital bus (bus 15) so it will have no safety implications for any failure mode. Bus 15 is not required to be operable per the requirements of Ginna Station Technical Specifications.

Therefore; a) the margins of safety during normal operations and transient conditions anticipated during the life of the station will be unchanged by the installation of this modification, b) the adequacy of structures, systems and components provided for the prevention of accidents and for the mitigation of consequences of accidents will be unchanged by the installation of this modification.

PLANT MODIFICATIONS PARTIALLY COMPLETED IN 1983

SM-1444.2 UNDERVOLTAGE RELAY MODIFICATION INSTALLATION OF CABLE TRAY, CONDUIT, SUPPORTS, WIRE PULLING AND TERMINATIONS

The purpose of this procedure is for installation of cable trays, conduit, supports, wire pulling, and termination for the undervoltage relay modification.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1660.12 INSTALLATION OF BOLTED SUPPORT PG-527 VALVE #846

The purpose of this procedure is for the installation of removable support PG-527 on valve 846 of the RCS overpressure protection nitrogen system on the Intermediate floor of the Auxiliary Building near Penetration 120.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.012 ACCEPTANCE TEST PROCEDURE FOR FUNCTIONAL TESTING THE VALVE TAMPER SWITCHES - PHASE I

The purpose of this procedure is for acceptance testing phase I valve tamper zones of the fire signaling system, to verify electrical supervision of valves to verify valve tamper indication in the control room to verify Class B electrical supervision of valve tamper switches. To test the fire signaling system and in accordance with the manufacturer's operating and maintenance manuals.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.061 CONVERSION PROCEDURE FOR FIRE PUMP AUTO START RELAYS FPR1, FPR2, AND FPAS

The purpose of this procedure is for conversion of the existing fire pump control to the new fire pump auto-start relays.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.78 CONVERSION OF EXISTING SYSTEM S15 FROM AUTOMATIC DELUGE TO PRE-ACTION

The purpose of this procedure is to convert system S15 from automatic deluge to pre-action providing supervision of the new air pressure switch S15P.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.79 CONVERSION OF EXISTING SYSTEM SO3 FROM AUTOMATIC DELUGE TO PRE-ACTION

The purpose of this modification procedure is to convert system SØ3 from automatic deluge to pre-action providing supervision of the new air pressure switch SØ3P.

This completed modification procedure was reviewed by the PORC Committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.8Ø CONVERSION OF EXISTING SYSTEMS SO1 AND SO4 FROM AUTOMATIC DELUGE TO PRE-ACTION

The purpose of this procedure is to convert systems SØ1 and SØ4 from automatic deluge to pre-action providing supervision of the new air pressure switches SØ1P and SØ4P.

This completed modification procedure was reviewed by the PORC Committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1832B.86 MODIFYING AND TESTING VALVE TAMPER SWITCHES FIRE SIGNALING SYSTEM

The purpose of this procedure is for modifying and testing the following valve tamper switches:

V9213 (SØ9)	V52ØØ	V5188
V9125 (S1Ø)	V52Ø9 (S27)	
V9127 (S11)	V5229 (S12)	
V5173	V523Ø (S13)	
V5187	V5232 (S25)	

To verify electrical supervision of valves to verify valve tamper indication in the control room to verify Class B electrical supervision of valve tamper switches to test the fire signaling system in accordance with the manufacturer's operating and maintenance manuals.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1833.21 INSTALLATION OF ELECTRICAL EQUIPMENT SPRAY SHIELDS

The purpose of this procedure is for the installation of electrical equipment spray shields for the Fire Suppression System.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-1833.23 REPLACEMENT OF VALVES V5187 AND V5188

The purpose of this procedure is for the replacement and testing of valves V5187 and V5188.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2421.3 HYDROGEN SYSTEM PIPING MODIFICATION

The purpose of this procedure is to perform the partial installation of piping for the hydrogen supply to the VCT and hydrogen recombiner system from the new hydrogen bottle storage building.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2436.1 CAGE AND SAFETY BARRIER TO EXISTING LADDER "A" STEAM GENERATOR

