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NINE MILE TWO
NUISANCE ANNUNCIATOR REDUCTION TASK FORCE

REPORT TO THE PLANT MANAGER

FEBRUARY 1991

Brian C. Booth

BRIAN C BOOTH, P.E.
TASK FORCE MANAGER

OBJECTIVE

This report defines the scope of the nuisance annunciator reduction program, identifies internal and external related committments, reports progress to date, and outlines specific interim and long term actions that achieve a near "dark board" power operation of the Nine Mile Two.

SUMMARY

A significant reduction in lit or defeated control room alarm windows by modification has been achieved. Over 90 of 133 identified modification related window actions have been completed. Maintenance items are being closely tracked and it is anticipated that the number of maintenance-required alarms will be reduced. A specific 1991 Plan of Attack (Attachment 5), based on post-first refuel evaluation, would greatly reduce the number of remaining lit annunciators. Modification 86-085 has well defined direction to modify most remaining alarms (Attachments 4,5). A few remaining windows, identified in the 1991 Plan of Attack, would not fall under mod 86-085 due to scope or expense and should be addressed by independent modifications.

Two alarms - Panel 603 "APRM UPSCALE" and its associated "CONTROL ROD BLOCK" re-alarm approximately every 5-15 seconds and deserve specific mention. They present a large "nuisance factor" to the operators and could leave a poor impression on any observer. The alarms are real and are caused by operating beyond the 100% rod line at reduced flow. The resolution of these important alarms is beyond the capability of the Task Force and direction needs to be provided from upper management.

HISTORY

Unit 2 has always operated with a large number of lit alarm windows in the control room. Recognizing the need to reduce this number, modification 86-085 was approved to eliminate those windows in alarm due to design deficiency. In addition, the Unit license required the elimination of those alarms in alarm as a result of design logic error (Human Engineering Deficiency type 409) before startup following the first refuel. All other normally lit windows (Human Engineering Deficiency type 412) were to be evaluated and scheduled for elimination.

At the beginning of 1990, there were on average over 100 lit or defeated windows in the control room (not counting the fire protection panel 849). The plant manager established a Task Force including operations, engineering, and maintenance to eliminate the alarms. By March 1990, the Task Force had identified 133 windows/local alarm panels that would require modification to clear constant or intermittent "nuisance" alarms (Attachment 1). In addition, a dedicated work list was formed by maintenance to repair faulty equipment causing alarms. A multipath plan (Attachment 2)

was established in March 1990 to eliminate all but 15 alarms by the end of the first refueling.

By the end of the first refueling, 89 of a targeted 90 individual modifications/engineering actions had been completed. All 33 "must complete before restart" windows were modified and the evaluation to the NRC for the remainder completed (Attachment 3). An evaluation (Attachment 6) upon reaching 100% power operation in February 1991 showed an average of 41 lit windows in the control room with a rough breakdown of 24 attributed to required maintenance, 4 attributed to plant conditions, 2 attributed to surviellances/markups in progress, and 11 others attributed to modification required.

RECOMMENDATIONS

The task force makes the following recommendations to establish as close to a "dark board" control room concept as possible.

- Continue to have Operations provide a list of windows in alarm caused by malfunctioning equipment. This function could be turned over the Shift Technical Advisors or be provided by Operations Support.

- Establish a written policy to better identify windows in alarm due to markup/holdout, possibly with the use of a window overlay and/or defeat specific inputs.

- Establish an engineering program of temporary setpoint changes to allow quick changes in setpoints (particularly on Balance of Plant) when it is not feasible to correct the cause of the problem. Example: Leaking SRVs and associated high tailpiece temperatures. Higher temporary setpoints would allow the alarm to remain clear when the decision to continue component operation has been made and would alert the operators to a degrading condition if a new setpoint was reached.

- Continued and increased use of System Support and Test personnel to "champion" a needed resolution of an alarm window when the problem extends beyond simple maintenance.

- Continue upper management interest in lit annunciator reduction via modification and maintenance.

- Complete the specific interim action items of Attachment 5, 1991 Plan of Attack, in a timely fashion.

- Elimination of the Nuisance Annunciator Task Force. The task force has identified all known annunciators and led in the resolution of most modification-related windows. This document identifies for future reference what needs to be completed. In lieu of elimination of the task force, a second recommendation would be to reappoint team members. This request is made based on most of the original members having

been reassigned to other duties and that the task force manager will also be reassigned to different duties effective April 1, 1991:-

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/301 PLAINFIELD ROAD, SYRACUSE, N.Y. 13212/TELEPHONE (315) 474-1511

January 9, 1991
NMP2L 1275

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Re: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Gentlemen:

License Condition 2.C.9(b) for Nine Mile Point Unit 2 (NMP2) requires Niagara Mohawk Power Corporation (NMPC) to provide to the Nuclear Regulatory Commission (NRC) the results of a reevaluation of normally lit alarms and nuisance alarms prior to startup from the first refueling outage. The purpose of this letter is to provide the necessary information to the NRC to fulfill the requirements of license condition 2.C.9(b).

Attachment 1 provides a discussion of license condition 2.C.9(b). Attachment 2 is a tabulation of the normally lit alarms and nuisance alarms. This tabulation indicates the cause of the alarmed conditions and associated recommended corrective actions. In addition, Attachment 1 provides an implementation schedule for the recommended corrective actions identified in Attachment 2.

If you have any questions regarding this letter and its attachments, please feel free to contact David Baker (315) 428-7029 of my staff.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

C. D. Terry
Vice President
Nuclear Engineering

KK/kms

Attachments

xc: Regional Administrator, Region I
Mr. R. A. Capra, Director
Mr. D. S. Brinkman, Project Manager
Mr. W. A. Cook, Senior Resident Inspector
Records Management

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ATTACHMENT 1

Item I.D.1, "Control Room Design Reviews," of Task I.D., "Control Room Design," of the NRC Action Plan (NUREG-0660) states that licensees and applicants for operating licenses will be required to perform a detailed control room design review (DCRDR) to identify and correct design deficiencies. The objective, as stated in NUREG-0660, is to improve the ability of nuclear power plant control room operators to prevent or cope with accidents if they occur by improving the information provided to them. Supplement 1 to NUREG-0737 confirmed and clarified the DCRDR requirement in NUREG-0660. As a result of Supplement 1 to NUREG-0737, each applicant or licensee is required to conduct a DCRDR on a schedule negotiated with the NRC staff.

As a result of the DCRDR, various submittals were made to NRR consistent with the requirements stipulated in Item I.D.1 of NUREG-0660. The NRC's review of NMPC submittals, (see Supplemental Safety Evaluation Report [SSER 5], section 18.1, item 6d) resulted in the inclusion of section 2.C.9(b) in the NMP2 operating license. This license condition provides that:

> "Detailed Control Room Design Review (Section 18.1, SSERs 5 & 6"
>
> Prior to startup following the first refueling outage, Niagara Mohawk Power Corporation shall provide the results of the reevaluation of normally lit and nuisance alarms for NRC review in accordance with its August 21, 1986 letter.

The August 21, 1986 letter, referenced within license condition 2.C.9(b) provided a copy of Human Engineering Discrepancy (HED), 412.00, Rev. 1, which addresses nuisance alarms. The NRC's SSER 5 (see section 18.1), license condition 2.C.9(b), the August 21, 1986 letter, and its associated HED (412.00) identified various actions to be performed by NMPC. They are:

1. A study of alarmed annunciators will be performed when the unit has achieved normal operation and the nature of the problem has stabilized.

2. The study will identify annunciators which are continuously or frequently in the alarmed condition.

3. The study will specify the source of the alarms and the conditions which cause the annunciators to be alarmed.

4. The study will recommend corrective actions to alleviate the alarmed conditions.

5. Propose an implementation schedule for the recommended corrective actions in the study.

6. The results of items (1) through (5), inclusive, will be provided to the NRC prior to startup following the first refueling outage.

Attachment 2 to this letter provides the information required by items (1) through (4), inclusive. The attachment is a tabulation of 103 identified problems which have resulted in the continuous or frequent illumination of 153 annunciator windows. The items on the tabulation that are identified with an asterisk will have their associated recommended corrective actions implemented prior to restart from the first refueling outage. It is expected that this will result in the elimination of 97 frequently or continuously illuminated annunciators. The recommended corrective actions associated with the remaining 56 nuisance alarms will be implemented prior to restart from the third refueling outage. The substantial portion, approximately 70%, of the recommended corrective actions associated with the 56 nuisance alarms will be implemented prior to restart from the second refueling outage.

The recommended corrective actions are formulated to support NMPC's goal of achieving a black board annunciator panel. These corrective actions may be revised due to further evaluation that occurs during the development phase of the detailed modification package. As a result of this further evaluation, NMPC may decide not to eliminate one or more alarmed annunciator(s) due to the complexity and/or cost of the modification(s). In the unlikely event that this were to occur, NMPC would minimize the number of alarmed annunciator(s) such that there would be a negligible impact on the operator's ability to identify new alarmed conditions in the control room. If a decision were made not to eliminate one or more alarmed annunciators, NMPC would notify the NRC of this decision. NMPC would identify the annunciator(s) and the basis for its decision to the NRC in writing.

The nuisance alarms, which are addressed by HED 412.00 in the August 21, 1986 letter, are comprised of annunciators that alarm frequently or annunciators that are continuously illuminated. In addition, License condition 2.C.9(a) addresses numerous HEDs including [redacted] 409.00. HED 409.00, which will be completed prior to restart from the first refueling outage, addresses normally lit annunciators. The normally lit annunciators addressed by HED 409.00 are continuously illuminated due to plant design whereas the normally lit annunciators addressed by HED 412.00 are continuously illuminated due to malfunctioning equipment or devices. NMPC interprets the intent of license condition 2.C.9(b) as being the identification of all annunciators in the control room for which corrective actions need to be implemented in order to support the black board operating concept of no illuminated annunciators during normal plant operating

conditions. Therefore, Attachment 2 is a tabulation of annunciators addressed by HED 409.00, license condition 2.C.9(a), and HED 412.00, Rev. 1, license condition 2.C.9(b).

The recommended corrective actions on Attachment 2 are formulated so as to provide black annunciator boards during normal plant conditions (100% power). The elimination of normally lit alarms and nuisance alarms associated with various annunciator windows in the control room will serve to enhance the ability of the operator to identify alarmed conditions that indicate abnormal plant parameters or conditions.

ATTACHMENT - 2
NUISANCE ANNUNCIATORS & ACTIONS TO RESOLVE

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
1*	601305 601431 601503 601504	RCIC Sys. Inop. RHR A Sys. Inop. Div. I ADS Sys Inop. Div. II ADS Sys. Inop.	Status annunciation of the associated instrument channel trip units was not changed when other logic changes were made.	Rewired the monitoring circuits to provide correct annunciation which reflects the status of the corresponding system instrument channel trip units.
2*	601124	Service Water System Trouble	The window legend is misleading in that only 2 of the 7 inputs are related directly to the service water system. The 5 inputs from the control logic for the screen wash system keep the window continuously lit during normal system operation, because the screenwash system runs frequently.	Changed the window legend to read "Traveling Screenwash System Trouble", rewire the 2 - nonscreenwash inputs to other windows, and rewire screenwash control logic at local panel 2SWT-PNL108 to eliminate alarms during normal operation.
3*	601537	ADS Valves/Safety Valves Leaking	Two of the inputs to this window come from steam drain temperature monitoring devices which are not related to ADS. The inputs from the main steam relief valve tail piece temperature monitors keep the window continuously lit due to actual tailpiece temperatures being above the alarm point.	Rewired the two steam drain inputs and raise the alarm setpoint for the SRV tail piece temperature monitors. This will compensate for the NMP2 Design which utilizes insulated tailpieces. Incorporated feedback from actual operating experience, with higher temperature due to insulation.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
4*	601660	RHR Steam Trap Trouble	RHR steam trap level switches actuate and keep the window continuously lit when the associated steam traps are not in service.	Rewired the level switch circuits to inhibit the alarm unless the associated steam trap is in service.
5*	601448 601460 601631 601648 601706 601729 602205	RHR A Sys. Valves Motor OVLD. RHR A/B Sys. Vlvs. Mot. OVLD. RHR B Sys. Inop. RHR B Sys. Vlvs./Wtr. Leg. Pmp Motor OVLD HPCS Sys. Inop. HPCS Press. Pmp. 2 Vlvs. Mot. OLVD. Div. I Main Stm. Drn. Valve Sys. Inop.	Inputs to these annunciators actuate and keep the windows continuously lit when the circuits are de-energized. The de-energization of these circuits is required in order to meet Appendix R requirements.	Rewired the circuits to inhibit the inputs to the annunciators when the plant is at power and the circuits are de-energized to meet App. R requirements.
6*	602218 602224	Div-I NS4 Isol. Signal Div-II NS4 Isol. Signal	The NS4 Group-5 isolation signal is actuated when reactor pressure is increased above 128 psig and keeps these windows continuously lit when the unit is operating.	Rewired the circuits to eliminate the Group-5 input, which is for intra system isolation and closes isolation valves between high/low pressure system interfaces.
7*	602314	RWCU Pump 1A/1B Auto Trip	When the breaker control switch is taken out of the pull to lock position, the alarm is actuated.	Replaced and rewired the breaker control switch such that this alarm only actuates on an auto trip.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
8*	842324	Hypochlorite Generator System Trouble	The automatic mode of operation is not used and the equipment is left de-energized when not in use. This keeps the window continuously lit due to inputs from overload (OLVD) circuit monitoring contacts.	Rewired the local panel 2WTH-IPNL101 and the OLVD circuit input contacts to inhibit alarms from equipment which is maintained in a normally de-energized condition.
9*	852104	EDG1 Brkr. 101-1 Auto Close	These alarms are actuated when the operator manually operates the associated diesel generator breaker control switch. Also the auto close alarm is redundant to other diesel generator alarms which actuate during an automatic start and load sequence.	Rewired the circuits to eliminate the breaker auto close alarm.
	852204	EDG3 Brkr. 103-14 Auto Close		
10*	851307	Air Ejector 2A/2B Aux. Stm. Supply Flow Low	The idle set of air ejectors actuates a low steam flow input and keeps this window continuously lit.	Rewired the circuit to clear the alarm unless low steam flow is sensed at both air ejectors.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
11*	851110	Generator H_2 Storage Sys. Trouble	Low pressure sensed by switches in the H_2 storage piping keep this window continuously lit because the H_2 storage bottles are normally valved out. The only useful input to this window is the position of the generator H_2 dump valve.	Rewired the circuits to eliminate the pressure inputs and change the window legend to read "Gen H_2 Sys. Dump Vlv. AOV-162 Open".
12*	851230	Breathing Air System Trouble	The Breathing Air System is normally valved out and the compressors are de-energized. The resultant low pressure activates an input which keeps this window continuously lit.	The Operating Procedure (N2-OP-20) has been revised to place the annunciator in and out of service with the system.
13*	851229	Instrument Air System Trouble	The IAS is operated with one of two 100% capacity air dryers inservice. The dryer that is not being used actuates an alarm input which keeps this window continuously lit.	Rewired the circuit to prevent the alarm unless both air dryers are out of service.

