

Nuclear  
Utility  
Task  
Action  
Committee

# **nutac**

---

ON GENERIC LETTER 83-28, SECTION 2.2.2

## **Vendor Equipment Technical Information Program**

March 1984

---

INPO 84-010 (NUTAC)

8404160129 840406  
PDR ADOCK 05000440  
Q PDR

Vendor Equipment  
Technical  
Information Program

Developed By  
Nuclear Utility Task Action Committee  
for  
Generic Letter 83-28, Section 2.2.2

INPO 84-010  
(NUTAC)

March 1984

**INFORMATION ONLY**

Publications produced by a nuclear utility task action committee (NUTAC) represent a consensus of the utilities participating in the NUTAC. These publications are not intended to be interpreted as industry standards. Instead, the publications are offered as suggested guidance with the understanding that individual utilities are not obligated to use the suggested guidance.

This publication has been produced by the NUTAC on Generic Letter 83-28, Section 2.2.2., with the support of the Institute of Nuclear Power Operations (INPO). The officers of this NUTAC were Chairman Edward P. Griffing and Vice Chairman Walter E. Andrews.

Utilities that participated in this NUTAC include the following:

Alabama Power Company	Nebraska Public Power District
American Electric Power Service Corporation	New York Power Authority
Arizona Public Service Company	Niagara Mohawk Power Corporation
Arkansas Power & Light Company	Northeast Utilities
Baltimore Gas and Electric Company	Northern States Power Company
Boston Edison Company	Omaha Public Power District
Carolina Power & Light Company	Pacific Gas and Electric Company
Cincinnati Gas & Electric Company	Pennsylvania Power & Light Company
The Cleveland Electric Illuminating Company	Philadelphia Electric Company
Commonwealth Edison Company	Portland General Electric Company
Consolidated Edison Company of New York, Inc.	Public Service Company of Colorado
Consumers Power Company	Public Service Company of Indiana, Inc.
The Detroit Edison Company	Public Service Company of New Hampshire
Duke Power Company	Public Service Electric and Gas Company
Duquesne Light Company	Rochester Gas and Electric Corporation
Florida Power Corporation	Sacramento Municipal Utility District
Florida Power & Light Company	South Carolina Electric & Gas Company
GPU Nuclear Corporation	Southern California Edison Company
Georgia Power Company	Tennessee Valley Authority
Gulf States Utilities Company	Texas Utilities Generating Company
Houston Lighting & Power Company	The Toledo Edison Company
Illinois Power Company	Union Electric Company
Iowa Electric Light and Power Company	Vermont Yankee Nuclear Power Corporation
Kansas Gas and Electric Company	Virginia Electric and Power Company
Long Island Lighting Company	Washington Public Power Supply System
Louisiana Power & Light Company	Wisconsin Electric Power Company
Maine Yankee Atomic Power Company	Wisconsin Public Service Corporation
Mississippi Power & Light Company	Yankee Atomic Electric Company

**NOTICE:** This document was prepared by a nuclear utility task action committee (NUTAC) with the staff support of the Institute of Nuclear Power Operations (INPO). Neither this NUTAC, INPO, members and participants of INPO, other persons contributing to or assisting in the preparation of the document, nor any person acting on behalf of these parties (a) makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this document, or that the use of any information, apparatus, method or process disclosed in this document may not infringe on privately owned rights, or (b) assumes any liabilities with respect to the use of any information, apparatus, method, or process disclosed in this document.

INFORMATION ONLY



## EXECUTIVE SUMMARY

This report was prepared by the Nuclear Utility Task Action Committee (NUTAC) on Generic Letter 83-28 "Required Actions Based on Generic Implications of Salem ATWS Events," Section 2.2.2. It describes the Vendor Equipment Technical Information Program (VETIP) developed by the NUTAC in response to the concerns on vendor information and interface addressed in Section 2.2.2 of the generic letter. VETIP is a program that enhances information exchange and evaluation among utilities constructing or operating nuclear power plants and provides for more effective vendor interface.

The NUTAC was comprised of representatives of 56 utilities that are members of the Institute of Nuclear Power Operations (INPO). Staff support for the NUTAC was provided by INPO. This report unanimously presents the final conclusions of the NUTAC and is provided to assist individual utilities in developing specific programs to meet the intent of the generic letter.

Generic Letter 83-28 was developed following investigations by the NRC on the Salem events. As a result of these investigations, the NRC determined that better control and utilization of information regarding safety-related components might have helped to prevent these events. The NUTAC identified a program to better ensure that plant personnel have timely access to such information.

The NUTAC efforts were guided by the recognition that individual utilities have the greatest experience with and are most cognizant of the application of safety-related equipment. Vendor involvement with such equipment is generally greatest during construction and initial operation of the plant. Vendors are not familiar with the surveillance or maintenance histories, nor with the application of the equipment or its environment. This type of information is most readily available at the plant level within individual utilities.

Based on this recognition, the NUTAC investigated the mechanisms currently available to facilitate information exchange among utilities. The NUTAC identified four activities that currently address information about safety-

INFORMATION ONLY  
1



related components. These are routine utility/vendor and utility/ regulator interchange, and the SEE-IN and NPRDS programs managed by INPO.

It was the assessment of the NUTAC that these existing activities, if properly integrated and implemented, would provide a framework for an overall program to ensure effective communication of safety-related information among all utilities. Accordingly, the program developed to accomplish this goal (VETIP) uses the existing efforts as elements of a more comprehensive program.

The VETIP combines these existing programs, incorporating enhancements, with a coordinated program within each utility. A key element of the VETIP is the development by each utility of an active internal program to contribute information to the NPRDS and SEE-IN Programs and to use the results of these programs.

The effectiveness of the VETIP will be determined by the level of utility participation in these programs. To implement the VETIP, each utility should assess the type of information currently being provided to NPRDS and SEE-IN and expand the scope of reporting if appropriate. Additionally, each utility should evaluate current administrative controls for reporting information and for disseminating the results of the NPRDS and SEE-IN Programs to the plant level. These administrative controls may require modification to ensure that effective coordination is established. Concurrent with these efforts, enhancements will be made to both NPRDS and SEE-IN by INPO within its present institutional objectives.

The VETIP has been developed to ensure that nuclear utilities have prompt access to and effective handling of safety-related equipment technical information. In addition, VETIP is responsive to the intent of Generic Letter 83-28, Section 2.2.2. Further details are provided in the body of this report.

INFORMATION ONLY

## FOREWORD

On February 22 and 25, 1983, during start-ups of the Salem Unit 1 plant, both reactor trip breakers (Westinghouse model DB-50) failed to open on an automatic trip signal. As a consequence, the Nuclear Regulatory Commission (NRC) formed an investigating task force to determine the factual information pertinent to the management and administrative controls that should have ensured proper operation of the trip breakers. The findings and conclusions of the task force are documented in NUREG-0977, "NRC Fact Finding Task Force Report on the ATWS Events at the Salem Nuclear Generating Station, Unit 1, on February 22 and 25, 1983." A second task force determined the extent to which these investigative findings were generic in nature. The NRC subsequently issued NUREG-1000, "Generic Implications of ATWS Events at the Salem Nuclear Power Plant" and Generic Letter 83-28, "Required Actions Based on Generic Implications of Salem ATWS Events."

On September 1, 1983, a group of utility representatives met at the offices of the Institute of Nuclear Power Operations (INPO) to discuss the establishment of an ad hoc utility group to address issues relative to the NRC Generic Letter 83-28, Section 2.2.2. The representatives decided that such a group could provide direction that would be of generic benefit to the utilities and consequently formed the Nuclear Utility Task Action Committee (NUTAC) on Generic Letter 83-28, Section 2.2.2. The specific charter for the NUTAC (Appendix A) was adopted, and the target date for completion of activities was established as February 1984.

INFORMATION ONLY

## 1. INTRODUCTION

The objective of Generic Letter 83-28, Section 2.2.2 (Appendix D), is to improve the safety and reliability of nuclear power generating stations by ensuring that the utilities are provided with significant and timely technical information concerning reliability of safety-related components. In a typical nuclear station, hundreds of vendors supply the thousands of components that perform safety-related functions. The variations in vintage and design of plants ensure that although common applications of specific components may exist, there are an equal or greater number of unique applications. To attain the objective in a cost-effective and efficient manner, this NUTAC has developed the program outlined in this document. This positive program has been found to be the most realistic approach to attain the objective.

The Vendor Equipment Technical Information Program (VETIP) described in this document establishes a more formal interaction among the major organizations involved with commercial nuclear power generation. The goal of the interaction is to improve the quality and availability of equipment technical information for use by the utilities. The major components of the VETIP are an information transfer system and a centralized evaluation of industry experiences.

This document provides the unanimous NUTAC position on the guidelines for an effective technical information program. The determination of each individual utility to support and utilize these guidelines is the key to the effectiveness of this program for the industry as a whole. The program does not require the use of nor prescribe standard administrative procedures, but it allows the use of plant-specific procedures compatible with the utility's internal organization and needs. However, the recommendations in this document provide the basis for a uniform industry response to NRC questions and requirements relative to a technical information program. This program will be beneficial to the utilities and, at the same time, it will be responsive to Section 2.2.2 of the NRC Generic Letter 83-28.

INFORMATION ONLY



## 2. ACRONYMS AND DEFINITIONS

### 2.1 Acronyms

A/E	Architect-Engineer
AEOD	Office of the Analysis and Evaluation of Operational Data
ATWS	Anticipated Transient Without Scram
CFR	Code of Federal Regulations
EPRI	Electric Power Research Institute
ETI	Equipment Technical Information
IEB, IEN	Inspection and Enforcement Bulletins and Notices, issued by the NRC
IEEE	Institute of Electrical and Electronics Engineering
INPO	Institute of Nuclear Power Operations
LER	Licensee Event Report, issued by a utility
MOR	Monthly Operating Report
NPRDS	Nuclear Plant Reliability Data System
NRC	Nuclear Regulatory Commission
NSAC	Nuclear Safety Analysis Center
NSSS	Nuclear Steam Supply System
NUTAC	Nuclear Utility Task Action Committee
O&MR	Operations and Maintenance Reminder
PRA	Probabilistic Risk Assessment
QA	Quality Assurance
SEE-IN	Significant Event Evaluation and Information Network
SER	Significant Event Report
SOER	Significant Operating Experience Report
VETIP	Vendor Equipment Technical Information Program

INFORMATION ONLY

## 2.2 Definitions

Component - A component is a mechanical or electrical assembly (including instruments) of interconnected parts that constitutes an identifiable device or piece of equipment. Examples of electrical components include a drawout circuit breaker, a circuit card, instruments, or other subassemblies of a larger device that meet this definition. Examples of mechanical components include valves, piping, pumps and pressure vessels, and associated prime movers and/or operators.