The purpose of this procedure is to install a protective cage and safety barrier to an existing ladder at the "A" steam generator.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.10 CONTAINMENT PENETRATION P-206, PRESSURIZER LIQUID SAMPLE MODIFICATION FOR VENT/DRAIN INSTALLATION OUTSIDE CONTAINMENT

The purpose of this procedure is to install new supports and relocation of existing valves.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.11 CONTAINMENT PENETRATION P-207, PRESSURIZER STEAM SAMPLE MODIFICATION FOR VENT/DRAIN INSTALLATION OUTSIDE CONTAINMENT

The purpose of this procedure is to install new supports and relocation of existing valves.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.14 INSTALLATION OF AOV-1599

The purpose of this procedure is to provide the instructions to remove check valve 1599 and install AOV-1599 including associated parts.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.15A REPLACEMENT OF TUBING ON PRESSURIZER STEAM SPACE SAMPLING LINE OUTSIDE CONTAINMENT

The purpose of this procedure is for the performance of the work associated with the removal and replacement and hydrostatic testing of portions of tubing on the pressurizer steam space sampling line outside of the containment building.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.16 REPLACEMENT OF TUBING ON PRESSURIZER STEAM SPACE SAMPLING INSIDE CONTAINMENT (P-207)

The purpose of this procedure is for the performance of work associated with the removal, replacement and hydrostatic testing of portions of tubing on the pressurizer steam space sampling line inside containment.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.17 REPLACEMENT OF TUBING ON PRESSURIZER LIQUID SPACE SAMPLING LINE INSIDE CONTAINMENT (P-206)

The purpose of this procedure is for the performance of work associated with the removal, replacement and hydrostatic testing of portions of tubing on the pressurizer liquid space sampling line inside containment.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.18 CONTAINMENT PENETRATION P-100 CHARGING LINE TO HOT LEG, LOOP B

The purpose of this procedure is to install a new check valve (9315) and a new drain valve (9318) in the charging line to hot leg, loop B piping.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2507.9 CONTAINMENT PENETRATION P-100 AUXILIARY SPRAY TO PRESSURIZER CHARGING LINE TO COLD LEG, LOOP B, CHARGING LINE TO HOT LEG, LOOP B

The purpose of this procedure is to install a new valve (9313) and a new drain valve (9316) in the auxiliary spray to pressurize piping and a new check valve (9314) and a new drain valve (9317) in the charging line to cold leg, loop B piping and a new check valve (9315) and a new drain valve (9318) in the charging line to hot leg, loop B piping.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2512.75 SEISMIC UPGRADE OF THREE NEW PIPE SUPPORTS ON ANALYSIS LINE FW-300; MAIN FW FROM FW REG. VALVES TO B STEAM GENERATOR

The purpose of this procedure is for installation of three pipe supports on analysis line FW-300.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2602.1 PIPE SUPPORTS MODIFICATIONS TO THE PRESSURIZER RELIEF LINE

The purpose of this procedure is for the work necessary to modify existing pipe supports N-628, N-629, and N-630.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.4 FLUSH AND HYDROSTATIC/PNEUMATIC TEST OF POST ACCIDENT SAMPLING SYSTEM TIE-INS

The purpose of this procedure is for the performance of the post accident sampling system tie-ins hydrostatic and pneumatic tests.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.4A HYDROSTATIC TEST OF POST ACCIDENT SAMPLING SYSTEM INSIDE THE CONTAINMENT BUILDING

The purpose of this test is to hydro test that portion of the sump "A" sample system located inside the containment building.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.4C FLUSH AND HYDROSTATIC/PNEUMATIC TEST OF POST ACCIDENT SAMPLING SYSTEM BALANCE OF PIPING

The purpose of this procedure is for the performance of hydrostatic/pneumatic tests of the post accident sampling balance of piping.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.5E PASS WASTE TRANSFER PUMP AND PASS WASTE TANK LEVEL SWITCHES PREOPERATIONAL TEST