ITEM NUMBER		WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
14*		851306	Off-Gas System Trouble	The Off-Gas System which has two 100% capacity trains is operated with one train, in service. The out-of-service train actuates inputs which keep this window continuously lit.	Rewired the circuits to inhibit actuation of alarm inputs unless the equipment is in service and a problem is detected in the operating train.
15*		851344	Control Bldg. Floor Drain System Trouble	Pump motor overload circuits actuate alarm inputs that are keeping the window continuously lit.	Rewired the circuits to correct the problem such that the alarm inputs are only actuated when an overload is detected.
16*	*	870208	Chiller 1A Compressor Auto Trip/Fail to Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally.
	*	870209	Chilled Water Circ. Pump 1A Auto Trip/Fail to Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally.
	*	870214	Chiller 1A Compressor Auto Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally, and this window was deleted.

ITEM NUMBER		WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
*	*	870215	Chilled Water Circ. Pump 1A Auto Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally, and this window was deleted.
	*	871208	Chiller 1B Compressor Auto Trip/Fail to Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally.
	*	871209	Chilled Water Circ. Pump 1B Auto Trip/Fail to Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally.
	*	871214	Chiller 1B Compressor Auto Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally, and this window was deleted.
	*	871215	Chilled Water Circ. Pump 1B Auto Start	Alarm inputs are actuated when the equipment cycles as required during normal operation.	The control circuits were rewired such that alarm inputs are no longer actuated when the equipment cycles normally, and this window was deleted.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
17*	601254	RBCLC Pump 1A/1B/1C Disch. Press. Low	With the major heat exchangers (HX's) in service and the associated parameters in spec. (i.e. flow, NPSH, motor amps) the Reactor Bldg. Closed Loop Cooling Water (RBCLC) pump discharge low pressure switch is actuating the alarm and starting the standby pump, when the fuel pool cooling HX's are valved in.	The pressure switch setpoint was lowered based upon an evaluation of actual pressures recorded during normal operation. The pressure switches were replaced and calibrated.
18*	601244	Turbine Bldg. Closed Loop Cooling System Trouble	Water quality information obtained from on stream monitors (conductivity & PH) does not agree with chemical analysis of grab samples. Also numerous work requests to clean and troubleshoot the instrumentation have not corrected the problems.	The annunciator and computer inputs from the conductivity and PH instruments were disabled, and local indicating instruments will remain in place for indication of conductivity and PH.
	601246	Reactor Bldg. Closed Loop Cooling System Trouble		
19*	601317	RCIC Turb. Lube Oil After Clr. Temp. High	Numerous work requests have been issued due to failure of temperature switch 2ICS-TC1003, causing actuation when the turbine lube oil after-cooler temperature was not high.	After replacing the temperature switch several times it was determined that the switch housing provided a convenient step for personnel making inspections. An equipment protection plate was installed to prevent switch damage and the false annunciation.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
20	601505	Nitrogen System Trouble	Frequent alarms were actuated by pressure monitors on the liquid nitrogen storage tanks when the high and low pressure alarm setpoints were exceeded. The pressure regulators GSN-PCV 4A/B were found to be leaking by and operating at the upper limit of their range.	The allowable operating band is being expanded by reducing the low pressure alarm setpoint. New springs are being installed in pressure regulators GSN-PCV4A/B, so that they will now operate at the mid-range point.
21	601506	Primary Containment Nitrogen Gas Purge Temperature Low	This alarm is actuated during cold weather, by inputs from the nitrogen supply line temperature monitors, when the ambient conditions cause the piping temperature to drop below the monitoring circuit setpoint..	The nitrogen supply piping is being heat traced to ensure that piping temperature is maintained above the liquid nitrogen flash point.
22*	601560	Suppression Pool Water Temperature High	During hot weather this alarm is actuated and can not reset because the Delta-T between service water (heat sink) and suppression pool water (heat load) is small.	The alarm setpoint and associated reset point were increased to provide additional Delta-T between service water and suppression pool temperature. Pool temperature can now be reduced below the reset point and the alarm cleared.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
23	602219	Recirc. Pump 1A/1B Motor Vibration High	Spiking outputs from the vibration monitors are actuating the alarm, but other parameters monitored (bearing temps., RPM, voltage, shaft vibration) are normal.	Discussions with G.E., EPRI, and Bingham Pumps indicated a problem with the sensor and method of monitoring vibration. The existing single plane equipment will be replaced with velocity sensors. Vibration will be monitored in two planes, and a new setpoint will be developed.
24*	602316	RWCU Filter Demin. Influent. Cond. High/Low	Normal Reactor Water Cleanup (RWCU) conductivity ranges from 0.08 to 0.09 umhos/cm and the downscale low alarm setpoint was 0.4 umhos/cm. This keeps the alarm continuously lit.	The downscale alarm setpoint was reevaluated and decreased to 0.064 umhos/cm.
25	602321	RWCU discharge pressure high/low	The alarm is continuously actuated during the normal recirculation mode of operation because the normally closed rejection line flow control valve (WCS-FCV 135) leaks by and allows pressure to build up at the pressure switch sensing line which is located upstream (reactor side) of the closed rejection line isolation valves.	Interlock the high pressure alarm with the rejection line isolation valves (WCS-MOV106 & 107) to inhibit the alarm when the rejection line is isolated from the condenser and radwaste. This will prevent an alarm when pressure between the FCV and isolation valves increases, with the isolation valves closed.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTION ACTION
26*	842115	Loose Parts Monitor System Trouble	The Loose Parts Monitoring System (LPMS) was spuriously alarming but loose parts could not be located. The data produced by the LPMS was extremely difficult to interpret and the original vendor was no longer supplying LPMS equipment.	Another vendor was located to assist in modifying the LPMS to reduce false alarms, train personnel in the operation of the system and interpretation of the data obtained.
27*	851132	Turbine Lube Oil Conditioner Trouble	It is extremely difficult to adjust the supply and discharge flow to the Lube Oil Conditioner (LOC). After the LOC flow is balanced, level and flow alarms are spuriously actuated during normal cycling of the LOC circulating pump.	Time delays in the control circuits were adjusted to inhibit the alarms unless the monitored parameters experience sustained upsets beyond those expected during normal LOC operation.
28	851150	Turbine Bypass Valve Open	The bypass valves position switches were failing to reset when the valves were closed after normal operation during plant startup.	The position switches will be adjusted to provide closed indication without driving the valves hard into the seats.
29*	851156	Main Generator Temperature Trouble	The alarm is being actuated by faulty temperature monitoring circuits.	The inputs from the faulty monitoring circuits were removed from the annunciator actuation logic.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
30*	851160	Turbine Bypass Valve 89A through 89E Outlet Temp. High	The temperature monitors are actuating the alarm when the valves are shut. This is due to an acceptable amount of minor leakage and natural heat conduction in the piping downstream of the valves.	The temperature setpoint was increased to compensate for the actual conditions found during normal operation.
31*	851313	Circ. Water Pump 1A through 1F Seal Water Pressure Low	This alarm is continuously lit due to low seal water pressure at some of the circulating water pumps. The condition has not degraded (i.e. pressure is low but remains constant).	To clear the continuously lit alarms and provide a warning of any further decrease in seal water pressure, the low pressure setpoint was lowered.
32*	851322	Circ. Water Cooling Tower Flume Water Temp. High	This alarm warns operators of possible condenser vacuum problems. During the summer months (May-Sept.) the alarm is continuously lit due to the actual flume water temperature rising above the 90°F setpoint.	Since vacuum problems have not been experienced during sustained operation with flume water temperature >90°F, the setpoint was increased based on the actual operating conditions observed during 1988, 1989 & 1990.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
33*	851431	Reactor Feed Pump 1A/1B/1C Trust/RDL BRG Vibration Hi	This has been a frequently alarming window due to high vibration, but the vibration data collected was extremely difficult to evaluate, because it did not agree with data obtained from portable vibration monitoring equipment.	The high vibration alarm setpoint was increased to allow detection and warning of any change in vibration levels. A vibration specialist, the pump vendor and NMPC personnel (System Engineer, Operations, Design, Maintenance) have formed a task force to correct the feedpump vibration problems.
34*	851446	Main Steam Reheater E1A/E1B Steam Flow High	This is a computer generated alarm with an original setpoint based on generic data provided by the vendor. Actual steam flow was found to be higher than predicted steam flow.	As instructed by the vendor manual, actual operating data was taken and used to determine a plant specific alarm setpoint.
35*	851518	Condensate Storage Tank 1A/1B Level Hi	This is a continuously lit annunciator due to the normal operating practice of maintaining CST level above the alarm setpoint.	Based on an engineering evaluation of the operating practice, the tank level maintained by normal control was increased. The high and low level alarm setpoints were also increased.
36*	851557	Condensate Booster Pumps 2A/2B/2C Lube Oil Filter Differential Press Hi	This annunciator is continuously lit because the Delta-P is sensed across the filter isolation valves instead of just the filter.	The alarm setpoint was increased to compensate for the Delta-P of the open isolation valves.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
37*	852110	Division I EDG 1 Fuel System Trouble	The Division I alarm was only lit a few times. The Division II alarm was continuously lit due to a wiring problem in the level instrumentation circuitry.	Level circuitry for both alarms was tested and Division I was found to be correct. The wiring problems with Division II were corrected.
	852210	Division II EDG 3 Fuel System Trouble		
38*	852116	Division I UPS 2A System Trouble	UPS switching control circuit problems causes fuse to blow and the subsequent trouble alarm.	Install new Printed Circuit boards to correct control circuit problems and allow switching without blowing fuses.
	852216	Division II UPS 2B System Trouble		
	852553	UPS 3A System Trouble	"	"
	852555	UPS 3B System Trouble	"	"
39*	873305	Division I Suppression Chamber Temperature High	Suppression chamber temperature is often above the 83.5°F alarm point. Also cooling is not initiated until approximately 95°F is exceeded, and it is difficult to reduce the air temperature below the temperature switch reset point during hot summer periods due to elevated service water temperatures.	The high air space temperature setpoint of 83.5°F has been increased to 99.8°F.
	875105	Division II Suppression Chamber Temperature High		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
40*	870204	Chilled Water Exp. Tank 1A Level High/Lo Lo	Tank level alarms are frequently lit due to the delicate hydraulic balance required to maintain tank level. When a tank excursion does occur, manual manipulation of the system is required to restore normal (non-alarming) level.	The operating procedure (N2-OP-53A) was revised to clarify the tank level which should be maintained and the actions required to restore normal level in the expansion tank. Engineering will evaluate the process after procedure changes have been made to determine if modifications may be required.
	871204	Chilled Water Exp. Tank 1B Level High/Lo Lo		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
41*	842204	Reactor Bldg. Vent/Glycol System Trouble	Local Panel 2CES-IPNL101 The annunciators on the main Control Room panels do not clear when the local annunciators are acknowledged at the local panel. Most of these local panel annunciators are in alarm because one or more power supply breakers are open. The equipment powered from these breakers is deenergized for various reasons (i.e. testing and maintenance). Operators have responded and assessed the alarming condition but the Control Room alarm stays locked in even after the acknowledged button is depressed at the local panel. There are 992 local annunciator windows, which initiate 98 alarm inputs to 53 Control Room annunciator windows. Many of the annunciator windows on local panels located outside the Control Room have multiple alarm inputs.	Redesign the local panel annunciator reflash logic to clear the Control Room annunciator when the local panel annunciator acknowledge pushbutton is depressed. This logic change will not alter the local panel input and output wiring. The components and wiring affected by the change are local panel internal conditioning logic for the annunciators. The Control Room annunciators will still alarm when any local panel annunciator is actuated but will only remain lit until the condition is acknowledged both in the Control Room and locally. The local panel annunciator window will remain lit until the initiating condition is reset (problem corrected). If the local panel annunciator clears and then realarms the Control Room annunciator will also realarm.
42*	842318	Acid Chemical Feed System Trouble	Local Panel 2WTA-IPNL101 The problem and solution summaries are the same as Item #41	