Equipment Technical Information (ETI) - For the purposes of this report, this term includes, as a minimum, the following documentation:

- o vendor-supplied engineering and technical information (drawings, manuals, etc.) and changes thereto
- o equipment qualification data (provided by the equipment vendor or qualification lab)
- o industry-developed information, including utility and NRC-originated information (NPRDS, SER, IEB, IEN, etc.)

NUCLEAR NETWORK™\* - An information service provided through INPO. (NUCLEAR NETWORK replaced NUCLEAR NOTEPAD.)

NUREG - These are guidance documents that are issued by the NRC.

Safety-Related - Safety-related structures, systems, and components are those relied upon to remain functional during and following design basis events to ensure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shut down the reactor and maintain it in a safe shutdown condition, and (3) the capability

---

\*Trademark application by INPO for NUCLEAR NETWORK is pending.

to prevent or mitigate the consequences of accidents that could result in potential off-site exposures comparable to the guidelines of 10 CFR Part 100.

Vendor - For the purposes of this report, this term is used to identify the manufacturer of the component concerned and/or those who provide the related equipment technical information.

INFORMATION ONLY



INFORMATION ONLY

### 3. VENDOR EQUIPMENT TECHNICAL INFORMATION PROGRAM (VETIP) DESCRIPTION

The VETIP includes interactions among the major organizations involved with commercial nuclear power generation. As illustrated in Figure 1, a utility exchanges safety-related equipment information with vendors, NRC, INPO, and other utilities via reports, bulletins, notices, newsletters, and meetings. The purpose of these information exchanges is to share equipment technical information to improve the safety and reliability of nuclear power generating stations. The NUTAC concluded that the lack of information is not a problem, but that the various information systems available are not integrated properly. The purpose of VETIP is to ensure that current information and data will be available to those personnel responsible for developing and maintaining plant instructions and procedures. These information systems and programs currently exist and are capable of identifying to the industry precursors that could lead to a Salem-type event. VETIP is an industry-controlled and mainly hardware-oriented program that does not rely on vendor action, other than the NSSS supplier, to provide information to utilities. Instead, VETIP provides information developed by industry experience through SERs and SOERs to the vendor for comment before it is circulated to the utilities concerned.

The majority of information provided by vendors is commercial in nature. This usually is provided voluntarily by the vendor, but does little to improve the safety or reliability of existing equipment.

A vendor-oriented program to provide information that would improve the safety and reliability of existing equipment relies on the vendor having an internal program to develop the information. Such programs typically are not in existence. Following design and qualification testing, vendors normally do not continue extensive testing or engineering programs in anticipation of equipment problems. Subsequent failures discovered during operations require several steps to complete the information feedback loop. For example, when a problem occurs and a local vendor representative provides a solution, he would have to provide that information to the vendor headquarters. Then, the headquarters would need a tracking program to identify a trend and subsequently a program to provide the information to the industry. In addition, the vendor often is not in the

INFORMATION ONLY

best position to analyze the failure. The vendor is not always aware of the component's application and environment nor its maintenance and surveillance history.

The VETIP recognizes that the utility user is in a unique position. The utility user alone has immediate access to the maintenance and surveillance history of the equipment. The utility, not the manufacturer, knows the component's actual application and environment. The utility is the primary source of information on the failure, and the utility has the greatest need for the solution. As such, the utility is the central organizer in any approach to the solution, whether or not the manufacturer gets involved. The utility is in the position to know of the failure analysis and its solution at the earliest possible time. The utility can then disseminate the information to other utilities, with an indication of its significance and urgency.

By sharing the operating history, problems, and solutions within the nuclear industry, independent of any normal vendor contacts, the other users will be informed in a much more timely and uniform way. In this way, the distribution of information is controlled entirely by the nuclear utility industry. The programs that comprise the VETIP currently are in existence. The recommended enhancements contained within this report are suggested ways to improve the current use and application of these existing programs.

### 3.1 Existing Programs

The existing systems and programs included in the VETIP are the Nuclear Plant Reliability Data System (NPRDS) and the Significant Event Evaluation and Information Network (SEE-IN), both managed by INPO. Also, the VETIP includes existing programs that the utilities now conduct with vendors and other sources of ETI, particularly the NSSS vendor interaction programs and the NRC reporting programs that disseminate significant failure information. Utility-vendor interaction is further enhanced by the INPO supplier participant practices. Through participation in this program, NSSS vendors and A/E firms are working toward greater participation in the NPRDS and SEE-IN Programs.

INFORMATION ONLY



### 3.1.1 Nuclear Plant Reliability Data System (NPRDS)

NPRDS is an industrywide system managed by INPO for monitoring the performance of selected systems and components at nuclear power plants. INPO member utilities have agreed to participate in the program. United States plants in commercial operation (except for six atypical, early vintage units) supply basic engineering information and subsequent failure data on the selected systems and components (typically six to seven thousand components from some 30 systems per unit). The value of NPRDS lies in the ready availability of this data base to operation and engineering groups for a broad range of applications. The criteria used to determine the scope of NPRDS reports are as follows:

- o systems and components that provide functions necessary for accident mitigation
- o systems and components for which loss of function can initiate a significant plant transient

Uniform scoping and reporting criteria are set forth in the Nuclear Plant Reliability Data System (NPRDS) Reportable System and Component Scope Manual (INPO 83-020) and in the Reporting Procedures Manual for the Nuclear Plant Reliability Data System (INPO 84-011).

To support the benefits that can be obtained from NPRDS usage, utilities submit three kinds of information to the NPRDS data base: engineering/test information, failure reports, and operating history. The engineering/test record on a component contains information necessary to identify the component and its application, such as manufacturer, model number, operating environment, size, horsepower, and test frequencies. The information is submitted when the component is placed in service and is stored in the data base. If that component fails to perform as intended, a report is submitted containing a description of the failure mode and cause, the failure's effect on plant operations, corrective actions taken, and other

information necessary to assess the failure. On a quarterly basis, utilities submit information on the number of hours the plant is in different modes of operation. This information is used in conjunction with the engineering and failure reports to generate failure statistics for systems and components.

The data is retrievable from a computer, and the engineering and failure information can be combined in various ways. A search of the failure records can identify problems experienced with components in other plants and the corrective actions taken. There are several hundred searches of the data base in a typical month. Following are some example uses of the data base:

#### Utility and Plant Staffs

- o accessing comprehensive equipment history files to support maintenance planning and repair
- o avoidance of forced or prolonged outages by identifying other plants with similar or identical equipment that may have spares for a possible loan
- o determination of spare parts stocking, based on industry mean time between failures
- o comparison of component failure rates at a given plant with the industry average failure rates

#### Design Groups

- o identification of common failure modes and causes
- o selection of vendors based on component application and performance
- o identification of component wearout and aging patterns
- o studies of component performance as a function of operating characteristics, such as test frequency and operating environment
- o input to plant availability improvement programs

INFORMATION ONLY

#### Operating Experience Reviewers

- o identification of significant failure modes affecting safety or availability
- o trending of component failure rates
- o development of failure probability estimates for use in fault-tree analyses (reliability or PRA studies)

NPRDS data is available to users through various periodic reports and through on-line access of the data from a computer terminal.

- 3.1.2 Significant Event Evaluation and Information Network (SEE-IN)
- Since the early days of nuclear power plant operations, utilities and manufacturers have attempted to share what has been learned from plant operating experience. As nuclear technology becomes more complex and more demanding, the need for sharing operating experience continues to grow and becomes more important. The safety benefits of avoiding problems already encountered and resolved more than justifies the costs and extra effort required for utilities to keep each other informed. The Nuclear Safety Analysis Center (NSAC), with the support of its utility advisory group, began developing a program to share information learned from analyzing nuclear plant experiences. Shortly after its formation in late 1979, the Institute of Nuclear Power Operations (INPO) joined NSAC in the development and implementation of the program. The program has been named "Significant Event Evaluation and Information Network" (SEE-IN). In 1981, the management of the SEE-IN Program became the sole responsibility of INPO.

#### Objective

The objective of SEE-IN is to ensure that the cumulative learning process from operating and maintenance experience is effective and that the lessons learned are reported and corrective action taken in a timely manner to improve plant safety, reliability, and availability. This objective is met



by screening available nuclear plant event information systematically, identifying and evaluating the important or significant events, and communicating the results to the utilities and appropriate designers and manufacturers.

#### Scope

The functional approach to SEE-IN is an eight-step process outlined in Appendix C. While INPO has the program management function, no single organization is responsible for performing all of these functions; rather, the responsibility is spread among key participants in the network. The principle organizations involved in the initial screening of plant event data are the utilities and INPO. Each nuclear utility has an in-house program to screen events that occur in its nuclear plant(s). INPO has a broader charter to screen all nuclear plant events. The sources of input to the screening process include NPRDS, NUCLEAR NETWORK, NRC-mandated reports, IEBs, IENs, etc. The provision to control the data normally is governed by agreements between INPO and the supplying organization (e.g., utilities, NRC, NSSS vendors, international participants, etc.). When a significant event or trend has been identified from the screening process, a Significant Event Report (SER) is prepared by INPO and transmitted to the utilities and other participants on NUCLEAR NETWORK. This event then undergoes an action analysis by INPO. The purpose of the action analysis is to investigate the event or trend in more detail and to develop and evaluate practical remedies. For events requiring utility action, the results of the action analysis are communicated to the utilities, normally in the form of a Significant Operating Experience Report (SOER). In these instances, recommendations are made to resolve the underlying problems. The implementation of applicable recommended remedial actions is the responsibility of the individual utility. Implementation may include changes in plant procedures, equipment design, and/or operator training programs. The two final steps in the SEE-IN process are (1) feedback and INPO

assessment during plant evaluation of actions taken by the utilities as a result of information provided through SEE-IN and (2) periodic assessment of the process effectiveness by INPO.