The purpose of this preoperational test is to ensure the pass waste transfer pump, associated piping and pass waste tank control switches will function in the manner intended by design.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.5F POST ACCIDENT SAMPLING SYSTEM HEAT TRACE SYSTEM TEST

The purpose of this procedure is to energize the pass heat trace system and ensure that the system can automatically function to keep the temperature of the heat trace within specified tolerance levels.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2606.5H POST ACCIDENT SAMPLING SYSTEM INTEGRATED (BOP) START UP TEST

The purpose of this procedure is to verify the integrated performance of the sampling system by obtaining reactor coolant, containment sump, and containment air samples under actual operating temperature and pressure conditions. Specific objectives of the test are:

Demonstrate the ability to withdraw a sample from each of the following sources:

- PRESSURIZER STEAM SPACE
- PRESSURIZER LIQUID SPACE
- REACTOR COOLANT HOT LEG LOOP "A"
- CONTAINMENT SUMP "A"
- CONTAINMENT AIR SPACE

The following subsystems and/or equipment will be placed into service to verify their satisfactory performance while supporting the above sample operations:

- SAMPLE COOLER RACK, PAS-G-216
- LIQUID AND GAS SAMPLING PANEL (LSPG), PAS-G-214
- INSTRUMENT AND PROCESS SUPPORT PANEL (IPSP), PAS-G-215
- ELECTRICAL CONTROL PANEL (ECP), PAS-G-217
- CONDENSATE WATER FLUSH SYSTEM
- WASTE HANDLING SYSTEM, CONSISTING OF THE FOLLOWING EQUIPMENT:

  BELLOWS EVACUATING COMPRESSOR (PAS-C-200)
  WASTE TANK (PAS-T-202)
  WASTE TRANSFER PUMP (PAS-P-203)

Verification that all instrumentation and controls, including all electrical interlocks, function properly.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2688.1 FIRE PUMP AIR RELEASE VALVE MODIFICATION

The purpose of this procedure is to perform modification of the air release valves at the motor driven and diesel driven fire pumps.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2828.2 VENT HEADER PIPING MODIFICATION

The purpose of this procedure is for the work associated with the shielding and support modification of the vent header piping.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.11 INSTALLATION AND TESTING OF THE 1B CONTROL ROD SHROUD FAN AUX. BREAKER

The purpose of this procedure is for the installation and testing of the 1A control rod shroud fan auxiliary breaker.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.12 TERMINATION AND TESTING OF AUX. BREAKER FOR LIGHTING TRANSFORMER 1D

The purpose of this procedure is for the installation of an auxiliary breaker for the 1D lighting transformer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.5 PRE-INSTALLATION TESTING OF THE HFB BREAKERS IN THE AUX. BREAKER CABINETS

The purpose of this procedure is to test for overcurrent tripping on each phase of the HFB breakers. An insulation resistance test shall be done on the breakers and auxiliary switch wiring.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.6 PRE-INSTALLATION TESTING OF DB-25 AIR CIRCUIT BREAKER

The purpose of this procedure is to perform overcurrent trip tests on the DB-25 breakers prior to installation and to determine if breakers operate properly.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.7 INSTALLATION OF AUX. BREAKER CABINETS, CONDUITS, UNISTRUT STRUCTURE & CABLES

The purpose of this procedure is to install auxiliary breaker cabinets, conduits, and unistrut structure. Cables will be pulled from the auxiliary breaker cabinets to the motor control centers. The cabinets will then be spliced in at the motor control centers.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.8 TERMINATIONS AND SPLICING OF CABLES FOR AUXILIARY BREAKER CABINET MCC 1D

The purpose of this procedure is for the installation of auxiliary breakers on selected circuits in MCC 1C.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-2929.9 TERMINATIONS AND SPLICING OF CABLES FOR AUXILIARY BREAKER CABINET MCC 1C

The purpose of this procedure is for the installation of auxiliary breakers on selected circuits in MCC 1D.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.10 LOCAL TESTING OF THE BORIC ACID EVAPORATOR AND GAS STRIPPER PANELS

The purpose of this procedure is to provide the for testing the boric acid evaporator and gas stripper panels in the "local" control. This procedure will also provide the necessary guidelines for testing the five solenoid valves associated with the gas stripper.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.13 LOCAL TESTING OF THE WASTE EVAPORATOR PANEL

The purpose of this procedure is for testing the waste evaporator panel for operability in "local" control after terminations have been made to the radwaste process computer.