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
43	842324	Hypochlorite Generator System Trouble	Local Panel 2WTH-IPNL101 The problem and corrective action summaries are the same as Item #41	
44*	601124	Traveling Screen Wash System Trouble	Local Panel 2SWT-PNL108 The problem and corrective action summaries are the same as Item #41	
45*	873311	Spent Fuel Cask Handling System Trouble	Local Panel 2SFC-PNL130 The problem and corrective action summaries are the same as Item #41	
46*	842223	Ventilation Chilled Water System Trouble	Local Panel 2HVN-IPNL135 The problem and corrective action summaries are the same as Item #41	
47	873319	Spent Fuel Pool Cleanup System Trouble	Local Panel 2SFC-PNL141 The problem and corrective action summaries are the same as Item #41	
48*	842317	Reactor Plant Sample System Trouble	Local Panel 2SSR-IPNL145 The problem and corrective action summaries are the same as Item #41	

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
49*	842203	Turbine Bldg. Vent/Glycol System Trouble	Local Panel 2CES-IPNL202 The problem and corrective action summaries are the same as Item #41	
50*	842207	Ventilation Hot Water Heating System Trouble	Local Panel 2CES-IPNL203 The problem and corrective action summaries are the same as Item #41	
51*	851132	Turbine Lube Oil Conditioner Trouble	Local Panel 2CES-IPNL207 The problem and corrective action summaries are the same as Item #41	
52*	842305	Turbine Plant Sample System Trouble	Local Panel 2SST-IPN285 The problem and corrective action summaries are the same as Item #41	
53	851514	Condensate Demin. System Trouble	Local Panel 2CND-IPNL287 The problem and corrective action summaries are the same as Item #41	Also a new annunciator window will be used so that a specific annunciator window will be used for alarm of low flow through cond. demins. 1A through 1J.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
54	842323	Makeup Demin. Pre-Treatment Filter System Trouble	Local Panel 2WTS-IPNL300 The problem and corrective action summaries are the same as Item #41	
55*	842312	Makeup Demin. Treating System Trouble	Local Panel 2WTS-IPNL301 The problem and corrective action summaries are the same as Item #41	
56*	842312	Makeup Demin. Treating System Trouble	Local Panel 2WTS-IPNL327 The problem and corrective action summaries are the same as Item #41	
	842318	Acid Chemical Feed System Trouble		
	851510	Demin. Water Storage and Transfer System Trouble		
57*	851514	Condensate Demin. System Trouble	Local Panel 2CND-IPNL347 The problem and corrective action summaries are the same as Item #41	
58*	842210	Electrical Bay Area Ventilation System Trouble	Local Panel 2CES-IPNL402 The problem and corrective action summaries are the same as Item #41	
59*	842212	Control Bldg. Ventilation System Trouble	Local Panel 2CES-IPNL403 The problem and corrective action summaries are the same as Item #41	
	842202	Diesel Generator Room Normal Ventilation Trouble		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
60*	842205	Radwaste Bldg. Vent/Glycol System Trouble	Local Panel 2CES-IPNL501 The problem and corrective action summaries are the same as Item #41	
	842209	Condensate Storage Tank Bldg. Ventilation System Trouble		
61*	842206	Screenwell Bldg. Ventilation System Trouble	Local Panel 2CES-IPNL502 The problem and corrective action summaries are the same as Item #41	
62	851153	Auxiliary Boiler 1A/1B System Trouble	Local Panel 2CES-IPNL506 The problem and corrective action summaries are the same as Item #41	
63	851153	Auxiliary Boiler 1A/1B System Trouble	Local Panel 2CES-IPNL507 The problem and corrective action summaries are the same as Item #41	
64*	851153	Auxiliary Boiler 1A/1B System Trouble	Local Panel 2CES-IPNL508 The problem and corrective action summaries are the same as Item #41	
	842217	Auxiliary Boiler Room Ventilation System Trouble		
65*	851342	Screenwell Bldg. Floor Drain System Trouble	Local Panel 2CES-IPNL514 The problem and corrective action summaries are the same as Item #41	

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
66*	851336	Main Stack Floor Drain Sump Tank 3 System Trouble	Local Panel 2CES-PNL513 The problem and corrective action summaries are the same as Item #41	
	851342	Screenwell Bldg. Floor Drain System Trouble		
	851346	Radwaste Bldg. Floor/Equipment Drain System Trouble	NOTE: This is the Radwaste Control Room Panel	
	851451	Reactor Bldg. Equipment Drain System Trouble		
	851453	Reactor Bldg. Floor Drain System Trouble		
	851352	Auxiliary Boiler Bldg. Floor Drain System Trouble		
	851354	Condensate Storage Bldg. Floor Drain System Trouble		
	851356	Main Stack Floor Drain Sump Tank 2 System Trouble		
	851551	Turbine Bldg. Floor Drain System Trouble		
	851553	Turbine Bldg. Equipment Drain System Trouble		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
67*	851334	Reactor Bldg. Mat. Drainage Sump 10A-10B Trouble	Various problems with the sumps have frequently actuated this annunciator. The problems have resulted from malfunctions with pumps, piping configuration, instrumentation, and other equipment.	A modification was issued to implement the design changes, which should correct the problems by improving the performance of the sump pumps, piping configuration, instrumentation, and other equipment.
68	851320 851330	Condenser Air Removal Pumps Separator Tank 1A/1B Level High Condenser Air Removal Pumps Separator Tank 1A/1B Level Low	The separator tank level control system would allow the level to rise and actuate the high level alarm. Operators would then drain the separator tank and actuate the low level alarm. If left alone, the tank overflow piping would not drain the tank below the high level alarm.	The operators have reduced the alarm frequency by only partially draining the tank and doing it more often. The overflow piping is being redesigned to maintain normal level below the high level alarm and above the low level alarm without operator action.
69	851401	Reheater System Trouble	Improper temperature compensation of the level transmitters for reheater drain receiver tanks 6A & 6B is causing this annunciator to be actuated by level alarms.	The level transmitters will be recalibrated using revised criteria and, if possible, temperature measurements of the level sensing piping will be made to provide better temperature compensation information.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
70	870329 871329	Division I Remote Shutdown Room A/C Unit 3A Trouble Division II Remote Shutdown Room A/C Unit 3B Trouble	The air conditioning units have an inlet filter differential pressure instrument which actuates this alarm on hi filter D/P. This D/P inst. has actuated the annunciator when actual filter D/P is normal (e.g. right after a clean filter is installed). The instrument sensing lines are not connected directly across the filter and the setpoint is too close to actual filter D/P. Also the hi D/P setpoint does not have adequate margin to compensate for inlet damper position changes.	Re-balancing of the system air flows will be performed and will provide improved performance. Data obtained from the re-balancing will be used to determine a new hi filter D/P setpoint. Based upon further evaluation of system performance after re-balancing, there may also be a need to modify the D/P instrument installation to sense directly across the filter.
71	873309 875109	Division I Primary Containment H2/O2 Concentration High Division II Primary Containment H2/O2 Concentration High	The high O_2 alarm setpoint is frequently exceeded and actuates this alarm. Oscillations of the gas analyzers and an overly conservative calibration method are the primary problems, but additional efforts to reduce the O_2 concentration after initial inerting may be needed.	After consulting with the manufacturer, the calibration method used for the analyzer was revised and this reduced the magnitude of the oscillations. Operations has increased efforts (additional feed and bleed) to reduce O_2 concentrations subsequent to initial primary containment inerting. These actions have reduced the alarm frequency and an evaluation to raise the high O_2 setpoint is being done. After additional evaluation, possible design changes may be required to stop the oscillations.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
72	601320	RCIC Turbine Exhaust Drain Trap Level High	Normal leakage past the steam isolation valve produces sufficient condensation to frequently actuate this alarm. Also trap level is controlled via an open-closed solenoid valve which only allows about 1/2 inch of water to drain. The trap quickly refills and the high level alarm is again actuated.	The drain valve will be positioned to remain open and provide a continuous drain. This will prevent the high level alarms and not present a problem because the drain valve is interlocked to close when the steam supply valve opens. The P&ID drawing will be revised to show the drain valve normally open.
73	601115	Service Water Pump 1A/1C/1E Suction Pressure Low	These annunciators are lit when a service water pump isolation valve is closed due to routine surveillance and maintenance.	Modify the design to allow manual inhibit of the alarm when the isolation valve of a pump is closed to support maintenance. This will be controlled by procedure, safety tagging or both.
	601218	Service Water Pump 1B/1D/1F Suction Pressure Low		
74	601134	Service Water Strainer 4A/4C/4E Motor Overload	These annunciators are lit when a service water strainer is de-energized to allow continuous backwash or for maintenance. Strainer backwash and maintenance is frequently required.	Modify the control circuits to inhibit the alarm when the strainer is de-energized or being continuously backwashed.
	601222	Service Water Strainer 4B/4D/4F Motor Overload		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
75	873201	Drywell Unit Cooling Group-1 System Trouble	The temperature and flow (differential pressure) instrumentation, designed to detect and alarm unit cooler malfunctions, are actuating these alarms when the unit coolers are functioning properly (i.e. moving and cooling the drywell atmosphere).	Evaluation of the instrumentation is in progress and modifications will be made to remove these alarm inputs or modify the instrumentation to provide reliable monitoring without frequently actuating alarms when the unit coolers are functioning properly.
	873202	Drywell Unit Cooling Group-2 System Trouble		
76	602315	RWCU Filter Demin. Effluent Conductivity High/Low	High/low conductivity instrumentation is actuating these alarms when associated demineralizers are not in service. This occurs because the alarm inputs bypass the RWCU logic controller.	Rewire the alarm input circuits to eliminate the bypass and redirect the inputs through the RWCU logic controller. Reprogram the logic controller to inhibit conductivity alarms on demineralizers that are not in service.
	602317	RWCU Filter Demin. 1 Trouble		
	602318	RWCU Filter Demin. 2 Trouble		

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
77	601155	Differential Temperature Reactor Bldg. Exhaust Air/Service Water Low Differential Temperature Reactor Bldg. Exhaust Air/Service Water Low/Low	This alarm is frequently lit during warm weather because a constant outside air temperature is used to determine the alarm setpoint. A difference in temperature (Delta-T) must be maintained between Reactor Bldg. Exhaust Air Temperature and service water temperature. This Delta-T varies with outside air temperature but the alarm setpoints assume a constant outside air temperature. When these alarms are lit, the required Delta-T must be hand calculated and compared to actual Delta-T to verify that actual is not less than required.	Add an outside air temperature input to the computer which calculates the required Delta-T, and reprogram the computer to calculate required Delta-T using the actual outside air temperature instead of assuming a constant value for outside air temperature.
78*	851129 851139	Turbine Generator Vibration High Turbine Supervisory Instrument Power Failure	The turbine manufacturer identified a problem with the vibration monitoring amplifier cards which allowed short duration vibration spikes to cause alarms. Also problems were identified with the vibration monitoring sensors and the turbine, which required bypassing supervisory instruments.	The amplifiers have been replaced with the correct type. Major maintenance was performed on the turbine. The vibration sensor problems have been corrected, so that the supervisory instruments will no longer be required to be bypassed.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
79	601302	RCIC Turbine Steam Supply Drain Trap Level High	Condensation due to steam supply valve leakage causes this alarm to frequently actuate. The bistable level control valve does not allow the trap to drain very much.	This problem is still being evaluated because initial modifications to correct the condition did not work. A modification or operational administrative control will be used to resolve this problem.
80	603208 603442	APRM Trip System Upscale Control Rod Out Block	When operating at or near 100% power, the alarms are frequently actuated. The problem is due to inherent power oscillations in BWRs related to bistable flow phenomena in the recirculation system risers.	The time constants in the flow transmitters were increased, but frequent alarms still occur when operating at 100% power. This problem is still being evaluated and the solution will be based on the outcome of the NMPC/GE evaluation, which may require use of a different power to flow operating curve.
81	849109	Trouble Panel 113	This is one of many remote supervisory alarms received on the Fire Protection panel located in the Control Room. These alarms do not clear when the condition is assessed and acknowledged at the local panel. Also the local panel does not always identify the specific device which initiated the alarm and a walkdown may be required to locate the problem.	FP-PNL113 Redesign the local panel logic and install the wiring changes necessary to clear the alarm on the Control Room Fire Protection Panel when the local panel is acknowledged. Install the additional components necessary to allow identification of the problem sources (i.e. memory modules to record the initiating sensor).