For events which, through the screening process, are determined not significant but have valuable operations and maintenance information, an Operations & Maintenance Reminder (O&MR) is prepared and processed in the same way as SERs.

The SEE-IN Program provides copies of draft SERs, O&MRs, and SOERs to the affected vendors for review. Vendor comments are considered in preparation of final SEE-IN reports. Once finalized, the reports are sent to the utilities.

The SEE-IN Program includes a cross-reference capability to identify SERs, O&MRs, SOERs, LERs, etc., which report component problems that could cause a significant event. This cross-reference facilitates utility review of the component's prior history before using that component in a safety-related application.

#### Program Operation

Plant operating experience data is reviewed from several perspectives including design, component and system performance, plant procedures, human factors, personnel training, maintenance and testing practices, and management systems to identify significant events and trends.

#### Formal Review Sources

A formal review is conducted on NRC information notices, bulletins, AEOD reports, event-related generic letters, etc. A formal review also is conducted on industry-prepared information (including those required by NRC) such as LERs, monthly operating reports, NRC event-related reports, NSSS technical bulletins, NPRDS data, NUCLEAR NETWORK operating experience

entries, international operating experience reports, construction deficiency reports, safety defect reports, and trends identified as significant in the INPO NPRDS and LER data bases. The formal review includes a dual, independent screening process. The review status is documented and tracked by computer.

Other sources of operating experience information are used by the SEE-IN Program on an ad hoc basis as reference or supplemental material but do not receive a formal review. The sources include such items as NRC NUREG documents, EPRI and NSAC reports, and other industry reports or data concerned with plant operating experience. The INPO process for screening is shown in Figure 2.

#### Utility Contact (SEE-IN)

In addition to the formal and reference information sources, another vital information source is direct contact with power plant technical personnel on an ad hoc basis. Each utility designates a SEE-IN contact to respond to questions from INPO on plant events. The majority of such communications was handled over the telephone or via NUCLEAR NETWORK. Files are maintained by INPO on nuclear utilities and contain names and telephone numbers of designated contacts, telecopier numbers, status of nuclear units (i.e., operating, under construction or planned), and NSSS vendor(s).

#### 3.1.3 Interaction With Vendors

In the interest of operating the plant safely and efficiently, the utility-vendor contact is essential. To accomplish this goal, utilities already interact with various vendors.

The contractual obligations for furnishing equipment and software (manuals, drawings, etc.) are fulfilled upon acceptance at the plant site. Interaction between utilities and vendors, due to deficiencies, may be brought about by the

INFORMATION ONLY

reporting requirements of 10 CFR 21 and 10 CFR 50.55(e). The continuing contract with vendors for warranty obligations or maintenance work are two examples of active interaction after an initial purchase. In addition, much of the interaction with the vendors during plant life is initiated in response to significant failures, to failure trends experienced at the plant, to spare parts procurement, or to subsequent purchase orders of new equipment.

The interaction with the NSSS vendor, who typically supplies a large portion of the safety-related plant equipment, generally is more active than with the other vendors. There are existing channels through which the NSSS suppliers disseminate information of interest to their client utilities. These include the following:

- o In regular meetings, NSSS representatives outline recent developments and maintenance/design recommendations. Any special concerns of the utility can be addressed in follow-up correspondence with the NSSS supplier's service department.
- o Bulletins or advisories from the NSSS supplier's service department alert client utilities to special problems experienced by similar plants. Typically included in this correspondence are a description of the problem and the corrective actions taken to resolve it. Recommendations for preventive actions or for particular cautions to be considered by the utility usually are included.
- o Owners groups provide an additional forum for the exchange of information that may be of generic interest to member utilities. For example, problems in the design or operation of a system or component may be shared with the group and potential resolutions identified. The owners groups' efforts often are directed at seeking improvements or anticipating problems rather than being only reactive in nature.



Improvements in availability or testing and maintenance procedures are examples of positive results that have come about through owners groups activities. The NSSS supplier makes his broadly-based knowledge available to the group for the specialized evaluations that may be required.

#### 3.1.4 Regulatory Reporting Requirements

Other existing sources of information are the documents that result from the NRC's reporting requirements. These documents include 10 CFR 21 reports, 10 CFR 50.55(e) reports, Licensee Event Reports, and NRC Inspection & Enforcement (IE) Bulletins and Information Notices. 10 CFR 21 specifies reporting requirements relating to component or system deficiencies that may create a substantial safety hazard. This reporting provides the nuclear utility industry notification of significant noncompliances and defects identified by other utilities, architect-engineers, constructors, vendors, and manufacturers associated with nuclear facilities.

10 CFR 50.55(e) requires that the holder of a construction permit notify the NRC of each deficiency found in design and construction, which, if uncorrected, could affect the safe operation of the nuclear power plant adversely.

10 CFR 50.73 requires the holder of an operating license for a nuclear power plant to submit a Licensee Event Report (LER) for events described in 50.73(a)(2). These LERs are incorporated into the INPO LER data base, which provides information to identify and isolate precursor events and identify emerging trends or patterns of potential safety significance.

The NRC Office of Inspection and Enforcement (IE) issues various documents, including bulletins and information notices, to inform licensees and construction permit holders of significant concerns that may result from the NRC evaluation of reports, as required by 10 CFR 21.21, 50.55(e), and

50.73. These documents provide the nuclear utilities with information on events and concerns that are considered significant by the NRC.

### 3.2 Recommended Enhancements to Existing Programs

The following are recommended enhancements to the existing programs. INPO and the NPRDS User's Group should investigate the feasibility of these recommendations. If found feasible, an implementation program should be developed.

#### 3.2.1 Enhancements to NPRDS

- o The present definition of component in NPRDS (extracted from IEEE 603-1980) is more applicable to electrical components. The definition should be improved to describe mechanical components better.
- o The present failure reporting guidance needs improvement in the following areas:
  - Guidance is needed to provide better information for analyzing the role of piece parts as a factor in causing component failures.
  - The guidance should be revised to indicate that utilities should supply information when inadequate vendor information is identified as a causal or contributing factor in a failure. The guidance should provide users of the data base the ability to retrieve readily those failures involving inadequate vendor information (example, key word sorting, coding).
  - Present failure reports are often sketchy in providing details of the failure analysis conducted by utilities. The guidance should emphasize the importance of providing more complete results of failure analysis when one is conducted. Although detailed failure analyses are not

always conducted for every failure, when they are conducted they should be provided in NPRDS failure reports. In this way, the SEE-IN Program and other utilities can derive more benefit from the work of each utility.

- o Utilities should develop internal methods to ensure that their NPRDS reports are clear and complete and that the program guidance is followed appropriately.
- o For some failures it may not be possible for utilities to provide a complete failure description within the time frames for reporting to NPRDS. Utilities should still submit preliminary failure reports within the established time frame. Utilities should revise these reports when the necessary information is available. However, the present system does not provide methods for utilities to indicate that reports will be revised later. NPRDS should be modified to permit each utility to readily identify which of their reports still requires follow-up information. Utilities should report a failure event promptly and include an initial analysis. Detailed and complete information should be provided in a timely manner once final analysis has been completed.
- o The present scope of NPRDS reporting may not meet all the needs of individual utilities for monitoring the reliability of their own safety-related components. Each utility that decides that additional systems and components should be added to their basic scope of NPRDS systems and components should request that INPO accept these systems. INPO will consider these requests, identify the additional resource requirements needed to handle these requests, and notify utilities when it is able to accept additional information.

### 3.2.2 Enhancements to SEE-IN

- o Reports should be generated for potential failures caused by faulty or missing vendor-supplied information or other ETI. The VETIP recognizes that the utility will uncover errors in ETI (e.g., during review of the information, writing of instructions, testing, etc.) before anyone else. It is recommended that ETI faults be reported over NUCLEAR NETWORK for review by INPO under the SEE-IN Program.
- o The SEE-IN Program should be broadened by INPO to improve the ability to trend NPRDS data. Present methods of trending are largely qualitative and subjective in nature. They depend largely on the ability of analysts to recognize the need to look for degrading or unacceptable system and component reliability. INPO should develop methods to use NPRDS in a more quantitative fashion to detect trend problems. This enhancement is presently under development by INPO.

### 3.3 Summary Example

One problem that led to the Salem event was that the information contained in the NSSS vendor technical bulletin (issued in 1974) was not processed appropriately and therefore not incorporated into plant procedures. If the systems that comprise the VETIP were functional in the early 1970s, this oversight probably would not have occurred or would have been rectified. Westinghouse had prepared the technical bulletin based on a precursor event that occurred at another nuclear unit. This type of precursor event would have required that an LER be written and submitted to the NRC. INPO also would have reviewed the Westinghouse technical bulletin and the LER. The current criteria for significance screening used by INPO personnel identify this type event as a significant single failure. It is highly likely that an SER would have been generated by INPO and disseminated to utilities via NUCLEAR NETWORK. Utilities would have reviewed the SER through their operating experience report review programs.