This completed modification procedure was reviewed by the porc committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.16 TESTING OF THE REMOTE INDICATION PROVIDED BY THE RADWASTE PROCESS COMPUTER

The purpose of this procedure is to ensure that the remote indication provided by the radwaste process computer is within acceptable tolerance with the local indication of the waste disposal system panel.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.2 CABLE TERMINATION AND ENERGIZING OF THE FOX 3 COMPUTER

The purpose of this procedure is for the termination of cables from the operating terminal in the auxiliary building and the terminals in the TSC to the Fox 3 computer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.4 REMOVAL OF TC 205D AND ONE HALF INCH CONDENSATE LINE TO DESUPERHEATER FOR INSTALLATION CONDUIT

The purpose of this procedure is for removal of TC-205D and the on-half inch condensate return line to the desuperheater.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.5A INSTALLATION OF PNEUMATIC TUBING TO THE SOLENOID VALVES OF THE RADWASTE PROCESS COMPUTER

The purpose of this procedure is to install pneumatic tubing to the solenoid valves for the radwaste process computer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.6 FINAL TERMINATIONS FROM THE ULTRAFILTRATION UNIT TO THE RADWASTE PROCESS COMPUTER

The purpose of this procedure is for cable terminations from the ultrafiltration unit to the radwaste process computer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.7 LOCAL TESTING OF THE ULTRAFILTRATION UNIT

The purpose of this procedure is for testing the ultrafiltration unit for operability in "local" control after terminations have been made to the radwaste process computer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.8 CABLE TERMINATIONS FOR THE PNEUMATIC INTERFACE RACK OF THE RADWASTE PROCESS COMPUTER

The purpose of this procedure is for terminating cables from the pneumatic interface rack to the universal input/output device of the radwaste process computer.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3037.9 MODIFICATIONS AND FINAL TERMINATIONS TO THE GAS STRIPPER AND BORIC ACID EVAPORATOR PANELS FOR THE RADWASTE PROCESS COMPUTER

The purpose of this procedure is for modifying and performing final terminations to the gas stripper and boric acid evaporator panels for the radwaste process computer. Final terminations to the five solenoid valves associated with the gas stripper and boric acid evaporator will be performed under this procedure.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3097.1 SERVICE BUILDING ROOM HVAC MODIFICATION

The purpose of this procedure is for the installation of a complete exhaust system and additional cooling for the service building laundry room.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3100.5 INSTALLATION OF THE ELECTRICAL WIRING AND CONDUIT NECESSARY FOR THE MSR PRESEPARATOR MODIFICATION

The purpose of this procedure is for the installation of the wiring and conduit required for the MSR preseparator modification.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3100.7 MOISTURE PRESEPARATOR MODIFICATION TEST PROCEDURE

The purpose of this procedure is to verify that the new high pressure turbine exhaust preseparator drain system design incorporated through this modification functions correctly, in accordance with original design requirements.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3107A INSTALLATION OF NOZZLE DAM INSERTS IN STEAM GENERATOR CHANNEL HEAD NOZZLES

The purpose of this procedure is to provide information relative to the installation of nozzle dam inserts in steam generator channel head nozzles.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3259.2 ELECTRICAL INSTALLATION OF THE CV TRANSMITTER RELOCATION MODIFICATION

The purpose of this procedure is for the performance of the electrical work associated with the CV transmitter relocation modification. The committee reviewed this new procedure and recommended approval.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3259.4 REMOVAL OF PRESSURIZER TRANSMITTER CABINETS AND RELOCATION OF DP TRANSMITTER 432A

The purpose of this procedure is to relocate differential pressure transmitter 432A, to a new location and the removal of the pressurizer transmitter cabinets.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3260.1 SOLENOID VALVE REPLACEMENT: MECHANICAL

The purpose of this procedure is for the work associated with the solenoid valve replacement modification.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3260.2 SOLENOID VALVE REPLACEMENT: ELECTRICAL

The purpose of this procedure is for electrical work associated with the solenoid valve replacement modification.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3260.3 MODIFICATION OF PIPING AND SUPPORTS TO SAMPLING VALVE #955

The purpose of this procedure is for the necessary work required to modify piping and supports to sampling valve #955 (loop B hot leg sample line control valve).