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
82	849110	Trouble Panel 114		FP-PNL114 The problem and corrective action summaries are the same as Item #81.
83	849111	Trouble Panel 125		FP-PNL125 The problem and corrective action summaries are the same as Item #81.
84	849112	Trouble Panel 126		FP-PNL126 The problem and corrective action summaries are the same as Item #81.
85	849113	Trouble Panel 127		FP-PNL127 The problem and corrective action summaries are the same as Item #81.
86	849114	Trouble Panel 101		FP-PNL101 The problem and corrective action summaries are the same as Item #81.
87	849115	Trouble Panel 103		FP-PNL103 The problem and corrective action summaries are the same as Item #81.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
88	849116	Trouble Panel 104		FP-PNL104 The problem and corrective action summaries are the same as Item #81.
89	849133	Trouble Panel 117		FP-PNL117 The problem and corrective action summaries are the same as Item #81.
90	849134	Trouble Panel 119		FP-PNL119 The problem and corrective action summaries are the same as Item #81.
91	849135	Trouble Panel 128		FP-PNL128 The problem and corrective action summaries are the same as Item #81.
92	849136	Trouble Panel 129		FP-PNL129 The problem and corrective action summaries are the same as Item #81.
93	849138	Trouble Panel 105		FP-PNL105 The problem and corrective action summaries are the same as Item #81.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
94	849139	Trouble Panel 106		FP-PNL106 The problem and corrective action summaries are the same as Item #81.
95	849140	Trouble Panel 107		FP-PNL107 The problem and corrective action summaries are the same as Item #81.
96	849209	Trouble Panel 108		FP-PNL108 The problem and corrective action summaries are the same as Item #81.
97	849210	Trouble Panel 131		FP-PNL131 The problem and corrective action summaries are the same as Item #81.
98	849211	Trouble Panel 120		FP-PNL120 The problem and corrective action summaries are the same as Item #81.
99	849233	Trouble Panel 123		FP-PNL123 The problem and corrective action summaries are the same as Item #81.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
100	849235	Trouble Panel 121		FP-PNL121 The problem and corrective action summaries are the same as Item #81.
101	851538	Condensate Storage Tank 1A/1B Level Low	Normal practice is to maintain a high level in the CST's and a modification (88-069) was implemented to raise the normal control band. This also raised the low level alarm setpoint. Operation subsequent to the modification has resulted in the low level alarm being frequently lit.	Return the CST low level alarm to some lower value between original setpoint and the current setpoint.
102	851306	Off-Gas System Trouble	The outlet temperature of the in-service dryer is frequently above the alarm setpoint.	An evaluation will be done and the alarm setpoint will be raised based on data obtained during normal operation.

ITEM NUMBER	WINDOW NUMBER	WINDOW LEGEND	PROBLEM	CORRECTIVE ACTION
103	824324	Hypochlorite Generator System Trouble	This window is actuated by alarm inputs from the hypochlorite dilution water pumps and the hypochlorite generator panel (2WTH-IPNL101). The problems associated with the panel were outlined in Items 8 & 43 but there is also a problem with the dilution water pumps. Since the pumps are only operated for short durations and monitored by a local operator during operation, they are normally left de-energized. This causes motor overload alarm inputs which actuate Control Room Window 842324.	Administrative Controls will be used to prevent this alarm until a design change is issued to rewire the pump control circuits so that the alarm will not be actuated unless an actual problem (i.e. motor overload) is detected.

* NOTE: The corrective action for the identified problem will be implemented prior to restart from the first refueling outage and it is expected that these windows will no longer be frequently or continuously lit during normal operation at 100% power.

Nine Mile 2 Nuisance Annunciators

Engineering Required (as of 3/1/91)

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
1	601503	Div I ADS Sys Inop	409	1990	Complete
2	601504	Div II ADS Sys Inop	409	1990	Complete
3	602218	DIV I NSSS Isol Signal	409	1990	Complete
4	602224	Div II NSSS Isol Signal	409	1990	Complete
5	851307	SAE 2A/2B Aux Steam Low Flow	409	1990	Complete
6	852104	EDG 1 Bkr 101–1 Auto Close	409	1990	Complete
7	852204	EDG 3 Bkr 103–14 Auto Close	409	1990	Complete
8	601124	Service Water Sys Trouble	409	1990	Complete
9	601537	ADS Valves/Safety Valve Leaking	409	1990	Complete
10	851110	Gen H2 Storage Sys Trouble	409	1990	Complete
11	851230	Breathing Air Sys Trouble	409	1990	Procedure change complete
12	851229	Instrument Air Sys Trouble	409	1990	Complete
13	870208	Chiller 1A Compressor Auto Trip	409	1990	Complete
14	870209	Chiller Circ Pump 1A Auto Trip	409	1990	Complete
15	870214	Chiller 1A Compressor Auto Start	409	1990	Complete
16	870215	Chiller 1A Circ Pump Auto Start	409	1990	Complete
17	871208	Chiller 1B Compressor Auto Trip	409	1990	Complete
18	871209	Chiller Circ Pump 1B Auto Trip	409	1990	Complete
19	871214	Chiller 1B Compressor Auto Start	409	1990	Complete
20	871215	Chiller Circ Pump 1B Auto Start	409	1990	Complete
21	851344	Control Bldg Floor Drain Sys Trouble	409	1990	Complete
22	851306	Off Gas Sys Trouble	409	1990	Complete
23	842324	Hypochlorite Gen Sys Trouble	409	1990	Complete
24	602314	RWCU Pump 1A/1B Auto Trip	409	1990	Complete

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
25	601305	RCIC System Inop	409	1990	Complete
26	601431	RHR A Sys Inop	409	1990	Complete
27	601448	RHR A Sys Valve Overload	409	1990	Complete
28	601460	RHR A-B Sys Valves Motor Overload	409	1990	Complete
29	601631	RHR B Sys Inop	409	1990	Complete
30	601648	RHR B Sys Valve Overload	409	1990	Complete
31	601706	HPCS Sys Inop	409	1990	Complete
32	601729	HPCS Pressure Pump Valve Overload	409	1990	Complete
33	602205	DIV I Main Steam Drain Valve	409	1990	Complete
34	601660	RHR Steam Trap Trouble	409	1990	Complete
35	601254	RBCLC Pump Dish Press Low	412	1990	Complete
36	601505	N2 Sys Trouble	412	1990	Complete
37	601506	Primary Cont. Purge Temp Low	412	1990	Working
38	851156	Main Gen Temp Trouble	412	1990	Complete
39	851160	Turbine Bypass Valve Outlet Temp High	412	1990	Complete
40	852110	DIV I EDG Fuel Sys Trouble	412	1990	Complete
41	852210	DIV II EDG Fuel Sys Trouble	412	1990	Complete
42	602321	RWCU Disch Pressure High/Low	412	1990	Complete
43	851132	Lube Oil Conditioner Trouble	412	1990	Complete
44	851313	Circ Water Seal Water Pressure Low	412	1990	Complete
45	851557	Cond. Boosters Pump Lube Oil Filter DP High	412	1990	Complete
46	851322	Circ Water Cooling Tower Flume Temp High	412	1990	Complete
47	851446	Main Steam Reheater Steam Flow High	412	1990	Complete
48	851150	Turbine Bypass Valve Open	412	1990	Complete
49	601317	RCIC Lube Oil After Cooling Temp High	412	1990	Complete
50	870204	Chilled Water Exp. Tank 1A Level High	412	1990	Complete

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
51	871204	Chilled Water Exp. Tank 1B Level High	412	1990	Complete
52	601244	Turbine Building Closed Loop Cooling Sys Trouble	412	1990	Complete
53	601246	Reactor Building Closed Loop Cooling Sys Trouble	412	1990	Complete
54	851320	Condenser Air Removal Pumps Sep. Tk 1A/1B Level High	412	1991	
55	851401	Reheater System Trouble	412	1991	
56	851538	CST Level Low	412	1991	
57	870329	DIV I Remote S/D Rm AC Unit 3A Trouble	412	1991	
58	871329	DIV II Remote S/D Rm AC Unit 3B Trouble	412	1991	
59	873201	Group I Drywell Unit Cooling Sys Trouble	412	1991	
60	873202	Group 2 Drywell Unit Cooling Sys Trouble	412	1991	
61	873309	DIV I H2/O2 in Primary Cntmt Level High	412	1991	Complete
62	875109	DIV II H2/O2 in Primary Cntmt Level High	412	1991	Complete
63	601320	RCIC Turb Exhaust Drain Trap Level High	412	1991	
64	601115	Service Water Pump Suction Low (1A/C/E)	412	1991	
65	601134	Servive Water Strainer 4A/C/E) Motor Overload	412	1991	
66	601222	Service Water Strainer 4B/D/F Motor Overload	412	1991	
67	601218	Service Water Pump Suction Pressure Low (1B/D/F)	412	1991	
68	602315	RWCU Filter Demin Eff Cond High/Low	412	1991	
69	603208	APRM Trip Sys Upscale	412	1991	
70	603442	Control Rod Out Block (due to 603208 above)	412	1991	
71	851139	Turbine Supv. Instrument Power Failure	412	1991	Complete
72	601302	RCIC Turb Steam Supply Drain Trap Lvl High	412	1991	
73	601155	T Rx Bld/Service Water Low	412	1991	
74	601156	T Rx Bld/Service Water Low Low	412	1991	

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
75	851334	MAT Sump Pump Trouble	412	1991	Mod 89-039
76	852116	UPS 2A Trouble	412	1990	Complete
77	852216	UPS 2B Trouble	412	1990	Complete
78	852553	UPS 3A Trouble	412	1990	Complete
79	852555	UPS 3B Trouble	412	1990	Complete
80	842115	Loose Parts Monitoring Sys Trouble	412	1990	Complete
81	851129	Turbine Vibration High	412	1990	Complete
82	851518	CST Level High	412	1990	Complete
83	602219	Recirc Pump Vibration	412	1990	Complete
84	602316	RWCU Influent Cond	412	1990	Complete
85	873305	DIV I Supp Chamber Temp High	412	1990	Complete
86	875105	DIV II Supp Chamber Temp High	412	1990	Complete
87	601560	Supp Pool Water Temp High	412	1990	Complete
88	851431	Feed Pump Vibration High	412	1990	Complete
89	2CES-IPNL101	Reactor Building Vent/Clycol Panel	412	1990	Complete
90	2WTA-IPNL101	Acid Chemical Feed Panel	412	1990	Complete
91	2WTH-IPNL101	Hypochlorite Generator Panel	412	1990	Complete
92	2SWT-PNL108	Screenhouse Traveling Screen Panel	412	1990	Complete
93	2SFC-PNL130	Spent Fuel Pool Panel	412	1990	Complete
94	2HVN-IPNL135	Chiller Building Control Panel	412	1990	Complete
95	2SFC-PNL141	Spent Fuel Pool Cleanup Panel	412	1990	Complete
96	2SSR-IPNL145	Reactor Sample Panel	412	1990	Complete
97	2CES-IPNL202	Turbine Building Vent/Clycol Panel	412	1990	Complete
98	2CES-IPNL203	Hot Water Control Panel	412	1990	Complete
99	2CES-IPNL207	Turbine Lube Oil Panel	412	1990	Complete
100	2SST-IPNL285	Turbine Sample Panel	412	1990	Complete
101	2CND-IPNL287	Condensate Demineralizer Regen. Panel	412	1990	Complete

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
102	2WTS-IPNL300	Makeup Demineralizer Pretreatment Panel	412	1990	Complete
103	2WTS-IPNL327	Makeup Water Treating Area Panel	412	1990	Complete
104	2CND-IPNL347	Condensate Demin. Regen. Panel	412	1990	Complete
105	2CES-IPNL402	Electric Bay Vent Panel	412	1990	Complete
106	2CES-IPNL403	Switchgear Building Vent Panel	412	1990	Complete
107	2CES-IPNL501	Radwaste/Condensate Stor. Tank Bldg. Vent Syst.	412	1990	Complete
108	2CES-IPNL502	Screenwell Bldg. Vent Panel	412	1990	Complete
109	2CES-IPNL506	Auxiliary Boiler 1A Panel	412	1990	Complete
110	2CES-IPNL507	Auxiliary Boiler 1B Panel	412	1990	Complete
111	2CES-IPNL508	Aux. Boiler Feed & Vent Panel	412	1990	Complete
112	2CES-PNL513	Radwaste Sump Pumps	412	1990	Complete
113	2CES-IPNL514	Screenwell Sump Panel	412	1990	Complete
114	FP-PNL113	Fire Panel Trouble	412	1991	
115	FP-PNL114	Fire Panel Trouble	412	1991	
116	FP-PNL125	Fire Panel Trouble	412	1991	
117	FP-PNL126	Fire Panel Trouble	412	1991	
118	FP-PNL127	Fire Panel Trouble	412	1991	
119	FP-PNL101	Fire Panel Trouble	412	1991	
120	FP-PNL103	Fire Panel Trouble	412	1991	
121	FP-PNL104	Fire Panel Trouble	412	1991	
122	FP-PNL117	Fire Panel Trouble	412	1991	
123	FP-PNL119	Fire Panel Trouble	412	1991	
124	FP-PNL128	Fire Panel Trouble	412	1991	
125	FP-PNL129	Fire Panel Trouble	412	1991	
126	FP-PNL105	Fire Panel Trouble	412	1991	
127	FP-PNL106	Fire Panel Trouble	412	1991	
128	FP-PNL107	Fire Panel Trouble	412	1991	

ITEM #	WINDOW/ PANEL	DESCRIPTION	HED	GOAL	REMARKS
129	FP-PNL108	Fire Panel Trouble	412	1991	
130	FP-PNL131	Fire Panel Trouble	412	1991	
131	FP-PNL120	Fire Panel Trouble	412	1991	
132	FP-PNL123	Fire Panel Trouble	412	1991	
133	FP-PNL121	Fire Panel Trouble	412	1991	

Nine Mile Point Unit II
Nuisance Annunciator Reduction Proposal

Problem

The Nuisance Annunciator Task Force is currently focusing on 130 lit, spurious, seasonal, or defeated problem annunciator windows. Many of these are in for a short time and do not constitute an immediate concern. They are being tracked to demonstrate a thorough evaluation and provide a sound data base for a total eventual elimination. The non process 849 Fire Protection panel is not considered in this proposal. Resolution of the existing fire panel alarms will be done at a future date.