DISCONTINUATION ONLY

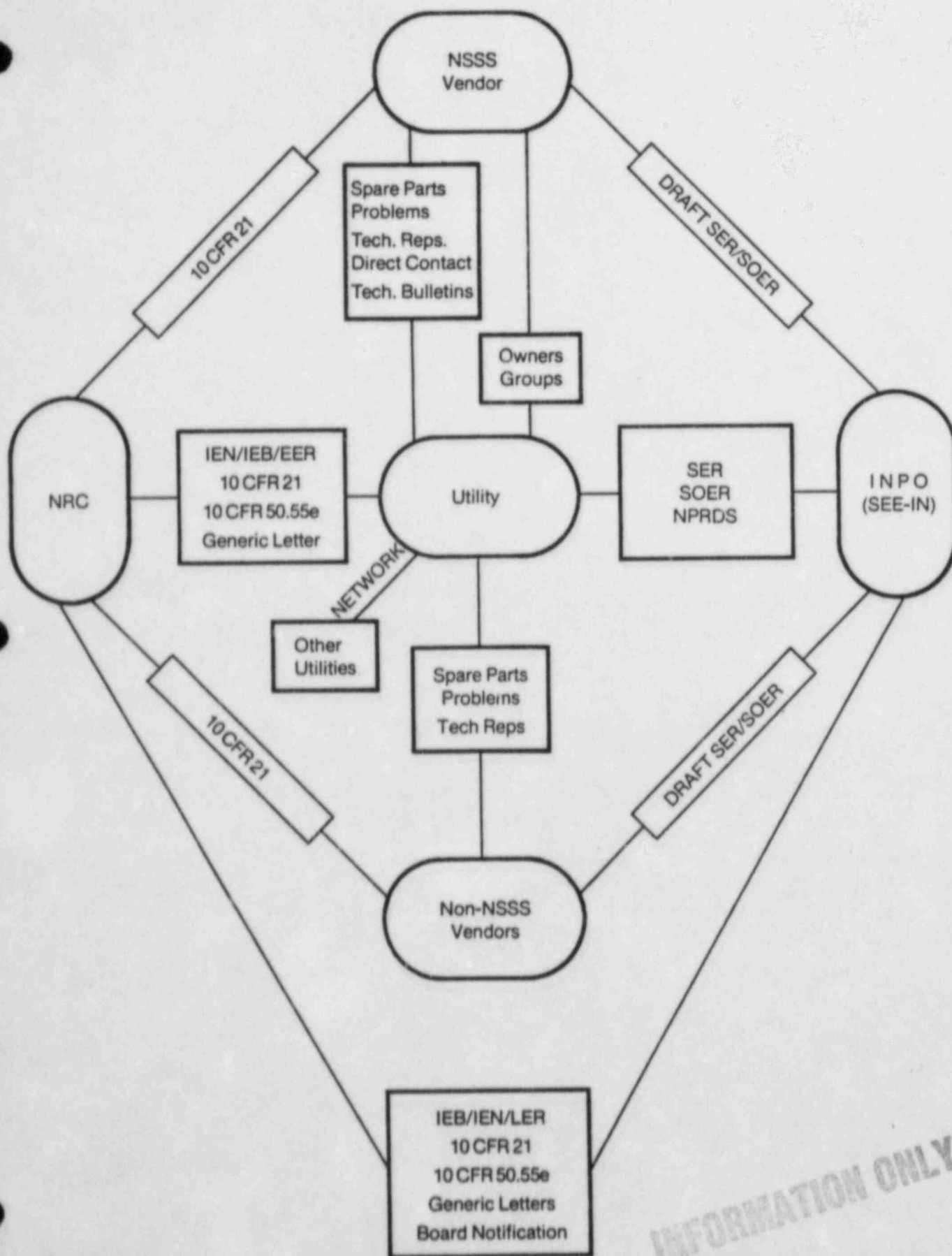


In addition, utilities would have had an ongoing program with their NSSS vendors to obtain ETI. Utilities would have had systems in place to track and process this information. Therefore, there are two pathways that would have ensured this type of information was received and evaluated by the utility:

- o NPRDS/SEE-IN (SERs, SOERs)
- o NSSS vendor technical bulletins

The utility's VETIP procedures would have assessed this information and effected positive action to correct the failed component.

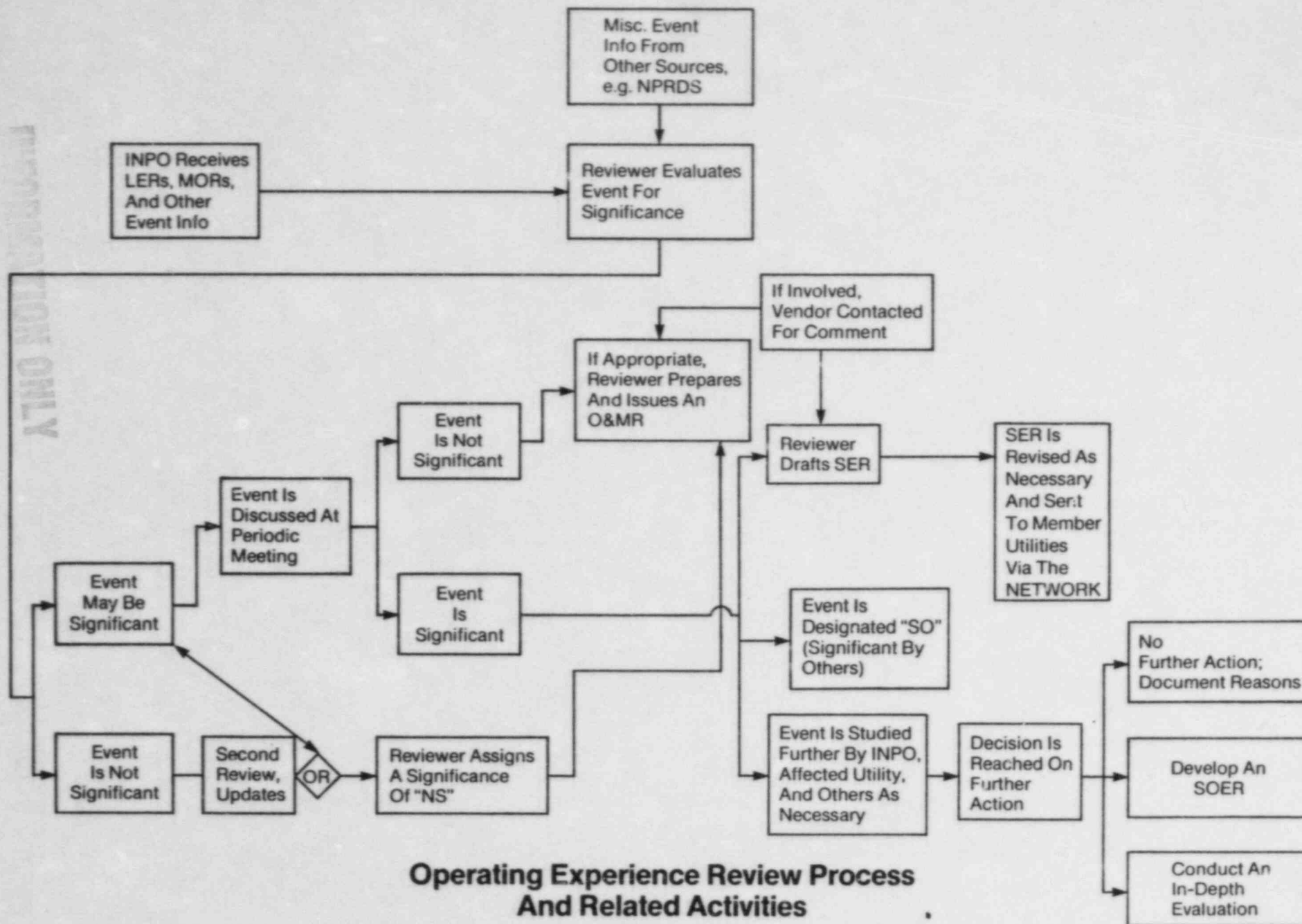
INFORMATION ONLY



**VETIP Block Diagram**

**Figure 1**

INFORMATION ONLY



Operating Experience Review Process  
And Related Activities

Figure 2

### SEE-IN Functions

1. Provide basic report of plant event (utilities).
2. Screen events for significance and transmit Significant Event Reports (SERs) via NUCLEAR NETWORK (utilities and INPO with vendor input solicited when specific product is identified).
3. Provide backup data on contributing factors and probable causes and consequences (utilities and vendors).
4. Perform action analysis on significant events to evaluate possible options for short-term remedies and feasible long-term solutions that might be implemented (utilities, INPO, and vendors).
5. Disseminate information, along with an alert of potential implication, to the utilities (INPO).
6. Evaluate the information and implement remedies as appropriate (utilities).
7. Provide feedback on implementation actions (utilities and INPO).
8. Evaluate periodically the effectiveness of the process, including steps 1-7 above (INPO).

INFORMATION ONLY



## List of References

1. "Required Actions Based on Generic Implications of Salem ATWS Events" (Generic Letter 83-28). Washington, D.C.: U.S. Nuclear Regulatory Commission, July 8, 1983.
2. NRC Fact-finding Task Force Report on the ATWS Events at Salem Nuclear Generating Station Unit 1 on February 22 and 25, 1983 (NUREG-0977). Washington, D.C.: U.S. Nuclear Regulatory Commission, March 1983.
3. Generic Implication of ATWS Events at the Salem Nuclear Power Plant (NUREG-1000). Washington, D.C.: U.S. Nuclear Regulatory Commission, April 1983.
4. Significant Event Evaluation and Information Network (SEE-IN) (INPO 83-001). Atlanta, Ga.: Institute of Nuclear Power Operations, February 1983.
5. Nuclear Plant Reliability Data System (NPRDS) Reportable System and Component Scope Manual (INPO 83-020). Atlanta, Ga.: Institute of Nuclear Power Operations, 1983.
6. Reporting Procedures Manual for Nuclear Plant Reliability Data Systems (INPO 84-011). Atlanta, Ga.: Institute of Nuclear Power Operations, 1984.
7. 10 CFR 21, Code of Federal Regulations: Title 10 Part 21, "Reporting of Defects and Noncompliance." Washington, D.C.: U.S. Government Printing Office.
8. 10 CFR 50, Code of Federal Regulations: Title 10 Part 50, "Domestic Licensing of Production and Utilization Facilities." Washington, D.C.: U.S. Government Printing Office.
9. Standard Criteria for Safety Systems for Nuclear Generating Stations (IEEE 603-80). New York, N.Y.: Institute of Electrical and Electronics Engineers, 1980.