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3319.1 CABLE INSTALLATION AND TERMINATION FOR THERMAL OVERLOAD RELAY MOD.

The purpose of this procedure is to install cable, conduit, and supports for thermal overload relay modification. Terminations will take place at MCC1C, MCC1D, MCC1A Aux. Panel, Aux. Building, DC Dist. Panel 1A, SI-A1 rack, and the main control board.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3435.1 1C SAFETY INJECTION PUMP CONTROL SCHEME MODIFICATION

The purpose of this procedure is for modifying the 1C safety injection pump control scheme so as to improve pump availability.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3447.1 ELECTRICAL INSTALLATION OF "A" AND "B" STEAM GENERATOR METAL IMPACT MONITOR MOD.

The purpose of this procedure is for the performance of electrical work associated with the steam generator metal impact modification.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3447.3 STEAM GENERATOR - MOD. OF INSULATION SUPPORT RINGS FOR INSTALLATION OF LOOSE PART MONITORS

The purpose of this procedure is for modification of the steam generator insulation support rings to allow installation of the sensors for the loose part monitors.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3447.5 REPLACEMENT OF METAL IMPACT MONITOR SENSORS ON THE "A" AND "B" STEAM GENERATOR

The purpose of this procedure is for the replacement of the metal impact sensors up to the amplifiers along with the associated cable.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3447.5A MIMS: REPLACEMENT OF ACCELEROMETERS & HARDLINE CABLES TEST PROCEDURE

The purpose of this procedure is to verify that the replacement accelerometers installed per this modification function properly in accordance with original design requirements.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3571.1 CCWST LEVEL INDICATION MODIFICATION

The purpose of this procedure is to install a second means of indicating abnormal level in the component cooling water surge tank.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3572.1 SODIUM HYDROXIDE TANK SUPPORT MODIFICATION

The purpose of this procedure is to modify and upgrade the sodium hydroxide tank saddle supports including the attachment of one saddle support to the tank.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3580.1 SPRINKLER SYSTEM TIE-IN CONNECTION FOR THE S/G MOCKUP BUILDING

The purpose of this procedure is for the tie-in connection of the S/G mockup building sprinkler system to the existing fire main.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3659.1 INSTALLATION OF SI SIGNAL BYPASSES IN THE RWST/BAST SWITCH LOGICS

The purpose of this procedure is to perform the installation of the SI signal bypasses in the rwst/bast switching logic.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3659.2 BORIC ACID TANK/RWST SWITCHOVER TEST PROCEDURE

The purpose of this procedure is to verify that the modifications to the boric acid tank/rwst switchover logic function correctly, in accordance with the design criteria.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3784.1 TURBINE DIFFERENTIAL EXPANSION MODULE

The purpose of this procedure is for the cutting of the main control board and the installation of the generator differential expansion module.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3794.1 A & B DIESEL START SWITCH ALARM

The purpose of this procedure is to install a circuit to annunciate the requirement for a diesel reset to the plant operators in the control room and in each diesel generator room.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SM-3912.1 INSTALLATION OF THE FEEDWATER RTD'S

The purpose of this procedure is for the installation of conduit and wiring for the feedwater RTD's.

This completed modification procedure was reviewed by the PORC committee and no unreviewed safety questions, technical specification changes or violations were involved with this change to the facility.

SPECIAL TESTS COMPLETED IN 1983

ST-81.1 DRUMMING OF WASTE EVAPORATOR BOTTOMS AND MISCELLANEOUS WASTE

This analysis covers the special test #ST 81-1 for the NUMANCO Drumming Unit.