There are an average of 57 lit/solid/frequently sporadic alarm windows and another 36 windows with partial or fully defeated inputs. This adds to a total of 93 windows of immediate concern.

Plan

The following "All Points Attack" is suggested to significantly reduce the problem scope before refuel startup without exceeding existing Niagara Mohawk manpower resources. It will require some additional capital expenditures beyond what is currently funded. It will not require the full 6 million dollars estimated for a 100% elimination of all tracked annunciators.

The detailed goals are shown on Attachment 1 and specific windows to be modified are shown on Attachments 2, 3 and 4. Many of these modifications can be done non-outage.

"Buy In"

This plan requires Design Engineering to produce 5 setpoint changes in the near future. It also requires Design Engineering to produce packages for an additional 15 windows of the HED 412 category beyond the 35 HED 409 windows that are NRC commitment windows. Lastly, Design Engineering is requested to support modifying 23 local alarm panels with a reflash capability that will clear control room alarms when the local panel alarm condition is acknowledged. It is understood that the bulk of the local panel modification design and implementation could be done by the panel vendor with oversight by Design Engineering.

Construction Services is required to prepare design package travelers and install the modifications. Ownership of post installation testing is the only issue that needs to be resolved to allow release of completed design packages to operations

Operations is required to accept that a dark board will not be achieved by the end of the refuel outage but that significant reductions in lit windows can be achieved. Operations also is required to more closely examine plant conditions that could result in extinguishing 1-2 windows by equipment adjustment.

Site Maintenance is required to aggressively pursue the current 14 windows in alarm due to equipment malfunction. A realistic goal is to maintain alarming windows to less than 5 due to equipment malfunction.

Conclusion

A successful completion of this proposal would result in a significant reduction of lit or defeated annunciators of immediate concern. It would leave 11 lit/defeated windows plus a percentage of windows being tracked but not an immediate concern. These remaining windows, identified in attachment 5, would have to be scheduled for completion sometime after refuel startup. These actions would more than exceed the current NRC commitment and should eliminate most concerns of excessive control windows in alarm.

Sincerely

Brian E. Booth

Brian Booth
Task Force Leader
March - 1990

Proposal Accepted with following exceptions: Tentative until plan developed

R. B. Abbott 3/14/90

B. J. Pasternak 5/9/90

G. J. Gresock 3/14/90

R. G. Smith/M. J. Colomb

BCB/da

L. Lagoe

Attachments

Reviewed/Approved: _____

J. L. Willis

DISTRIBUTION

J. L. Willis
R. B. Abbott
R. J. Pasternak
R. G. Smith
M. J. Colomb
G. J. Gresock
K. D. Ward
J. W. Sullivan
J. R. Vierling
A. G. Vierling
A. K. Julka
L. D. Kassakatis
J. Snyder
G. Thompson
P. Mangano
R. Dean
P. Radovich
T. Mattesich
R. Deuvall
L. Prunotto
R. Kittelsen
U. Buiva
M. D. Jones
D. Lee
D. Pasquale

Attachment 1 - "All Points Attack"

Windows of Immediate Concern	93	Lit or Defeated Windows
HED 409 windows (have to do by commitment) (HED 409 addresses 35 windows total Attachment 2)	-21	Lit or Defeated Windows
Maintenance has 14 outstanding broke/fix (assume 10 windows repaired)	-10	Lit or Defeated Windows
Design provide 5 setpoint changes -may be permanent or temporary until separate Mod completed (1 window is summer season lit)	-4	Lit or Defeated Windows
Spent Fuel Cooling activated - clear defeated windows	-11	Defeated Windows
Add Local Panel Modification to 23 Panels (Vendor to do design/implementation Attachment 4)	-20	Lit or Defeated Windows
Design/Implement 15 HED 412 windows (Attachment 3)	-14	Lit or Defeated Windows
Operations increased attention/equipment adjustment	-2	Lit Windows
	11	Remaining Lit or Defeated Windows of Immediate Concern (Attachment 5)

Attachment 2 - HED 409 Commitment Windows

WINDOW	DESCRIPTION	WILL MOD IMMEDIATELY RESULT IN CLEAR WINDOW	MOD
601503	DIV I ADS Sys Inop	No*	86-085
601504	DIV II ADS Sys Inop	No*	86-085
602218	DIV I NSSS Isol Signal	Yes	86-085
602224	DIV II NSSS Isol Signal	Yes	86-085
851307	SAE 2A/2B Aux Steam Low Flow	Yes	86-085
852104	EDG 1 Bkr 101-1 Auto Close	No*	86-085
852204	EDG 3 Bkr 103-14 Auto Close	No*	86-085
601124	Service Water Sys Trouble	No*	86-085
601537(Part A)	ADS Valves/Safety Valve Leaking	No*	86-085
602314	RWCU Pump 1A/1B Auto Trip	No*	86-085
851110	Gen H2 Storage Sys Trouble	Yes	86-085
851230	Breathing Air Sys Trouble	Yes	86-085
851229	Instrument Air Sys Trouble	Yes	86-085
870208	Chiller 1A Compressor Auto Trip	No*	86-085
870209	Chiller Circ Pump 1A Auto Trip	No*	86-085
870214	Chiller 1A Compressor Auto Start	Yes	86-085
870215	Chiller 1A Circ Pump Auto Start	Yes	86-085
871208	Chiller 1B Compressor Auto Trip	No*	86-085
871209	Chiller Circ Pump 1B Auto Trip	No*	86-085
871214	Chiller 1B Compressor Auto Start	Yes	86-085
871215	Chiller Circ Pump 1B Auto Start	Yes	86-085
851344	Control Bldg Floor Drain Sys Trouble	Yes	86-085
851306	Off Gas Sys Trouble	Yes	86-085
842324	Hypochlorite Gen Sys Trouble	Yes	86-085
601431	RHR A Sys Inop	Yes	88-008
601448	RHR A Sys Valve Overload	Yes	88-008
602314	RWCU Pump 1A/1B Auto Trip	No*	86-085
601305	RCIC System Inop	No*	86-085
601431	RHR A System Inop	No*	86-085

* Window not currently lit

Attachment 2 - continued

WINDOW	DESCRIPTION	WILL MOD IMMEDIATELY RESULT IN CLEAR WINDOW	MOD
601460	RHR A/B Sys Valve Overload	Yes	88-008
601631	RHR B Sys Inop	Yes	88-008
601648	RHR B Sys Valve Overload	Yes	88-008
601706	HPCS Sys Inop	Yes	88-008
601729	HPCS Pressure Pump Valve Overload	Yes	88-008
602205	DIV I Main Steam Drain Valve Inop	Yes	88-008
601660	RHR Steam Trap Trouble	No*	87-125

Total currently lit or defeated windows clear = 21
* Window not currently lit

Attachment 3 - HED 412 Proposal Windows

WINDOW	DESCRIPTION	WILL MOD IMMEDIATELY RESULT IN CLEAR WINDOW	MOD	COMMENT
601254	RBCLC Pump Disch Press Low	No*	86-085	In Progress
601505	N2 Sys Trouble	Yes	86-086	In Progress
601506	Primary Cont. Purge Temp Low	Yes	86-085	In Progress
851156	Main Gen Temp Trouble	Yes	86-085	In Progress
851160	Turbine Bypass Valve Outlet Temp High	No*	86-085	In Progress
852110	DIV I EDG Fuel Sys Trouble	No*	86-085	In Progress
852210	DIV I EDG Fuel Sys Trouble	No*	86-085	In Progress
602321	RWCU Disch Pressure High/Low	Yes	86-085	In Progress
851132	Lube Oil Conditioner Trouble	Yes	86-085	Design Complete
601537	ADS Safety Valves Leaking (Part B)	Yes	86-085	Setpoint Change Required
851313	Circ Water Seal Water Pressure Low	Yes	86-085	Setpoint Change Required
851557	Cond. Boosters Pump Lube Oil Filter DP High	Yes	86-085	Setpoint Change Required
851322	Circ Water Cooling Tower Flume Temp High	No*	86-085	Setpoint Change Required
851446	Main Steam Reheater Steam Flow High	Yes	86-085	Program new flow calc
851150	Turbine Bypass	Yes	86-085	Reverse Switch deadband setting

DONE

REDO, Need new switches

* Window not currently in alarm

Attachment 3 - continued

WINDOW	DESCRIPTION	WILL MOD IMMEDIATELY RESULT IN CLEAR WINDOW	MOD	COMMENT
601317	RCIC Lube Oil After Cooling Temp High	No*	86-085	Design Complete Protective Stepplate
870204	Chilled Water Exp. Tank 1A Level High	Yes	86-085	Modify Expansion Tank Mechanical
871204	Chilled Water Exp. Tank 1B Level High	Yes	86-085	Modify Expansion Tank Mechanical
601244	Turbine Building Closed Loop Cooling Sys Trouble	Yes	86-085	Delete pH/Cond. Input
601246	Reactor Building Closed Loop Cooling Sys Trouble	Yes	86-085	Delete pH/Cond. Input

* Window not currently in alarm.

ATTACHMENT 4

LOCAL PANEL CANDIDATES FOR INSTALLING "LOCAL ACKNOWLEDGE = CLEAR CONTROL ROOM ALARM "CIRCUIT MODIFICATION

LOCAL PANEL	DESCRIPTION	CONTROL ROOM ALARMS DERIVED FROM PANEL
2CES-IPNL 101	Rx Bld. Vent/Glycol Panel	2
2WTA-IPNL 101	Acid Chem Feed Panel	1
2WTH-IPNL 101	Hypochlor Generator Panel	1
2HVN-IPNL 135	Chiller Bldg. Control Panel	1
2SSR-IPNL 145	Reactor Sample Panel	1
2CES-IPNL 202	Turb. Bldg. Vent/Glycol Panel	1
2CES-IPNL 203	Hot Water Control Panel	1
2CES-IPNL 207	Turb. Lube Oil Panel	1
*2CES-IPNL 214	Hypochlorite Feed Panel	1
2SST-IPNL 285	Turbine Sample Panel	1
2CES-IPNL 287	Cond Demin Regen Panel	1
2WTS-IPNL 300	Makeup Water Regen Panel	1
WTS-IPNL 327	Makeup Water Treating Area	1
2CES-IPNL 347	Cond Demin Regen Panel	1
2CES-IPNL 402	Electric Bay Vent Panel	1
2CES-IPNL 403	Switchgear Bldg. Vent Panel	1
2CES-IPNL 501	Radwaste/CST Bldg. Vent Panel	2
2CES-IPNL 502	Screenwell Bldg. Vent Panel	1
*2CES-IPNL 506	Aux. Boiler 1A Panel	1
*2CES-IPNL 507	Aux. Boiler 1B Panel	1
2CES-IPNL 508	Aux. Boiler Feed & Vent Panel	2
2CES-IPNL 513	Radwaste Sumps Panel	18
2CES-IPNL 514	Screenwell Sump Panel	2
2SWT-IPNL 108	Screenhouse Traveling Screen Panel	1

Attachment 5 - Lit or Defeated Windows Not Included in Proposal Requiring Modification or Repair

WINDOW	DESCRIPTION	CURRENTLY LIT OR DEFEATED	COMMENT
602219	Recirc Pump High Vibration	Yes	Mod 88-110 Refuel
852116	UPS 2A Sys Trouble	No	PLC Mod 87-037 Refuel
852216	UPS 2B Sys Trouble	No	PLC Mod 87-037 Refuel
852553	VPS 3A Sys Trouble	No	PLC Mod 87-037 Refuel
852555	UPS 3B Sys Trouble	No	PLC Mod 87-037 Refuel
851518	CST Level High	Yes	Mod 88-069
842115	Loose Parts Monitoring Sys Tr.	Yes	Mod 88-015
851139	Turbine Supr. Inst. Power Failure	Yes	Control Switch in Bypass
603208	APRM Trip System Upscale	Sporadic	Flow Oscillation induced may be able to adjust Inst. Time Delay
603442	Control Rod Out Block	Sporadic	Flow Oscillation induced may be able to adjust Inst. Time Delay
851129	Turbine Generator Vibration High	Sporadic	Bearing #4 runs near setpoint
851139	Turbine Supr. Inst. Power Failure	Yes	Trip bypassed to prevent spurious trip on vibration

Attachment 5.- continued

WINDOW	DESCRIPTION	CURRENTLY LIT OR DEFEATED	COMMENT
601103	Service Water Valve FV54A/47A Trouble	Sporadic	Currently "Broke/Fix" may need eventual redesign
601203	Service Water Valve FV54B/47B Trouble	Sporadic	Currently "Broke/Fix" may need eventual redesign

* May see an additional 3-5 additional windows being tracked but not currently in alarm

** Proposal assumes 4-5 additional windows in alarm requiring repair (not modification)

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412 Schedule Pkg: 28

Window No. 601155

Window Legend: Delta Temp RX Bldg Air/SWP Water Low

----------PROBLEM----------

Alarm Category: Hot Weather Related Alarm

Problem Description: 1. During summer months lake water heats up enough that the minimum Delta T between reactor building temp and service water temp is exceeded.
2. Forces manually monitor Delta T

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Mech Support-Discipl: Computer Ops Elec

Resolution: 1. Make the necessary hardware and software modifications to connect existing monitoring points to ERF computer thus creating a computer generated alarm.