INFORMATION ONLY

6.0 DETAILS

6.1 The Q-List will be included in a file with other generic information; however, the fields specifically identified as part of the Q-List shall be safeguarded to prevent revisions by unauthorized persons. The Q-List shall contain but not be limited to, the following protected fields:

1. The MPL number specifically assigned to the subcomponent or parent component.
2. The Original Procurement Specification and Sub-Specification number for the component.
3. The safety classification of the MPL, Assemblies and Stock Codes (both as required and as purchased). The entries will be as follows:
  - "1" Essential-to-Function, ASME Class 1.
  - "2" Essential-to-Function, ASME Class 2.
  - "3" Essential-to-Function, ASME Class 3.
  - "1E" Essential-to-Function, Electrical.
  - "SR" Essential-to-Function, NON-ASME CODE ITEMS.

Non-Nuclear-Safety-Related:

- "4" Not Essential-to-Function
- "4Q" Essential-to-Function, Augmented QA (Off-Gas).
- "5" Essential-to-Function, Fire Protection
- "6" Essential-to-Function, American Water Works Assoc.
- "7" Essential-to-Function, ASME Code Components (non-nuclear)

4. The component function. Entries shall be made as follows:

- "AC" Active Component
- "PBC" Pressure Boundary Component
- "R" Electrical Component
- "NA" Not Applicable

Subcategories within each of these will be the Seismic Functions as follows:

- "A" - Seismic Category I. The component must accomplish its safety-related function during and after the seismic event.
- "B" - Seismic Category I. The component need not function during the seismic event but must be capable of performing properly after.
- "C" - Seismic Category I. The component can fail to function at any time, but it must not incapacitate an essential power source or fail to hold pressure at any time.
- "D" - Nonseismic. The component, including pressure retaining components, can fail in any manner and at any time, provided safety class components are not affected by its failure.
- "I" - Seismic Category I. The original equipment specification applies in this case. An evaluation to determine Category A, B, C or D should be performed if possible.

5. The Normal Position of the component. The entries will be as follows:

- "M" Modulating, throttled and/or sequenced (does not close or shut completely, nor does it open fully)
- "S" Shut (electrical)
- "O" Open
- "E" Energized
- "D" De-energized
- "C" Closed (mechanical)
- "N" Not Applicable

"R" Normal Operation - not required to close during event  
"T" Operable over full range (may close or shut completely,  
or open fully)

6. Design Basis Events (DBE) and relative positions. Entries for DBE's will be as follows:

- a. The first two letters will be :

PE for PSAR listed DBE's and  
FE for FSAR listed DBE's

- b. The next two numbers are the DBE number as listed in the PSAR or FSAR.

Entries for the DBE positions will be as in Section 6.1.5, preceding.

7. The Original Manufacturer, Model Number, and Serial Number, at the MPL, Assembly and Stock Item (PART) level, as installed in the plant.
8. Q-List specific notes.
9. A complete listing of all replacement parts and subassemblies of the component, with the following fields controlled:
- a. Association to a specific MPL/ASSEMBLY.
  - b. Limited Life designation.
  - c. Shelf Life, expressed in weeks.
  - d. Storage Maintenance Requirements. Format for the entries will be as defined in PAP-0903, Repetitive Tasks Program.
  - e. Storage Code. As defined in section 2.7 of ANSI N45.2.2-1978.
10. Procurement Requirements. These will represent the Procurement requirements as defined in PAP-0402, Procurement of Safety-Related and other Special Items, or (Later) Procurement Requirements Evaluations.

INFORMATION ONLY



## ATTACHMENT A

## SEQUENCE OF EVENTS LOG - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID
REACTOR HI-PRESS A	B21NC001
REACTOR HI-PRESS B	B21NC002
REACTOR HI-PRESS C	B21NC003
REACTOR HI-PRESS D	B21NC004
RV LO WATER LVL CH A	B21NC005
RV LO WATER LVL CH B	B21NC006
RV LO WATER LVL CH C	B21NC007
RV LO WATER LVL CH D	B21NC008
RHR/ADS DW PRESS CH B	B21NC009
RHR/ADS DW PRESS CH F	B21NC010
RHR/ADS WTR LVL CH B	B21NC011
RHR/ADS WTR LVL CH F	B21NC012
LPCS/RHR/ADS DW PRS CH A	B21NC013
LPCS/RHR/ADS DW PRS CH E	B21NC014
LPCS/RHR/ADS WTR LVL CH A	B21NC015
LPCS/RHR/ADS WTR LVL CH E	B21NC016
HPCS DW PRESS CH C	B21NC017
HPCS DW PRESS CH L	B21NC018
HPCS DW PRESS CH G	B21NC019
HPCS DW PRESS CH R	B21NC020
HPCS LO WTR LVL CH C	B21NC021
HPCS LO WTR LVL CH L	B21NC022
HPCS LO WTR LVL CH G	B21NC023
HPCS LO WTR LVL CH R	B21NC024
SAFETY RLF VLV NO. 1	B21NC025
SAFETY RLF VLV NO. 2	B21NC026
SAFETY RLF VLV NO. 3	B21NC027
SAFETY RLF VLV NO. 4	B21NC028
SAFETY RLF VLV NO. 5	B21NC029
SAFETY RLF VLV NO. 6	B21NC030
SAFETY RLF VLV NO. 7	B21NC031
SAFETY RLF VLV NO. 8	B21NC032
SAFETY RLF VLV NO. 9	B21NC033
SAFETY RLF VLV NO. 10	B21NC034
SAFETY RLF VLV NO. 11	B21NC035
SAFETY RLF VLV NO. 12	B21NC036
SAFETY RLF VLV NO. 13	B21NC037
SAFETY RLF VLV NO. 14	B21NC038
SAFETY RLF VLV NO. 15	B21NC039
SAFETY RLF VLV NO. 16	B21NC040
SAFETY RLF VLV NO. 17	B21NC041
SAFETY RLF VLV NO. 18	B21NC042
SAFETY RLF VLV NO. 19	B21NC043
NSSS SPARE (RLF VLV)	B21NC044
NSSS SPARE (RLF VLV)	B21NC045
NSSS SPARE (RFL VLV)	B21NC046
MSL ISOLATION CH A	B21NC047
MSL ISOLATION CH B	B21NC048
MSL ISOLATION CH C	B21NC049
MSL ISOLATION CH D	B21NC050
RV HI WTR LVL CH A	B21NC051

## ATTACHMENT A

## SEQUENCE OF EVENTS LOG - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID
RV HI WTR LVL CH B	B21NC052
RV HI WTR LVL CH C	B21NC053
RV HI WTR LVL CH D	B21NC054
DSCH VOL HI WTR LVL CH A	C11NC033
DSCH VOL HI WTR LVL CH B	C11NC034
DSCH VOL HI WTR LVL CH C	C11NC035
DSCH VOL HI WTR LVL CH D	C11NC036
APRM NEUT FLUX CH A	C51NC061
APRM NEUT FLUX CH B	C51NC062
APRM NEUT FLUX CH C	C51NC063
APRM NEUT FLUX CH D	C51NC064
APRM NEUT FLUX CH E	C51NC065
APRM NEUT FLUX CH F	C51NC066
APRM NEUT FLUX CH G	C51NC067
APRM NEUT FLUX CH H	C51NC068
APRM THERMAL PWR CH A	C51NC071
APRM THERMAL PWR CH B	C51NC072
APRM THERMAL PWR CH C	C51NC073
APRM THERMAL PWR CH D	C51NC074
APRM THERMAL PWR CH E	C51NC075
APRM THERMAL PWR CH F	C51NC076
APRM THERMAL PWR CH G	C51NC077
APRM THERMAL PWR CH H	C51NC078
NEUT MON SYSTEM CH A1	C51NC091
NEUT MON SYSTEM CH A2	C51NC092
NEUT MON SYSTEM CH B1	C51NC093
NEUT MON SYSTEM CH B2	C51NC094
DRYWELL HI PRESS CH A	C71NC001
DRYWELL HI PRESS CH B	C71NC002
DRYWELL HI PRESS CH C	C71NC003
DRYWELL HI PRESS CH D	C71NC004
MANUAL SCRAM DIV 1	C71NC005
MANUAL SCRAM DIV 2	C71NC006
REACTOR SCRAM DIV 1	C71NC009
REACTOR SCRAM DIV 2	C71NC010
TSV CLOSURE CH A	C71NC013
TSV CLOSURE CH B	C71NC014
TSV CLOSURE CH C	C71NC015
TSV CLOSURE CH D	C71NC016
TCV FAST CLOSURE CH A	C71NC017
TCV FAST CLOSURE CH B	C71NC018
TCV FAST CLOSURE CH C	C71NC019
TCV FAST CLOSURE CH D	C71NC020
RECIRC PMP TRIP CH A	C71NC025
RECIRC PMP TRIP CH B	C71NC026
TURBINE BYPASS VLV	C85NC001
MSL HI RADIATION CH A	D17NC001

INFORMATION ONLY  
INFORMATION ONLY

## ATTACHMENT A

## SEQUENCE OF EVENTS LOG - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID
MSL HI RADIATION CH B	D17NC002
MSL HI RADIATION CH C	D17NC003
MSL HI RADIATION CH D	D17NC004
RHR PUMP BREAKER LOOP A	E12NC001
RHR PUMP BREAKER LOOP B	E12NC002
RHR PUMP BREAKER LOOP C	E12NC003
RHR PRESSURE LOOP A	E12NC004
RHR PRESSURE LOOP B	E12NC005
RHR PRESSURE LOOP C	E12NC006
RHR INJECT FLOW LOOP A	E12NC007
RHR INJECT FLOW LOOP B	E12NC008
RHR INJECT FLOW LOOP C	E12NC009
LPCS PUMP BREAKER	E21NC001
LPCS SYSTEM PRESS	E21NC002
LPCS LO FLO BYP VLV	E21NC003
HPCS PUMP BREAKER NO. 2	E22NC001
HPCS PRESSURE	E22NC002
HPCS LO FLO BYP VLV	E22NC003
DIV. 3 MANUAL SCRAM	C71NC007
DIV. 4 MANUAL SCRAM	C71NC008
IRM CHANNEL A UPSCALE	C51NC031
IRM CHANNEL B UPSCALE	C51NC032
IRM CHANNEL C UPSCALE	C51NC033
IRM CHANNEL D UPSCALE	C51NC034
IRM CHANNEL E UPSCALE	C51NC035
IRM CHANNEL F UPSCALE	C51NC036
IRM CHANNEL G UPSCALE	C51NC037
IRM CHANNEL H UPSCALE	C51NC038
REACTOR SCRAM DIV. 3	C71NC011
REACTOR SCRAM DIV. 4	C71NC012