Radioactive Liquid Waste System Leak

The consequences of this event are not increased by the special test because the new system will interface with the liquid waste system in similar fashion to the existing system. All liquid waste carrying components will withstand maximum internal pressure and will be secured to the NUMANCO drum unit (anchored) and the liquid waste disposal system. They will not be routed in proximity to safeguard equipment.

Fires

The proposed special test neither penetrates any existing fire barriers nor does it affect any existing fire suppression system. The special test does not increase any previously determined fire loadings.

Flood or Storms

The special test neither affects nor is affected by any flood or storm previously evaluated.

Earthquake

The consequences of this event are not increased by this modification because the modification will be designed to withstand a seismic event as defined in the Ginna Station FSAR, using the equivalent static load method.

Therefore, the margins of safety during normal operations and transient conditions anticipated during the life of the plant have not been reduced. The adequacy of structures systems, and components provided for the prevention of accidents have not been affected.

ST-1444-82.2 BUS 18 UNDERVOLTAGE CABINET SYSTEM ENERGIZATION TEST

This analysis covers the special tests for the connection of AC and DC sources to undervoltage cabinets. This will allow operation of the equipment prior to connection of the plant circuits to the undervoltage tripping relays.

The undervoltage system is in the preoperational stage and no tripping relay has been connected to the plant system at this time. The AC and DC power feeds to the cabinets are however connected and are within the scope of this test.

Since proper fuse and breaker sizing and coordination protection has been established, faults and short circuits, due to workman error or in improper installation, will not affect availability of AC or DC system.

It has been determined, by this analysis, that the margin of safety during normal operation and transient conditions during the test period have not been affected.

ST-1444-82.4 BUS 14 UNDERVOLTAGE CABINET SYSTEM ENERGIZATION TEST

This analysis covers the special tests for the connection of AC and DC sources to undervoltage cabinets. This will allow operation of the equipment prior to connection of the plant circuits to the undervoltage tripping relays.

The undervoltage system is in the preoperational stage and no tripping relay has been connected to the plant system at this time. The AC and DC power feeds to the cabinets are however connected and are within the scope of this test.

Since proper fuse and breaker sizing and coordination protection has been established, faults and short circuits, due to workman error or in improper installation, will not affect availability of AC or DC system.

It has been determined, by this analysis, that the margin of safety during normal operation and transient conditions during the test period have not been affected.

ST-1444-82.5 BUS 16 UNDERVOLTAGE CABINET SYSTEM ENERGIZATION TEST

This analysis covers the special tests for the connection of AC and DC sources to undervoltage cabinets. This will allow operation of the equipment prior to connection of the plant circuits to the undervoltage tripping relays.

The undervoltage system is in the preoperational stage and no tripping relay has been connected to the plant system at this time. The AC and DC power feeds to the cabinets are however connected and are within the scope of this test.

Since proper fuse and breaker sizing and coordination protection has been established, faults and short circuits, due to workman error or in improper installation, will not affect availability of AC or DC system.

It has been determined, by this analysis, that the margin of safety during normal operation and transient conditions during the test period have not been affected.

ST-3575-83.01 LOW-AMPLITUDE TESTING OF THE MAIN CONTROL BOARD

The purpose of the proposed Special Test is to develop the dynamic response characteristics of the three sections of the Main Control Board at Ginna Station. The test will be performed by URS/Blume and Associates by inducing very small vibrations at known locations and collecting the control board's response to these vibrations at various grid locations. Accelerometers and a recorder will be used to collect and store the data. The response data

will then be analyzed by Blume and the stresses due to a postulated Safe Shutdown Earthquake(SSE) will be calculated in the load bearing members of the MCB.

The Special Test is expected to last for approximately 80 - 100 days. Therefore, the test equipment is considered temporary and none of the events analyzed in the Ginna FSAR need be evaluated due to this test. However, a number of precautions will be followed to prevent spurious operations of any system due to the testing.