Outage Related: No

Conceptual Memo No.: 28 Affected System(s): MMS (met tower)
HVR SWP ERF

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the PGCC panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Eng.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412 Schedule Pkg: 28

Window No. 601156 Revision:

Window Legend: Delta Temp RX Bldg Air/SWP Water Low/Low

----------PROBLEM----------

Alarm Category: Hot Weather Related Alarm

Problem Description: 1. During summer months lake water heats up enough that the minimum Delta T between reactor building temp and service water temp is exceeded.
2. Forces manually monitor Delta T

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Mech Support-Discipl: Computer Ops Elec

Resolution: 1. Make the necessary hardware and software modifications to connect existing monitoring point to ERF computer thus creating a computer generated alarm.

Outage Related: NO

Conceptual Memo No.: 28 Affected System(s): MMS (met tower)
HVR SWP ERF

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the PGCC panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Eng.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601101 Schedule Pkg: 29

Window Legend: Div I Serv Wtr Sys Inop

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Due to the clogging of the service water strainers during periods of high lake bloom, continuous backwashing of the strainers becomes necessary. In order to permit this process, the backwash MOVs must be de-energized in the open poisition, causing the continuous alarm(s) in the control room panels. Maintenance on any 1 of 6 service water pumps or associated service water string can cause this alarm. Electrically "daisy chained" to annunciator window 852103.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: NM-Elect Design Multi-Discipl: No

Resolution:
1. Replace the existing test switch with an auto/manual control switch for all 6 SWP STR backwash MOVs.
2. Revise switch logic.

Outage Related: N Equipment outages

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601201 Schedule Pkg: 29

Window Legend: Div II Serv Wtr Sys Inop

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Due to the clogging of the service water strainers during periods of high lake bloom, continuous backwashing of the strainers becomes necessary. In order to permit this process, the backwash MOVs must be de-energized in the open poisition, causing the continuous alarm(s) in the control room panels. Maintenance on any 1 of 6 service water pumps or associated service water string can cause this alarm. Electrically "daisy chained" to annunciator window 852203.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: NM-Elect Design Multi-Discipl: No

Resolution: 1. Replace the existing test switch with an auto/manual control switch for all 6 SWP STR backwash MOVs.
2. Revise switch logic.

Outage Related: N Equipment outages

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

_____ Resp Design Org.

_____ Site Contact

_____ Project Engineer

_____ Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 852103 Schedule Pkg: 29

Window Legend: EDG-1 Sys Inop

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Due to the clogging of the service water strainers during periods of high lake bloom, continuous backwashing of the strainers becomes necessary. In order to permit this process, the backwash MOVs must be de-energized in the open poisition, causing the continuous alarm(s) in the control room panels. Maintenance on any 1 of 6 service water pumps or associated service water string can cause this alarm. Electrically "daisy chained" to annunciator window 601101.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: NM-Elect Design Multi-Discipl: No

Resolution: 1. Replace the existing test switch with an auto/manual control switch for all 6 SWP STR backwash MOVs.
2. Revise switch logic.

Outage Related: N Equipment outages

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

_____ _____

Resp Design Org. Site Contact

_____ _____

Project Engineer Task Manager

1713k

TASK DESCRIPTION SHEET

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 852203 Schedule Pkg: 29

Window Legend: EDG-3 Sys Inop

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Due to the clogging of the service water strainers during periods of high lake bloom, continuous backwashing of the strainers becomes necessary. In order to permit this process, the backwash MOVs must be de-energized in the open poisition, causing the continuous alarm(s) in the control room panels. Maintenance on any 1 of 6 service water pumps or associated service water string can cause this alarm. Electrically "daisy chained" to annunciator window 601201.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: NM-Elect Design Multi-Discipl: No

Resolution: 1. Replace the existing test switch with an auto/manual control switch for all 6 SWP STR backwash MOVs.
2. Revise switch logic.

Outage Related: N Equipment outages

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

Resp Design Org. Site Contact

Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601115 Schedule Pkg: 30

Window Legend: Service Wtr Pmp 1A/C/E Suction Press LoW

----------PROBLEM----------

Problem Category: High Maint. Related Alarm

Problem Description: This annunciator remains lit when a service water pump isolation valve is closed for maint of the pump and its associated string.

Completion Goal: 2nd Refuel Temp Mod No: NA

----------RESOLUTION----------

Resp. Design Org: NMPC Elect Design Support Discipl: Mech

Resolution:
1. Install manual switches to inhibit alarms during maintenance.
2. Revise annunciator logic
3. Revise PID.

Outage Related: Yes

Conceptual Memo No.: 69 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix @ source

NMPC Eng Hours: Elec 150 Eng 100 Design Installer/Hours: 120
Mech 8 Struct 0
Mods 40

Consultant/Hours: Test Org/Hours:

Material: 3 switches

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Org. Site Contact

Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601218 Schedule Pkg: 30

Window Legend: Service Wtr Pmp 1B/D/F Suction Press LoW

----------PROBLEM----------

Problem Category: High Maint. Related Alarm

Problem Description: This annunciator remains lit when a service water pump isolation valve is closed for maint of the pump and its associated string.

Completion Goal: 2nd Refuel Temp Mod No: NA

----------RESOLUTION----------

Resp. Design Org: NMPC Elect Design Support Discipl: Mech

Resolution:
1. Install manual switches to inhibit alarms during maintenance.
2. Revise annunciator logic
3. Revise PID.

Outage Related: Yes

Conceptual Memo No.: 69 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix @ source

NMPC Eng Hours: Elec 150 Eng 100 Design Installer/Hours: 120
Mech 8 Struct 0
Mods 40

Consultant/Hours: Test Org/Hours:

Material: 3 switches

Lead Time:

----------CONCURRENCE----------
(sign/date)

_____ _____
Resp Design Org. Site Contact

_____ _____
Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 602315 Schedule Pkg: 35

Window Legend: RWCU Fltr Demin Effluent Cond Hi/Low

----------PROBLEM----------

Problem Category: High Frequency Alarm

Problem Descr.: Conductivity goes high when flow is secured, do to stagnation - flow must be secured to meters whose filter demin is off line. Trouble alarms 602317 & 318 are inhibited but hi/low conductivity alarm 602315 is activated by the isolated filter sensor signal.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Support Discipl: 1. Mech. Design
2. Comptr. Ops
3. I&C Maint.

Resol.: 1. Re-route the conductivity cell input sensor signal through the programmable controller to inhibit a signal to the control room annunciators when the filter demineralizer is off-line. Delete the hi/low conductivity input to windows 606317 & 318.
2. Spare in place, pins & wires associated with the inhibited sensor lines, that will no longer be used.
3. Reprogram the programable controller, and re-route hi/low conductivity output of the PC to window 602315.
4. Revise logic diagrams.
5. Revise P&ID drawings
6. Revise computer point descriptions
7. Issue MSRF to provide firmware

Conceptual Memo No.: 70 Outage Related: Yes

Restrained Event: TBD Affected System(s): WCS PGCC

----------ESTIMATE----------

Estimate Category: Syst. Redesign

NMPC Eng Hours: Elec 40 Mech 8 Installer/Hours: 120 MHRS

Consultant/Hours: 1. GE approx. 300 hrs Test Org/Hours:
2. Allan Bradley
3. SWEC

Material: Window tiles for local panel EPROMS

Lead Time:

----------CONCURRENCE----------
(sign/date)

_____ _____

Resp Design Org. Site Contact

_____ _____

Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 602317 Schedule Pkg: 35

Window Legend: RWCU Fltr Demin 1 Trouble

----------PROBLEM----------

Problem Category: Associated Window (602315) is a High Frequency Alarm

Problem Descr.: Conductivity goes high when flow is secured, do to stagnation - flow must be secured to meters whose filter demin is off line. Trouble alarms 602317 & 318 are inhibited but hi/low conductivity alarm 602315 is activated by the isolated filter sensor signal.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Support Discipl: 1. Mech Desgn
2. Comptr. Ops
3. I&C Maint.

Resolution:
1. Reroute the conductivity cell input sensor signal through the programmable controller to inhibit a signal to the control room annunciators when the filter demineralizer is off-line. Delete the hi/low conductivity input to windows 602317 & 318.
2. Spare in place, pins & wires associated with the inhibited sensor lines, that will no longer be used.
3. Reprogram the programable controller, and re-route hi/low conductivity output of the PC to window 602315.
4. Revise logic diagrams.
5. Revise P&ID drawings
6. Revise computer point descriptions
7. Issue MSRF to provide firmware

Conceptual Memo No.: 70 Outage Related: Yes

Restrained Event: TBD Affected System(s): WCS PGCC

----------ESTIMATE----------

Estimate Category: Syst. Redesign

NMPC Eng Hours: Elec 40 Mech 8 Installer/Hours: 120 MHRS

Consultant/Hours: 1. GE approx. 300 hrs Test Org/Hours:
2. Allan Bradley
3. SWEC

Material: Window tiles for local panel EPROMS

Lead Time:

----------CONCURRENCE----------
(sign/date)

_____ _____
Resp Design Org. Site Contact

_____ _____
Project Engineer Task Manager

1713k

Modification: IN2100R003 Title: Nuisance Alarms

HED: 412

Window No. 602318 Schedule Pkg: 35

Window Legend: RWCU Fltr Demin 2 Trouble

----------PROBLEM----------

Problem Category: Associated Window (602315) is a High Frequency Alarm

Problem Description: Conductivity goes high when flow is secured, do to stagnation - flow must be secured to meters whose filter demin is off line. Trouble alarms 602317 & 318 are inhibited but hi/low conductivity alarm 602315 is activated by the isolated filter sensor signal.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Support Discipl: 1. Mech Desgn
2. Comptr. Ops
3. I&C Maint.

Resol.:
1. Reroute the conductivity cell input sensor signal through the programmable controller to inhibit a signal to the control room annunciators when the filter demineralizer is off-line. Delete the hi/low conductivity input to windows 602317 & 318.
2. Spare in place, pins & wires associated with the inhibited sensor lines, that will no longer be used.
3. Reprogram the programable controller, and re-route hi/low conductivity output of the PC to window 602315.
4. Revise logic diagrams.
5. Revise P&ID drawings
6. Revise computer point descriptions
7. Issue MSRF to provide firmware

Conceptual Memo No.: 70 Outage Related: Yes

Restrained Event: TBD Affected System(s): WCS PGCC

----------ESTIMATE----------

Estimate Category: Syst. Redesign

NMPC Eng Hours: Elec 40 Mech 8 Installer/Hours: 120 MHRS

Consultant/Hours: 1. GE approx. 300 hrs Test Org/Hours:
2. Allan Bradley
3. SWEC

Material: Window tiles for local panel EPROMS

Lead Time:

----------CONCURRENCE----------

(sign/date)

_____ _____
Resp Design Org. Site Contact

_____ _____
Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 851320 Schedule Pkg: 46

Window Legend: CNSR AR REM Pmp SEP TK 1A/1B Lvl Hi

----------PROBLEM----------

Problem Category: Operations maintains clear 90% of time

Problem Description: The separator tank overflow is designed to maintain level below the hi-level alarm, but the associated "field run" drain piping, has a high point above the separator hi-level setpoint.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Mech Support Discipl: Struct

Resolution:
1. Redesign the "Field Run" piping arrangement to maintain the normal separator tank level without operator assistance.
2. Equalize pumps A & B "Jo-Bell" level switch setpoint elevations.