INFORMATION ONLY

## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
001	HP CONDENSER VACUUM LOW	1R6125	E
002	IP CONDENSER VACUUM LOW	1R6125	E
003	LP CONDENSER VACUUM LOW	1R6125	E
004	HOTWELL PUMP A TRIP	1R6125	E
005	HOTWELL PUMP B TRIP	1R6125	E
006	HOTWELL PUMP C TRIP	1R6125	E
007	CONDENSATE BOOSTER PUMP A TRIP	1R6126	G
008	HEATER 4 LEVEL LOW	1R6126	G
009	HEATER 4 LEVEL HIGH	1R6126	G
010	HOTWELL PUMP DISCH HDR PRESSURE LOW	1R6126	G
011	CONDENSATE BOOSTER PUMP DISCH HDR PRESSURE LOW	1R6126	G
012	CONDENSATE BOOSTER PUMP C TRIP	1R6126	G
013	REACTOR FEEDWATER BOOSTER PUMP A DISCH PRESSURE LOW	1R6150	G
014	REACTOR FEEDWATER BOOSTER PUMP B DISCH PRESSURE LOW	1R6150	G
015	REACTOR FEEDWATER BOOSTER PUMP C DISCH PRESSURE LOW	1R6150	G
016	REACTOR FEEDWATER BOOSTER PUMP D DISCH PRESSURE LOW	1R6150	G
017	MOTOR FEEDWATER PUMP DISCH PRESSURE LOW	1R6150	G
018	MOTOR FEEDWATER PUMP TRIP	1R6150	G
019	REACTOR FEEDWATER PUMP A DISCH PRESSURE LOW	1R6150	G
020	REACTOR FEEDWATER PUMP B DISCH PRESSURE LOW	1R6151	J
021	REACTOR FEEDWATER PUMP A TRIP	1R6151	J
022	REACTOR FEEDWATER PUMP B TRIP	1R6151	J
023	FEEDWATER BOOSTER PUMP A TRIP	1R6151	J
024	FEEDWATER BOOSTER PUMP B TRIP	1R6151	J
025	FEEDWATER BOOSTER PUMP C TRIP	1R6151	J
026	FEEDWATER BOOSTER PUMP D TRIP	1R6152	E
027	AUXILIARY CONDENSER A VACUUM LOW	1R6152	E
028	AUXILIARY CONDENSER B VACUUM LOW	1R6152	E
029	REACTOR FEED PUMP TURBINE A MANUAL TRIP	1R6152	E

INFORMATION ONLY



## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
030	REACTOR FEED PUMP TURBINE B MANUAL TRIP	1R6152	E
031	MAIN TURB MFP TRIP	1R6153	C
032	REACTOR FDW PUMP CONTROL SYSTEM FAILURE	1R6153	C
033	INTERMEDIATE RANGE MONITOR A OR E UPSCALE TRIP OR INOP	1R61257	B
034	INTERMEDIATE RANGE MONITOR B OR F UPSCALE TRIP OR INOP	1R61257	B
035	INTERMEDIATE RANGE MONITOR C OR G UPSCALE TRIP OR INOP	1R61257	B
036	INTERMEDIATE RANGE MONITOR D OR H UPSCALE TRIP OR INOP	1R61257	B
037	MAIN TURB TSI HIGH VIB TRIP	1R61154	A
038	MAIN TURB LOSS OF STATOR COOLANT TRIP	1R61155	A
039	MAIN TURB LOW SHAFT, PUMP DISCH PRESSURE TRIP	1R61155	A
040	MAIN TURB EXH HOOD TEMP TRIP	1R61155	A
041	MAIN TURB HYD PRESS TRIP	1R61155	A
042	MAIN TURB MOIST SEP HL TRIP	1R61155	A
043	MAIN TURB LOW BEARING OIL PRESS TRIP	1R61155	A
044	MAIN TURB CONDENSER LOW VACUUM TRIP	1R61155	A
045	MAIN TURB THRUST BRG WEAR DETECTOR LOW TRIP	1R61155	A
046	MAIN TURB THRUST BGR WEAR DETECTOR UP TRIP	1R61155	A
047	MAIN TURB LOW ETS PRESS TRIP	1R61155	A
048	MAIN TURB 125V MASTER TRIP BUTTON ACTUATED	1R61155	A
049	BACK UP OVERSPEED TRIP	1R61156	D
050	MAIN TURB MASTER TRIP BUS TRIPPED	1R61156	D
051	MAIN TURB MECH OVERLOAD/ SWITCH TRIPPED	1R61156	D
052	TURBINE TRIP	1R61156	D
053	VOLTS/HERTZ RATIO HIGH TRIP	1R61177	
054	MAIN TRANSF 1-PY-T A PHASE DIFFERENTIAL	1R61175	C
055	MAIN TRANSF 1-PY-T B PHASE DIFFERENTIAL	1R61175	C
056	MAIN TRANSF 1-PY-T C PHASE DIFFERENTIAL	1R61175	C
057	MAIN TRANSF 1-PY-T 345 KV NEUT OVERCURRENT	1R61175	C
058	MAIN TRANSF 1-PY-T A PHASE SUDDEN PRESS	1R61175	C

INFORMATION ONLY

## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
059	MAIN TRANSF 1-PY-T B PHASE SUDDEN PRESS	1R61175	C
060	MAIN TRANSF 1-PY-T C PHASE SUDDEN PRESS	1R61175	C
061	GEN 1-PY-G NEUTRAL GROUND OVERVOLTAGE	1R61175	C
062	GEN 1-PY-G UNDERFREQUENCY	1R61175	C
063	GEN 1-PY-G NEG SEQUENCE OVERCURRENT	1R61175	C
064	GEN 1-PY-G ZERO SEQUENCE OVERVOLTAGE	1R61175	C
065	GEN 1-PY-G A PHASE DIFF- ERENTIAL NO 1	1R61176	A
066	GEN 1-PY-G B PHASE DIFF- ERENTIAL NO 1	1R61176	A
067	GEN 1-PY-G C PHASE DIFF- ERENTIAL NO 1	1R61176	A
068	GEN BREAKER S-611-PY TIE FAILURE	1R61176	A
069	UNIT OVERALL DIFFERENTIAL	1R61176	A
070	GEN 1-PY-G LOSS OF EXCITER (INSTANTANEOUS)	1R61176	A
071	GEN 1-PY-G LOSS OF EXCITER (DELAYED)	1R61176	A
072	GENERATOR 1-PY-G OF STEP	1R61176	A
073	GENERATOR BREAKER 5-610-PY TIE FAILURE	1R61176	A
074	GENERATOR 1-PY-G A PHASE DIFFERENTIAL NO 2	1R61176	A
075	GENERATOR 1-PY-G B PHASE DIFFERENTIAL NO 2	1R61176	A
076	GENERATOR 1-PY-G C PHASE DIFFERENTIAL NO 2	1R61176	A
077	GENERATOR LOCKOUT RELAY TRIP	1R61179	D
078	AUTO VOLT REGULATOR TRIP	1R61179	D
079	ISOPHASE BUS COOLING TROUBLE	1R61180	F
080	ISOPHASE BUS HYDROGEN TROUBLE	1R61180	D
081	SPARE		
082	GENERATOR CASING LIQUID DETECT LEVEL HI	1R61180	D
083	MAIN TURB BRG METAL TEMP HI	1R61876	
084	ELECTRO HYD CONTR DC INPUT POWER LOST	1R61875	D
085	LUBE OIL PRESS LOW	1R61200	G
086	DIV 1 DIESEL GEN BREAKER EH1102 CLOSE	1R61200	G
087	DIESEL GEN PROTECTIVE RELAY TRIP	1R61201	H
088	DIESEL GEN LOCKOUT RELAY TRIP	1R61202	H
089	BUS EH11(4.16 KVO UNDERVOLT	1R61202	H

## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
090	BUS XH11 (4.16 KV) UNDERVOLT	1R61202	H
091	BUS XH11 (4.16 KV) BREAKER TRIP	1R61202	H
092	BUS EH11 (4.16 KV) BREAKER TRIP	1R61203	G
093	DIESEL GEN EMERGENCY START SIGNAL RECEIVED	1R61204	J
094	DIESEL GEN FAILURE TO START	1R61204	J
095	LUBE OIL PRESS LOW	1R61225	F
096	DIV 2 DIESEL GEN BREAKER EH 1201 CLOSE	1R61225	F
097	DIESEL GENERATOR PROTECTIVE RELAY TRIP	1R61226	G
098	DIESEL GEN LOCKOUT RELAY TRIP	1R61227	G
099	BUS EH12(4.16KV)UNDERVOLTAGE	1R61227	G
100	BUS XH12(4.16KV)UNDERVOLTAGE	1R61227	G
101	BUS EH12(4.16KV)BREAKER TRIP	1R61228	H
102	DIESEL GEN EMERGENCY START SIGNAL RECIEVED	1R61229	H
103	BUS XH12(4.16KV)BREAKER TRIP	1R61229	H
104	DIESEL GENERATOR FAILURE TO START	1R61229	H
105	DIV 3 DIESEL GEN BREAKER EH1301 STATUS	1R61278	E
106	LUBE OIL PRESSURE LOW	1R61279	D
107	DIESEL GENERATOR EMERGENCY START SIGNAL RECIEVED	1R61280	F
108	DIESEL GENERATOR FAILURE TO START	1R61280	F
109	BUS EH13(4.16KV)UNDERVOLTAGE	1R61280	F
110	BUS EH13(4.16KV)BREAKER TRIP	1R61281	F
111	DIESEL GENERATOR LOCKOUT RELAY TRIP	1R6182	E
112	DIESEL GENERATOR DIFFERENTIAL RELAY TRIP	1R6182	E
113	SPARE		
114	RCIC & RHR ISOL TIMER RUNNING STEAM TUNNEL TEMP HIGH	1R61413	B
115	BUS H12 (4.16KV) UNDERVOLTAGE	1R61453	F
116	BUS L10 (13.8KV) BREAKER TRIP	1R61453	F
117	BUS L11 (13.8KV) BREAKER TRIP	1R61453	F
118	BUS L12 (13.8KV) BREAKER TRIP	1R61453	F
119	BUS H11 (4.16KV) BREAKER TRIP	1R61453	F
120	BUS H12 (4.16KV) BREAKER TRIP	1R61453	F
121	BUS L10 (13.8KV) UNDERVOLTAGE	1R61454	F
122	BUS L11 (13.8KV) UNDERVOLTAGE	1R61454	F
123	BUS L12 (13.8KV) UNDERVOLTAGE	1R61454	F
124	BUS H11 (4.16KV) UNDERVOLTAGE	1R61454	F