The precautions that will be taken during the test are outlined in the Special Test Criteria and are summarized below:

a. The test equipment will be arranged in the Control Room so as to minimize any interferences with normal operation.

b. The accelerometers locations will be selected so as to minimize interferences with normal operation. In addition a cognizant individual will be assigned to assist in determining these locations.

c. PORC will review the URS/Blume test procedures.

It has, by this analysis, been determined that with the above precautions the margins of safety during normal operations and transient conditions during the test period have not been affected.

ST-83-01 "A" AND "B" STEAM GENERATOR CHANNEL HEAD DILUTE CHEMICAL DECONTAMINATION

This analysis covers the special test ST-83-01, Rev. 0 for A & B steam generator channel head dilute chemical decontamination.

Calculations reveal that if the RCS is borated to 2400 ppm prior to adding the dilute chemical solution volume equal to 2500 gallons, the Technical Specification on Containment Integrity that states "Positive reactivity changes shall not be made by rod drive motion or boron dilution whenever the containment integrity is not intact unless the boron concentration is greater than 2000 ppm", is assured.

This event is analyzed for the potential to overpressurize the reactor coolant system. The operability of the pressurizer PORV's or an RCS vent opening of greater than 1.1 square inches ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10CFR Part 50 when one or more of the RCS cold legs are < 330 degrees F. Since the special test will be done during refueling shutdown this requirement can be satisfied in all cases.

The doses which could be attributed to an accidental spill of resin would be insignificant when compared to the 10CFR part 20 and 100 dose limits.

Since this special test is a temporary one conducted during plant refueling shutdown, no further evaluation is required.

Corrosion data studies on material compatibility of corrosion mechanisms like intergranular attack on 304 densitized stainless steel was very slight and not considered to be a cause for concern.

Corrosion data studies on other reactor materials including Inconel, and Zircaloy were found to be acceptably low.

In addition, this process will require isolation at the S/G nozzles. Whatever means of isolation is chosen the following characteristics of the reagents are:

1) They are dilute, mainly organic compounds.

2) They are quickly decomposed a reactor operating temperatures to innocuos compounds; carbon dioxide, nitrogen, ammonia, water, potassium, oxygen and manganese.

3) They are very susceptible to radiolytic decomposition to the same innocuous, volatile compounds.

4) Those that are not organic compounds are applied in a very dilute solution, and have been used in much more concentrated solutions with no deleterious effects.

5) Control of the solvent concentrations will be closely monitored by the vendor as well as our own laboratory analysis. The concentrations are controlled by small additions of reagents or removal by ion exchange equipment which may be rapidly placed in and out of service. This system will allow close control of the process chemical concentrations.

Thus, even if isolation failed, and a quantity of reagent entered the primary circuit, it would be further diluted, and the constitutes would be thermally and radiolytically degraded to innocuous volatile compounds.

In addition this process has been used to decontaminate total systems with zircaloy clad fuel in the vessel since 1973 with no adverse affects.

Therefore, the margins of safety during normal operation and transient conditions anticipated during the life of the plant will nor be reduced. The adequacy of structures system and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the performance of this special test.

ST-83.02.1 HOT LEG TEMPERATURE STREAMING DATA COLLECTION PROCEDURE

In order to determine the reactor coolant flow measurement uncertainty associated with hot leg temperature streaming, a test will be conducted during Cycle 13. Twelve thermocouples will be strapped around the circumference of each hot leg adjacent to the RTD's. Measurements of the relative temperature of the exterior of the pipe at zero power and at various levels and their comparison to the RTD measurements will provide an indication of the temperature difference between the RTD and average temperature of the fluid.

The thermocouple instrumentation will not provide input to any control or protection system and will be used only as a temporary monitoring system. The cable required and the existing (spare) containment penetration used will not replace or alter any control or protection system functions.

RTD's 409A and 410A provide input to the R 3 subcooling margin monitor and will have to be disconnected for the measurement to be taken. Only one RTD will be disconnected at any time so that one channel will remain operable. The RTD will be reconnected after the specific measurement is taken.

Temporary cable and wire installed for the test will comply with IEEE-383 flame test requirements, therefore there will be no increase in fire loading.