Outage Related: NO

Conceptual Memo No.: 52

Restrained Event: TBD Affected System(s): ARC

----------ESTIMATE----------

Estimate Category: System Redesign

NMPC Eng Hours: Struct 60 mhrs Mech 80 mhrs Installer/Hours: 160 mhrs
Elect 0 Mods 40 mhrs

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 851330 Schedule Pkg: 46

Window Legend: CNSR AR REM Pmp SEP TK 1A/1B Lvl Low

----------PROBLEM----------

Problem Category: Occasional alarm

Problem Description: An occasional separator tank low level alarm is normal for this type of pump design. When the pump is shut down, several gallons of water held in the pump during operation is discharged into the separator tank and drains out of the overflow line. When the pump is restarted, the water is drawn back to the pump causing the tank level to drop below normal level. The low level float switch activates the alarm and opens the make-up valve to increase the water level. The make-up valve closes when the low level switch resets.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Support Discipl: Mech

Resolution: 1. Install a 2 min. time delay relay in the alarm circuit for the low level alarm.

Outage Related: *NO*

Conceptual Memo No.: 52 Affected System(s): ARC

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: System Redesign

NMPC Eng Hours: Mech. 0 Elec 0 Installer/Hours: 80 mhrs
Mods 40 mhrs

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

TASK DESCRIPTION SHEET

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 851401 Schedule Pkg: 50

Window Legend: Reheater Sys Trble

----------PROBLEM----------

Problem Category: Constant Alarm

Problem Description: Window is activated by signal from level transmitters. Level calibration assumptions are in question. Requires field temp mod to verify stand pipe temperatures. Temperature compensation adjustments to level instruments may be causing inaccurate level signals.

Completion Goal: 2nd Refuel Temp Mod No: TBD

----------RESOLUTION----------

Resp. Design Org: Elec. Support Discipl: Mech Desgn & Performance Group

Resolution:
1. I&C design in conjunction w/ NMPC performance group shall issue a calculation w/ suggested parameters based on system operating theory.
2. Recalibrate instrument calibration parameters based on new calculations.
3. If theoritical parameters are not successful, I&C Maint to issue temp mod, to install temporary monitoring equipment in order to obtain the data required for accurate temperature compensation of level transmitters. (SER complete). Redo Item #2 using actual data. To be done at first available opportunity (outage related).

Outage Related: Yes

Conceptual Memo No.: 68 Affected System(s): DSR

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware fix at the source

NMPC Eng Hours: Mods 40 Elec 150 mhrs Installer/Hours: 120 hrs
Mech 8 Struct 0

Consultant/Hours: Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601134 Schedule Pkg: 53

Window Legend: SWP Strainer 4A/C/E MTR Overload

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Maintenance on service water strainers can cause this alarm, when power source is de-energized.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elect Design Support Discipl: No

Resolution:
1. Interlock the annunciators to inhibit them when the equipment is out of service for maintenance.
2. Revise P&ID drawings.
3. Elec to write SER
4. Obtain interdisciplinary concurrence.

Outage Related: No. Equipment outages only

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Logic change

NMPC Eng Hours:	Elec Eng	150	Elec Desgn	100	Installer/Hours: 120
	Mech	8	Mods	40	
	Strct	0			

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601222 Schedule Pkg: 53

Window Legend: SWP Strainer 4B/D/F MTR Overload

----------PROBLEM----------

Problem Category: High Maint Related Alarm

Problem Description: Maintenance on service water strainers can cause this alarm, when power source is de-energized.

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elect Design Support Discipl: No

Resolution:
1. Interlock the annunciators to inhibit them when the equipment is out of service for maintenance.
2. Revise P&ID drawings.
3. Elec to write SER
4. Obtain interdisciplinary concurrence.

Outage Related: N Equipment outages

Conceptual Memo No.: 23 Affected System(s): SWP

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Logic change

NMPC Eng Hours:	Elec Eng.	150	Elec Desgn	100	Installer/Hours:	120
	Mech	8	Mods	40		
	Struct	0				

Consultant/Hours: Test Org/Hours:

Material:

Lead Time:

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 875109 Schedule Pkg: N/A

Window Legend: Div II Prim Cont H2/02 Conc HI

----------PROBLEM----------

Problem Category: Constant Problem Alarm

Problem Description: Div II 02 High concentration alarms due to peak oscillations exceeding the alarm setpoint.

Completion Goal: 1st Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Support Discipl: None

Resolution:
1. Review existing setpoint support calculation for possible flexibility in readjusting the alarm setpoint using the existing margins.
2. Issue setpoint data sheet and increase the alarm setpoint.

Outage Related: No

Conceptual Memo No.: 40C

Affected System(s): Containment monitoring system (Pam) oxygen monitoring.

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: System Redesign Setpoint change

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 873201 Schedule Pkg: 98

Window Legend: Drywell Unit Cooling GRP-1 Sys Trble

----------PROBLEM----------

Problem Category: High Maintenance Item - Sporadic Alarm

Problem Description: Alarms on low flow sensed by Dwyer switches - invalid alarm - remove alarm input or evaluate new switches calibration.
Note: ALARA concern

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Design Support Discipl: Mech

Resolution:
1. Revise switch Delta P range by installing new Dwyer switches.
2. Revise setpoint data sheet to reflect new switch operating condition consistent with item #3.
3. I&C Maint. to establish new instrument calibration procedure to adjust the pilot tube sensor to reflect the "Flow-No Flow" method of the D.P. switch operation.
4. This fix will not alter air distribution techniques, only modify the existing method of sensing air flow.
5. This strategy eliminates the need for preliminary field analysis or operating data. Assumption is that switches <u>will</u> be replaced by this task.

Outage Related: Yes

Conceptual Memo No.: 58 Affected System(s): DRS

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware Fix at Source

NMPC Eng Hours: Mods 40 mhrs Struct 0 Installer/Hours: 160 mhrs
Elect 40 Mech 0

Consultant/Hours: Test Org/Hours:

Material: (10) Dwyer Switches MSRF #

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 873202 Schedule Pkg: 98

Window Legend: Drywell Unit Cooling GRP-2 Sys Trble

----------PROBLEM----------

Problem Category: High Maintenance Item - Sporadic Alarm

Problem Description: Alarms on low flow sensed by drywell switches - invalid alarm - remove alarm input or evaluate new switches calibration.
Note: ALARA concern

Completion Goal: 2nd Refuel Temp Mod No: N/A

----------RESOLUTION----------

Resp. Design Org: Elec Design Support Discipl: Mech

Resolution:
1. Revise switch Delta P range by installing new Dwyer switches.
2. Revise setpoint data sheet to reflect new switch operating condition consistent with item #3.
3. I&C Maint. to establish new instrument calibration procedure to adjust the pilot tube sensor to reflect the "Flow-No Flow" method of the D.P. switch operation.
4. This fix will not alter air distribution techniques, only modify the existing method of sensing air flow.
5. This strategy eliminates the need for preliminary field analysis or operating data. Assumption is that switches <u>will</u> be replaced by this task.

Outage Related: Yes

Conceptual Memo No.: 58 Affected System(s): DRS

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware Fix at Source

NMPC Eng Hours: Mod 40 mnhrs Struct 0 Installer/Hours: 160 mhrs
Elec 40 mnhrs Mech 0

Consultant/Hours: Test Org/Hours:

Material: (10) Dwyer Switches MSRF #

Lead Time:

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 601320 Schedule Pkg: A03

Window Legend: RCIC Turb Exh Drn Trap Lvl Hi

----------PROBLEM----------

Problem Category: Sporadic/High Nuisance Alarm

Problem Description: Alarms at the same time that trap bypass valve opens. Drain valve only drains level 1/2 inch.

Completion Goal: 2nd Refuel Temp Mod No: NA

----------RESOLUTION----------

Resp. Design Org: NM Mech Support Discipl: Elec Design

Resolution:
1. Revise the P&ID, changing the AOV state from normally closed (NC) to normally open (NO). Existing turbine electric interlocks to close the valve upon scram immision to the turbine will remain as presently represented.
2. Issue LDCN & full safety evaluation to revise valve state symbols on the USAR figure.
3. Nuclear Generation to revise operating procedures to allow maintaining the valve in the open position.

Outage Related: No

Conceptual Memo No.: 38 Affected System(s): ICS

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: System Logic Change

NMPC Eng Hours: Mech 40 mhrs Mech 72 mhrs design+40 mhrs SER Installer/Hours: [redacted]
Struct 0 Elec 20 mhrs

Consultant/Hours: Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------
(sign/date)

_____ _____
Resp Design Org. Site Contact

_____ _____
Project Engineer Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849109 Schedule Pkg: 65

Window Legend: Trouble PNL 113

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849110 Schedule Pkg: 66

Window Legend: Trouble PNL 114

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849111 Schedule Pkg: 67

Window Legend: Trouble PNL 125

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849112 Schedule Pkg: 68

Window Legend: Trouble PNL 126

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------
(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849113 Schedule Pkg: 69

Window Legend: Trouble PNL 127

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849114 Schedule Pkg: 70

Window Legend: Trouble PNL 101

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849115 Schedule Pkg: 71

Window Legend: Trouble PNL 103

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849115 Schedule Pkg: 71

Window Legend: Trouble PNL 103

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849116 Schedule Pkg: 72

Window Legend: Trouble PNL 104

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849133 Schedule Pkg: 73

Window Legend: Trouble PNL 117

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849134 Schedule Pkg: 74

Window Legend: Trouble PNL 119

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849135 Schedule Pkg: 75

Window Legend: Trouble PNL 128

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849136 Schedule Pkg: 76

Window Legend: Trouble PNL 129

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849138 Schedule Pkg: 77

Window Legend: Trouble PNL 105

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No.: 849139 Schedule Pkg: 78

Window Legend: Trouble PNL 106

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849140 Schedule Pkg: 79

Window Legend: Trouble PNL 107

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849209 Schedule Pkg: 80

Window Legend: Trouble PNL 108

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849210 Schedule Pkg: 81

Window Legend: Trouble PNL 131

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

_____	_____
Resp Design Org.	Site Contact
_____	_____
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849211 Schedule Pkg: 82

Window Legend: Trouble PNL 120

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------
(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849233 Schedule Pkg: 83

Window Legend: Trouble PNL 123

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

********** TASK DESCRIPTION SHEET **********

Modification: PN2Y86MX085 Title: Nuisance Alarms

HED: 412

Window No. 849235 Schedule Pkg: 84

Window Legend: Trouble PNL 121

----------PROBLEM----------

Problem Category: Constant

Problem Description: The remote alarm on the 849 panel in the control room does not clear when the local panel is acknowledged. Also information at the local panel does not always identify the sensor that activated the alarm, and subsequent inputs to the local panel are not always retransmitted to the remote panel.

Completion Goal: Temp Mod No:

----------RESOLUTION----------

Resp. Design Org: Elec Support-Discipl: Fire Protection

Resolution: Redesign the local panel logic and install the components and wiring necessary to correct the problem.

Outage Related: Fire Protection Subsystem Outages

Conceptual Memo No.: TBD Affected System(s):

Restrained Event: TBD

----------ESTIMATE----------

Estimate Category: Hardware and software fix at the source/local panel

NMPC Eng Hours: Installer/Hours:

Consultant/Hours: Pyrotechnics & Caution Engineering Test Org/Hours:

Material: None

Lead Time: None

----------CONCURRENCE----------

(sign/date)

Resp Design Org.	Site Contact
Project Engineer	Task Manager

1713k

ATTACHMENT 5
1991 LIT ANNUNCIATOR PLAN OF ATTACK

PART 1 - "BROKE/FIX" ITEMS

At the completion of the first refueling outage, the plant achieved 100% power operation with approximately 20-25 lit control room alarm windows that were caused directly or indirectly by malfunctioning equipment. Operations periodically evaluates the control room alarms and provides a list (sample attached) to work controls for correction. On an average, 5 windows go into alarm per week. Therefore, a GOAL OF 5 LIT ALARM WINDOWS REQUIRING MAINTENANCE was established by site management in 1990 (Attachment 2)

PART 2 - "TEMPORARY MODIFICATION" ITEMS

At the completion of the first refueling outage, the following windows continued to be in alarm despite initial corrective action or were initially identified as requiring engineering evaluation/modification. The windows and suggested interim corrective action are shown below.

WINDOW	DESCRIPTION	PROBLEM
851156	MAIN GENERATOR TEMP TROUBLE	RTDs periodically go bad within the generator and cause the ERF computer scan of almost 200 GMC computer points to output a trouble signal to the annunciator. In the past, RTDs have been deleted from scan on a case basis. The methodology for acceptability of deleting from scan (hence clearing the window) is known but needs to formalized for the computer department. Also, there exists a design problem associated with generator current output as read by the ERF computer. Contact: Craig Shawcross
601537	ADS/SRV VALVES LEAKING	Despite a temperature alarm setpoint change that would have cleared the window for pre-refueling conditions, three SRVs have tailpiece temperatures near or above the alarm setpoint of 315 degrees. Need to temporarily raise those three alarm points or delete them so that the window will alarm if the condition deteriorates. Contact: Gary Whitaker
602205	DIV 1 MAIN STEAM DRAIN SYSTEM INOP	Long term problems with leakage of main steam drains has in the past had Operations establish boundaries via Holdout of breakers. During EOP-Rev 4 implementation, the Holdout boundary was extended to include MSS*MOV 208 breaker in the open position, thus causing the alarm. Need to defeat the motor overload alarm in the field to clear the alarm and allow legitimate conditions to alarm the window (window does not reflash and hence currently blocks other alarm inputs). Contact: Tim McCarthy
851334	RB MAT DRAINAGE SUMP 10A-10B TROUBLE	Excessive run time on pumps (>50 minutes to pump down sump) causes constant alarm. Additionally, pumps have periodically burned up several times in last few years. Need to defeat excessive run time alarm input until the real problem of too much water draining into sumps for current pump is corrected. Contact: Dave Flood
870204/ 871204	HVK EXPANSION TANK LEVEL HIGH	Tank levels (especially Div 2) cannot be maintained low enough. Need to defeat high level alarms until permanent solution is found. Extensive attention have been given to these tanks but the fundamental problem is that these expansion tanks were placed physically near the lowest point in the HVK system and were assumed by original design to be 100% leak proof. Contact: Mike Downs

PART 3 - REMAINDER MODIFICATION 86-085 IMPLEMENTATION

The following windows and associated descriptions are targeted for modification by mod 86-085. The specific problems with each window are described in Attachment 3 and the more specific solutions are

described by individual window sheets of Attachment 4.