INFORMATION ONLY



## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
125	STARTUP TRANSFORMER 100-PY-B DIFFERENTIAL STATUS	1R61454	F
126	STARTUP TRANSFORMER 100-PY-B SUDDEN PRESS STATUS	1R61460	D
127	STARTUP TRANSFORMER 100-PY-B 345 KV NEUTRAL OC STATUS	1R61460	D
128	STARTUP TRANSFORMER 100-PY-B 13.8 KV NEUTRAL OC STATUS	1R61460	D
129	UNIT 1 AUX TRANSFORMER 110-PY-B A PHASE DIFF	1R61461	C
130	STARTUP TRANSFORMER 100-PY-B 13.8 KV PHASE OC	1R61460	D
131	UNIT 1 345 KV BUS DIFF STATUS	1R61460	D
132	UNIT 1 AUX TFMR 100-PY-B B PHASE DIFF STATUS	1R61460	D
133	UNIT AUX TFMR 100-PY-B C PHASE DIFF STATUS	1R61460	D
134	UNIT AUX TFMR 100-PY-B SUDDEN PRESS	1R61461	C
135	UNIT AUX TFMR 100-PY-B A WINDING 13.8KV NEUT GND OC	1R61461	C
136	UNIT AUX TFMR 110-PY-B C WINDING 13.8KV NEUT GND OC	1R61461	C
137	TURBINE BLDG CLOSED COOLING HX OUTLET TEMP HIGH	1R61475	C
138	SERVICE AIR COMMON HEADER PRESSURE LOW	1R61476	D
139	SERVICE AIR RECIEVER PRESSURE LOW	1R61476	D
140	INSTRUMENT AIR RECIEVER PRESSURE LOW	1R61476	D
141	TB BLDG BASEMENT WTR LVL HIGH CIRW PMP TRIP	1R61500	C
142	CIRC WATER PUMP SUCT CHAMBERS LEVEL LOW	1R61500	C
143	CIRCULATION WATER PUMP A TRIP	1R61500	C
144	CIRCULATION WATER PUMP B TRIP	1R61500	C
145	CIRCULATION WATER PUMP C TRIP	1R61500	C
146	CONDENSATE OR FEEDWATER CONDUCTIVITY HIGH	1R61850	F
147	STEAM SEAL EVAPORATOR STEAM PRESSURE LOW	1R61575	D
148	STEAM SEAL EXHAUST SYSTEM VACUUM LOW	1R61575	D
149	STEAM JET AIR EJECTOR INTLK CONDENSER A LEVEL HI/LO	1R61575	D
150	STEAM JET AIR EJECTOR INTLK CONDENSER B LEVEL HI/LO	1R61575	D



## ATTACHMENT B

## SEQUENCE OF EVENTS RECORDER

SER ADDRESS	ALARM DESCRIPTION	ELEMENTARY DIAGRAM	REV
151	MECHANICAL VACUUM PUMP A TRIP	1R61576	G
152	MECHANICAL VACUUM PUMP B TRIP	1R61576	G
153	REACTOR FEED PUMP TURBINE A THRUST BRG ACTIVE WEAR HIGH	1R61650	B
154	REACTOR FEED PUMP TURBINE B THRUST BRG ACTIVE WEAR HIGH	1R61650	B
155	REACTOR FEED PUMP TURBINE A BEARING OIL PRESSURE LOW	1R61650	B
156	REACTOR FEED PUMP TURBINE B BEARING OIL PRESSURE LOW	1R61650	B
157	LP TURBINE EXHAUST HOOD TEMP HIGH	1R61800	D
158	STATOR COOLING SYSTEM FLOW LOW	1R61801	D
159	GENERATOR CASING HYDROGEN PRESSURE HI/LO	1R61801	D
160	ELECTRO HYDRAULIC CONT SYSTEM SUPPLY HEADER PRESSURE LOW	1R61801	D
161	SERVICE WATER PUMP DISCHARGE HEADER PRESSURE LOW	1R61627	F
162	NUCLEAR CLOSED COOLING PUMP DISCHARGE HEADER PRESSURE LOW	1R61629	D
163	NUCLEAR CLOSED COOLING HX OUTLET TEMP HIGH	1R61629	D
164	UNIT 1 345 KV BUS NO 2 DIFFERENTIAL STATUS	1R61460	D
165	BKR S-610-PY TIE A PHASE STATUS	1R61177	-
166	BKR S-610-PY TIE B PHASE STATUS	1R61177	-
167	BKR S-610-PY TIE C PHASE STATUS	1R61177	-
168	BKR S-611-PY TIE A PHASE STATUS	1R61177	-
169	BKR S-611-PY TIE B PHASE STATUS	1R61177	-
170	BKR S-611-PY TIE C PHASE STATUS	1R61177	-
171	CONDENSATE BOOSTER PUMP B TRIP	1R6126	G

INFORMATION ONLY

## ATTACHMENT C

## RECORDERS FOR POST TRIP REVIEW

TAG NO.	PARAMETER	POINTS	POWER SOURCE
1,2B21R614	REACTOR STEAM TEMP	24	NON CLASS 1E
1,2B21R615	REACTOR LEVEL	1	NON CLASS 1E
1,2B21R623A,B	REACTOR PRESS	2	CLASS 1E
	LEVEL		DIV 1 AND 2
1,2B21R643	REACTOR METAL TEMP	4	NON CLASS 1E
1,2C34F608	REACTOR LEVEL	2	NON CLASS 1E
1,2C34R609	REACTOR/TURB PRESS	2	NON CLASS 1E
1,2C51R603A,B,	REACTOR POWER RANGE	2	
C,D	NEUTRON FLUX		NON CLASS 1E
1,2C51R614	REACTOR RECIRC FLOW	2	NON CLASS 1E
	NEUTRON MONITOR		
1,2D17R601	OFF GAS POST TREAT	2	NON CLASS 1E
1,2D17R604	OFF GAS PRE TREAT	1	NON CLASS 1E
1,2D23R090A,B	SUPPRESSION POOL TEMP	8	CLASS 1E DIV 1 AND 2
1,2D23R170A,B	DRYWELL AND CONTAINMENT	7	CLASS 1E
	TEMP		DIV 1 AND 2
1,2D23R180A,B	DRYWELL AND CONTAINMENT	3	CLASS 1E
	PRESS		DIV 1 AND 2
1,2E12R601	RESIDUAL HEAT REMOVAL	16	NON CLASS 1E
	TEMP		
1,2G33R601	REACTOR WATER CLEANUP	2	NON CLASS 1E
	CONDUCTIVITY		
1,2G43R073A,B	SUPPRESSION POOL LEVEL	4	CLASS 1E
	NARROW RANGE		DIV 1 AND 2
	WIDE RANGE		
1,2N15R016A,B	ANNULUS SPACE		NON CLASS 1E
	DIFF PRESS		
1,2N11R050	MAIN STEAM LINE	2	NON CLASS 1E
	PRESS		
1,2N11R055	MAIN STEAM LINE	2	NON CLASS 1E
	PRESS		
1,2N11R060	MAIN STEAM LINE	2	NON CLASS 1E
	TEMP		
1,2N11R065	MAIN STEAM LINE	2	NON CLASS 1E
	TEMP		
1,2N21R183	MAIN CONDENSER	3	NON CLASS 1E
	PRESS		
1,2N21R203	MAIN CONDENSER	2	NON CLASS 1E
	HOTWELL LEVEL		
1,2N27R401	FEEDWATER PUMP	18	NON CLASS 1E
	TURB VIB AND ECCEN		
1,2N31R001	MAIN TURB	24	NON CLASS 1E
	EXPANSION AND TEMP		
1,2N31R002	MAIN TURB	12	NON CLASS 1E
	VIBRATION AND ECCEN		
1,2N31R003	MAIN TURB	1	
	ECCEN SPEED AND VALVE		NON CLASS 1E
	POSITION		
1,2N31R005	MAIN TURB	24	NON CLASS 1E
	BEARING METAL TEMP		
1,2N64R605	OFF GAS	12	NON CLASS 1E
	HYDROGEN		

INFORMATION ONLY

## ATTACHMENT D

## POST TRIP LOG NSSS - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID	SCAN INTERVAL (SEC)
APRM FLUX LVL CH A	C51NA051	1
APRM FLUX LVL CH B	C51NA052	30
APRM FLUX LVL CH C	C51NA053	1
APRM FLUX LVL CH D	C51NA054	30
APRM FLUX LVL CH E	C51NA055	30
APRM FLUX LVL CH F	C51NA056	30
APRM FLUX LVL CH G	C51NA057	30
APRM FLUX LVL CH H	C51NA058	30
STEAM DOME PRESSURE	C34NA001	1
STEAM DOME TEMP	B21NA006	30
TOTAL CORE FLOW	BCCNA001	1
REACTOR FW FLOW LINE A	C34NA002	1
REACTOR FW FLOW LINE B	C34NA003	1
REACTOR WATER LEVEL	C34NA004	1
RECIRC LP A DR FL CH A	B33NA005	30
RECIRC LP A DR FL CH D	B33NC006	30
RECIRC LP B DR FL CH A	B33NA007	30
RECIRC LP B DR FL CH D	B33NA008	30
TOTAL STEAM FLOW	C34NA005	1
MAIN TURB STEAM FLOW	C34NA006	30
REACTOR CORE PRESS DROP	B21NA001	1
REACTOR FW INLET TEMP CH A	B21NA002	1
CRD SYSTEM FLOW	C11NA001	30
GROSS GENERATOR PWR	C91NA005	30