The total weight of the assembly on each loop will be less than 10 pounds. This is negligible compared to the weight of the pipe and would not effect the integrity of the RCS for a seismic event. The assembly itself is not required to function during or after a seismic event. Because of its low distributed mass it does not pose a threat as a missile to surrounding components. The reference junctions will be installed in an instrument rack already existing inside containment.

The thermocouples, mounting brackets and strap are fabricated from Type 304, 308 and 316 stainless steel, therefore there is no incompatibility of materials with the primary system piping. Insulation removed to install the TC's will be replaced once installation is completed to minimize heat loss and any potential thermal stresses between insulated and non insulated pipe.

Therefore, the margins of safety during normal operation and transient conditions anticipated during the life of the plant will not be reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the performance of this special test.

ST-83-03 LITHIUM ADDITION TEST PROGRAM REACTOR COOLANT SYSTEM

This analysis will cover the possible safety concerns of performing an EPRI/B & W test associated with the EPRI Radiation Control Program, RP-825-01.

The test is designed to determine the optimum lioh concentration at various RCS boron concentrations for control of activated corrosion products. At three RCS boron concentrations (550-700 ppm 300-400 ppm, and 100-200 ppm b), the lithium concentration will be reduced to 0.2 ppm Li then increased in increments up t0 2.0 ppm Li. Samples will be taken after each incremental change to determine the effect of these changes on corrosion product solubilities.

The mixed bed demineralizers and reactor coolant filter will be taken out of service for all three lithium addition tests. The function of the mixed bed demineralizers and the RCS filter is to maintain reactor coolant purity. The CVCS provides the required seal water flow for the reactor coolant pump shaft seals. The two seal water injection filters collect particulate larger than five micron from the water supplied to the reactor coolant pump seal.

When LiOH concentrations are changed in the reactor coolant system, it could possibly cause a crud burst which could plug the seal water injection filters causing a reduced reactor coolant water flow to the reactor coolant pump seals and possible loss of both reactor coolant pumps. This accident has been analyzed for in section 14.1.5 of the FSAR.

[f crud burst occurs, the seal water flow reduction would not be instantaneous, so the operators should have time to place a mixed bed DI and the reactor coolan filter in service and then valve in the alternate seal injection filter.

A similar test was performed at the Rancho Seco Plant in 1977 and 1978. No large crud bursts were experienced so the likelihood of this problem occurring is very small.

The limit for total suspended solids in the reactor coolant system is 1.0 ppm. It is possible that for a short period of time during one or all these tests, this limit could be exceeded. An increase of total suspended solids could cause plugging of the seal water injection filters as stated above.

Therefore, the margins of safety during normal operation and transient conditions anticipated during the life of the plant will not be reduced. The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents will be unchanged by the performance of this special test.

CHALLENGES TO PRESSURIZER PORV'S AND SAFETY VALVES

June 9, 1983

Both Pressurizer PORV's lifted for approximately 1 minute. System status was cold shutdown, overpressure protection system in service, performing Safety Injection System test RSSP-2.1. The charging pump failed to stop. Highest pressure indication 375 psig.

June 19, 1983

Pressurizer PORV 430 cycled open and shut at 2335 psig upon failure of pressure controller 431K. Reactor at 15% power.

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649-0001

ROGER W. KOBER
VICE PRESIDENT
ELECTRIC & STEAM PRODUCTION

TELEPHONE
AREA CODE 716 546-2700

May 21, 1984

Dr. Thomas E. Murley, Regional Administrator
U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Subject: 1983 Annual Report of Facility Changes, Tests, and Experiments Conducted Without Prior Approval
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Dr. Murley:

Transmitted herewith is the submittal of the Annual Report of Facility Changes, Tests, and Experiments Conducted Without Prior Approval as required by 10 CFR 50.59 and Challenges to the Primary PORV's and Safety Valves. This report is for the period of January 1, 1983 through December 31, 1983 inclusive.

Very Truly Yours,

Roger W. Kober

Roger W. Kober

Attachment

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