WINDOW	DESCRIPTION
601155	REACTOR BUILDING TO SERVICE WATER DELTA TEMP LOW
601156	REACTOR BUILDING TO SERVICE WATER DELTA TEMP LOW/LOW
601101	DIV 1 SWP SYS INOP
601201	DIV 2 SWP SYS INOP
852103	EDG DIV 1 SYS INOP
852203	EDG DIV 2 SYS INOP
601115	SWP PUMP 1A/C/E SUCTION PRESSURE LOW
601218	SWP PUMP 1B/D/F SUCTION PRESSURE LOW
602315	RWCU FLTR DEMIN EFFLUENT COND HI/LOW
602317	RWCU FLTR DEMIN 1 TROUBLE
602318	RWCU FLTR DEMIN 2 TROUBLE
851320	ARC PUMP SEPARATOR TANK 1A/B LEVEL HIGH
851330	ARC PUMP SEPARATOR TANK 1A/B LEVEL LOW
851401	REHEATER SYS TROUBLE
601134	SWP STRAINER 4A/C/E MTR OVERLOAD
601222	SWP STRAINER 4B/D/F MTR OVERLOAD
873201	DRYWELL UNIT COOLING GROUP 1 SYS TROUBLE
873202	DRYWELL UNIT COOLING GROUP 2 SYS TROUBLE
601320	RCIC TURB EXH DRN TRAP LEVEL HIGH
849109	FIRE PANEL 113 TROUBLE
849110	FIRE PANEL 114 TROUBLE
849111	FIRE PANEL 125 TROUBLE
849112	FIRE PANEL 126 TROUBLE
849113	FIRE PANEL 127 TROUBLE
849114	FIRE PANEL 101 TROUBLE
849115	FIRE PANEL 103 TROUBLE
849115	FIRE PANEL 103 TROUBLE
849116	FIRE PANEL 104 TROUBLE
849133	FIRE PANEL 117 TROUBLE
849134	FIRE PANEL 119 TROUBLE
849135	FIRE PANEL 128 TROUBLE
849136	FIRE PANEL 129 TROUBLE
849138	FIRE PANEL 105 TROUBLE
849139	FIRE PANEL 106 TROUBLE
849140	FIRE PANEL 107 TROUBLE
489209	FIRE PANEL 108 TROUBLE
849210	FIRE PANEL 131 TROUBLE
849211	FIRE PANEL 120 TROUBLE
849233	FIRE PANEL 123 TROUBLE
849235	FIRE PANEL 121 TROUBLE

PART 4 - OTHER WINDOWS REQUIRING MODIFICATION (NOT MOD 86-085)

The following windows will reqire engineering modification/setpoint changes and do not presently fall under mod 86-085. Jim Vierling is currently the project engineering point of contact for these windows until they are assigned.

WINDOW	DESCRIPTION	MODIFICATION (IF ASSIGNED)	INITIAL CONTACT
603208	APRM TRIP SYSTEM UPSCALE	NOT ASSIGNED	JIM VIERLING
603442	CONTROL ROD BLOCK (Due to 603208)	NOT ASSIGNED	JIM VIERLING
851538	CST LEVEL LOW	NOT ASSIGNED	JIM VIERLING
870329	REMOTE SHUTDOWN ROOM ACU3A TROUBLE	NOT ASSIGNED	JIM VIERLING
871329	REMOTE SHUTDOWN ROOM ACU3B TROUBLE	NOT ASSIGNED	JIM VIERLING
842324	HYPOCHLORITE GEN SYS TROUBLE	86-085?	JIM VIERLING

ATTACHMENT 6
POST REFUELING OUTAGE LIT CONTROL ROOM ANNUNCIATOR EVALUATION
FEBRUARY 10, 1991

TOTAL CONTROL WINDOWS LIT (Not counting fire panel 849)=41
PLANT CONDITIONS: 3320 MW THERMAL (100% POWER), SWP P1D MARKED UP, NO SIGNIFICANT EVOLUTIONS IN PROGRESS

WINDOW	DESCRIPTION	PROBLEM	SOLUTION
842115	LOOSE PARTS MONITORING TROUBLE	SYSTEM REQUIRES TESTING/TROUBLESHOOTING FOLLOWING MODIFICATION	MAINTENANCE(I&C)
842224	CHILLER BUILDING ROOF VENT FAN OVERLOAD	BREAKER MARKED UP TO ALLOW MODIFICATION OF FAN FOR CAFATERIA ; NEED TEST PLAN	ACCEPTANCE TEST (SYSTEM SUPPORT)
842324	HYPOCLORITE GENERATOR SYS TROUBLE	SYSTEM LAYUP CAUSES ALARM DUE TO OFF BREAKER POSITION (SENSES "MOTOR OVERLOAD")	MOD 86-085
852116	UPS 2A TROUBLE	BLOWN FUSE	MAINTENANCE(ELECT) WR 178816
852142	DIV 1 EDG MECHANICAL FAILURE	FALSE COOLING WATER JACKET PRESSURE LOW	MAINTENANCE(I&C) WR 191892
852209	DIV 2 EDG START SYS TROUBLE	VARIOUS LEAKS AND PROBLEMS WITH AIR COMPRESSOR CURRENTLY HOLD OUT IN PLACE	MAINTENANCE . WR 191770
852445	RESERVE TRANFORMER 1B TROUBLE	FALSE INPUT (TEMP OR OIL LEVEL)	MAINTENANCE WR 191851
852523	UPS 1C SYS TROUBLE	BLOWN FUSE	MAINTENANCE WR ISSUED
852618	MAIN TRANSFORMER OIL TROUBLE	FALSE INPUT (TEMP OR OIL LEVEL)	MAINTENANCE WR 191506
851112	GEN AUX TROUBLES	1) H2 PURITY LOW 2) MACHINE PRESSURE HIGH/LOW 3) SEAL OIL DELTA P HIGH/LOW	MAINT. WR193625 MAINT. WR193784 MAINT. WR193785
851132	LUBE OIL CONDITIONER TROUBLE	DIRTY TANK HIGH (BROKEN PUIFIER) CLEAN TANK LOW (BROKEN PURIFIER)	MAINT. WR193758
851143	TG LUBE OIL TANK LEVEL	LEVEL LOW (BROKEN PURIFIER)	MAINT. WR 193758
851153	AUX BOILER TROUBLE	SYSTEM MARKED UP AND ADMINISTRATIVE HOLDOUT ON TRANSFER PUMPS	MAINT. MANY WRs AND CHANGE HOLDOUT
851156	MAIN GENERATOR TEMP TROUBLE	SEVERAL BAD COMPUTER POINTS/ BAD RTDs	MAINT. WR 193786 TEMP MODs REQUIRED
851306	OFFGAS SYSTEM TROUBLE	FALSE LOW FLOW SENSED ON A TRAIN	WR 193787
851307	AIR EJECTOR STEAM FLOW LOW	FLOW IS SLIGHTLY LOW, NEED HIGHER PRESSURE ON PRESSURE CONTROL VALVES PER LCR	WR 193608
851311	CWS SYSTEM TROUBLE	BLOWDOWN CONDUCTIVITY INSTRUMENT BAD	WR ISSUED
851313	CWS PUMP SEAL PRESSURE LOW	P1A SEAL PRESSURE LOW, THIS IS A GENERIC PROBLEM WITH SEAL WATER	WR 193753
851320	ARC PUMP SEPARATOR TANK LEVEL HIGH	LEAKY MAKEUP VALVES, SYSTEM OVERFLOW PIPING DEFICIENCY WILL BE MODIFIED	WR 193640/193641 MOD 86-085
851321	CWS COOLING TOWER TROUBLE	HIGH DELTA P ON SCREENS	CLEAN SCREENS

851334	MAT SUMP 10A-10B SYS TROUBLE	EXCESSIVE RUNTIME ON PUMPS CAUSES ALARM	DEFEAT RUNTIME INPUT MODIFY SYSTEM (BIGGER PUMPS)
851401	REHEATER SYSTEM TROUBLE	FUNDAMENTAL CALIBRATION PROBLEM WITH LEVEL SWITCHES ON REHEATER DRAIN TANK LEVELS	MOD 86-085
851420	6TH POINT HEATER LEVEL HIGH	CONTROLLER DOES NOT CONTROL LEVEL PROPERLY	MAINT. WR193788
851534	COND DEMIN FLOW LOW	FALSE INPUT OF LOW FLOW CAUSED BY LOCAL RECORDERS THIS IS A GENERIC PROBLEM AND WILL PROBABLY REQUIRE MODIFICATION TO CHANGE OUT RECORDERS	MAINT. WR 190860 MOD ????
603143	FEEDWATER LV10 TROUBLE	LV 10A MARKED UP FOR TESTING	MAINT. WR ISSUED
603208 603442	APRM TRIP SYSTEM UPSCALE CONTROL ROD BLOCK	ACTUAL FLOW OSCILLATIONS AND HIGH ROD LINE OPS THIS ALSO CAUSES A CORRESPONDING ROD BLOCK	NEEDS IN DEPTH EVALUATION
603211	LPRM DOWNSCALE	ALARM IS LIT WITH NO OBSERVABLE LPRM DOWNSCALE	MAINT. WR193725
602216	FLUX EXTIMATOR FAILURE	SPURIOUS ALARMS EVERY 20 MINUTES	MAINT. WR193757
602205	DIV 1 MAIN STEAM DRAINS INOP	HOLD OUT ON MSS*MOV208	TEMP MOD REQUIRED
602315	RWCU EFFLUENT CONDUCTIVITY HIGH	OFF-LINE, STAGNANT FLOW, DEMINS CONDUCTIVITY ALARMS ALWAYS ENABLED	MOD 86-085
602318	RWCU FILTER DEMIN TROUBLE	OFF-LINE, STAGNANT FLOW, DEMINS CONDUCTIVITY ALARMS ALWAYS ENABLED	MOD 86-085
601137	SWP INLET TEMP LOW	COMBINATION OF LOW LAKE TEMP WITH NO CWS TEMPERING DUE TO CWS COPPER DISCHARGE CONTROL	REESTABLISH TEMPERING AFTER COPPER CONTROL REGAINED
601218	SWP PUMP SUCTION PRESSURE LOW	MAINTENANCE ON SWP PUMPS HAS A PUMP MARKED UP 80% OF THE TIME. MODIFY ALARM INPUTS TO EASILY DEFEAT IF MARKUP IN PLACE	MOD 86-085
601222	SWP STRAINER MOTOR OVERLOAD	MAINTENANCE ON SWP PUMPS HAS A PUMP MARKED UP 80% OF THE TIME. MODIFY ALARM INPUTS TO EASILY DEFEAT IF MARKUP IN PLACE	MOD 86-085
601506	CPS PURGE TEMP LOW	PIPING IS UNINSULATED AND NOT HEAT TRACED	MOD 86-085 IN PROGRESS
601513	ADS AIR TROUBLE	DUE TO FAULTY NITROGEN PRESSURE CONTROL VALVES, MANUAL OPERATION TO RECHARGE REACTOR BUILDING TANKS IS REQUIRED. THIS CAUSES THIS WINDOW TO BE IN ALARM ABOUT 1-2 TIMES A DAY ON LOW PRESSURE	MOD REQUIRED
601537	ADS/SRV VALVES LEAKING	THREE VALVES HAVE DEGRADES SINCE THE OUTAGE TO THE POINT THAT THEY HAVE TAILPIECE TEMPS ABOUT 300 F	ESTABLISH NEW TEMP SETPOINT UNTIL VALVES REPAIRED
870309	DIV 1 STANDBY SWITCHGEAR VENT. SYS TROUBLE	HIGH DELTA P ON A UNIT COOLER	MAINT. WR ISSUED
870311	DIV 1 RELAY ROOM VENT SYS TROUBLE	BAD TEMP ELEMENT ON RETURN FLOW	MAINT. WR 187588
871204	DIV 2 HVK EXPANSION TANK LEVEL HIGH/LOW	IT IS NOT POSSIBLE TO ESTABLISH A LOWER TANK WATER LEVEL	DEFEAT HIGH LEVEL MOD REQUIRED