INFORMATION ONLY

## ATTACHMENT E

## POST TRIP LOG BOP - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID	SCAN INTERVAL (SEC)
UNIT 1 PLANT VNT GAS	D17BE001	15
UNIT 1 PLANT VNT IODINE	D17BE002	60
UNIT 1 PLANT VNT PART	D17BE003	60
UNIT 2 PLANT VNT GAS	D17B3007	15
UNIT 2 PLANT VNT IODINE	D17BE008	60
UNIT 2 PLANT VNT PART	D17BE009	60
UNIT 1 OG VENT GAS	D17BE004	15
UNIT 1 OG VENT IODINE	D17BE005	60
UNIT 1 OG VENT PART	D17BE006	60
ANNULUS EXH A GAS	D17BA019	60
ANNULUS EXH B GAS	D17BA020	60
MAIN STEAM LINE A PRESS	N11BA001	15
MAIN STEAM LINE B PRESS	N11BA002	15
MAIN STEAM LINE C PRESS	N11BA003	15
MAIN STEAM LINE D PRESS	N11BA004	15
FDW HOR PRESS A	N27BA001	15
FDW HOR PRESS B	N27BA002	15
MFP SUCTION FLOW	N27BA003	15
RFP A SUCTION FLOW	N27BA010	15
RFP B SUCTION FLOW	N27BA011	15
RFPT A HP BRG VIB	N27BA004	5
RFPT A HP BRG VIB	N27BA005	5
RFPT A ECCENTRICITY	N27BA006	15
RFPT B HP BRG VIB	N27BA007	5
RFPT B HP BRG VIB	N27BA008	5
RFPT B ECCENTRICITY	N27BA009	15
RFP A CPLG END BRG VIB	N27BA089	5
RFP A TH END BRG VIB	N27BA090	5
RFP B CPLG END BRG VIB	N27BA091	5
RFP B TH END BRG VIB	N27BA092	5
HTR 4 PRESS	N36BA013	30
AUX COND A PRESS	N21BA008	15
AUX COND B PRESS	N21BA009	30
AUX COND A TEMP	N21BA089	30
AUX COND B TEMP	N21BA090	30

INFORMATION ONLY



## ATTACHMENT F

## TURBINE GENERATOR LOG - PLANT COMPUTER

PARAMETER MEASURED	COMPUTER ID	SCAN INTERVAL (SEC)
LP EXH HOOD C TEMP	N31BA028	30
LP EXH HOOD D TEMP	N31BA027	30
LP EXH HOOD A TEMP	N31BA026	30
HP CNDR EXH PRESS	N21BA007	15
IP CNDR EXH PRESS	N21BA006	15
LP CNDR EXH PRESS	N21BA005	15
HP CNDR TEMP	N21BA031	30
IP CNDR TEMP	N21BA030	30
LP CNDR TEMP	N21BA029	30
MAIN TURBINE SPEED	N31BA013	30
MAIN TURB CONT VLV OPEN	N31BA018	30
MAIN STEAM LINE A PRESS	N11BA001	15
MAIN STEAM LINE B PRESS	N11BA002	15
MAIN STEAM LINE C PRESS	N11BA003	15
MAIN STEAM LINE D PRESS	N11BA004	15
GEN HYDROGEN PRESS	N35BA001	15
TRUB 1ST STG SHL IN TEMP	N31BA025	30
HP TURB 1 BRG VIB	N31BA001	5
HP TURB 2 BRG VIB	N31BA002	5
LP TURB A3 BRG VIB	N31BA003	5
LP TURB A4 BRG VIB	N31BA004	5
LP TURB B5 BRG VIB	N31BA005	5
LP TURB B6 BRG VIB	N31BA006	5
LP TURB C7 BRG VIB	N31BA007	5
LP TURB C8 BRG VIB	N31BA008	5
GEN 9 BRG VIB	N31BA009	5
GEN 10 BRG VIB	N31BA010	5
ALTERREX 11 BRG VIB	N31BA011	5
ALTERREX 12 BRG VIB	N31BA012	5
TURB TH FR UP BRG TEMP	N31BA019	5
TRUB TH FR LW BRG TEMP	N31BA020	5
TURB TH REAR UP BRG TEMP	N31BA021	5
TURB TH REAR LW BRG TEMP	N31BA022	5

INFORMATION ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
B21EC001	ISLN VALVE GROUP 1-A COMMAND
B21EC002	ISLN VALVE GROUP 1-B COMMAND
B21EC003	ISLN VALVE GROUP 2-A COMMAND
B21EC004	ISLN VALVE GROUP 2-B COMMAND
B21EC005	ISLN VALVE GROUP 3-A COMMAND
B21EC006	ISLN VALVE GROUP 3-B COMMAND
B21EC007	ISLN VALVE GROUP 4-A COMMAND
B21EC008	ISLN VALVE GROUP 4-B COMMAND
B21EC009	ISLN VALVE GROUP 5-A COMMAND
B21EC010	ISLN VALVE GROUP 5-B COMMAND
B21EC013	RPS CHANNEL ISOLATION A STATUS
B21EC014	RPS CHANNEL ISOLATION B STATUS
B21EC015	RPS CHANNEL ISOLATION C STATUS
B21EC016	RPS CHANNEL ISOLATION D STATUS
B21EC021	SRV INITIATION STATUS
B21EC022	SRV INITIATION STATUS
B21EC023	SRV INITIATION STATUS
B21EC024	SRV INITIATION STATUS
B21EC025	SRV INITIATION STATUS
B21EC026	SRV INITIATION STATUS
B21EC027	SRV INITIATION STATUS
B21EC028	SRV INITIATION STATUS
B21EC029	SRV INITIATION STATUS
B21EC030	SRV INITIATION STATUS
B21EC031	SRV INITIATION STATUS
B21EC032	SRV INITIATION STATUS
B21EC033	SRV INITIATION STATUS
B21EC034	SRV INITIATION STATUS
B21EC035	SRV INITIATION STATUS
B21EC036	SRV INITIATION STATUS
B21EC037	SRV INITIATION STATUS
B21EC038	SRV INITIATION STATUS
B21EC039	SRV INITIATION STATUS
B21EC042	SRV POSITION
B21EC043	SRV POSITION
B21EC044	SRV POSITION
B21EC045	SRV POSITION
B21EC046	SRV POSITION
B21EC047	SRV POSITION
B21EC048	SRV POSITION
B21EC049	SRV POSITION
B21EC050	SRV POSITION
B21EC051	SRV POSITION
B21EC052	SRV POSITION
B21EC053	SRV POSITION
B21EC054	SRV POSITION
B21EC055	SRV POSITION
B21EC056	SRV POSITION
B21EC057	SRV POSITION
B21EC058	SRV POSITION
B21EC059	SRV POSITION
B21EC060	SRV POSITION
B21EC065	FEEDWATER VALVE POSITION

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
B21EC066	FEEDWATER VALVE POSITION
B21EC067	FEEDWATER VALVE POSITION
B21EC068	FEEDWATER VALVE POSITION
B21EC069	INBOARD MSIV SOLENOID STATUS
B21EC070	INBOARD MSIV POSITION
B21EC071	INBOARD MSIV POSITION
B21EC072	INBOARD MSIV SOLENOID STATUS
B21EC073	INBOARD MSIV POSITION
B21EC074	INBOARD MSIV POSITION
B21EC075	INBOARD MSIV SOLENOID STATUS
B21EC076	INBOARD MSIV POSITION
B21EC077	INBOARD MSIV POSITION
B21EC078	INBOARD MSIV SOLENOID STATUS
B21EC079	INBOARD MSIV POSITION
B21EC080	INBOARD MSIV POSITION
B21EC081	OUTBOARD MSIV SOLENOID STATUS
B21EC082	OUTBOARD MSIV POSITION
B21EC083	OUTBOARD MSIV POSITION
B21EC084	OUTBOARD MSIV SOLENOID STATUS
B21EC085	OUTBOARD MSIV POSITION
B21EC086	OUTBOARD MSIV POSITION
B21EC087	OUTBOARD MSIV SOLENOID STATUS
B21EC088	OUTBOARD MSIV POSITION
B21EC089	OUTBOARD MSIV POSITION
B21EC090	OUTBOARD MSIV SOLENOID STATUS
B21EC091	OUTBOARD MSIV POSITION
B21EC092	OUTBOARD MSIV POSITION
B21EC093	OUTBD MN ST DR ISLN VALVE POSN
B21EC094	OUTBD MN ST DR ISLN VALVE POSN
B21EC095	OUTBD MN ST DR ISLN VALVE POSN
B21EC096	OUTBD MN ST DR ISLN VALVE POSN
B21EC097	OUTBD MN ST DR ISLN VALVE POSN
B21EC098	OUTBD MN ST DR ISLN VALVE POSN
B21EC099	OUTBD MN ST DR ISLN VALVE POSN
B21EC100	OUTBD MN ST DR ISLN VALVE POSN
B21EC101	OUTBD MN ST DR ISLN VALVE POSN
B21EC102	OUTBD MN ST DR ISLN VALVE POSN
B21EC103	INBD MN ST DR ISLN VALVE POSN
B21EC104	INBD MN ST DR ISLN VALVE POSN
B21EC150	VACUUM BREAKER POSITION
B21EC151	VACUUM BREAKER POSITION
B21EC152	VACUUM BREAKER POSITION
B21EC153	VACUUM BREAKER POSITION
B21EC154	VACUUM BREAKER POSITION
B21EC155	VACUUM BREAKER POSITION
B21EC156	VACUUM BREAKER POSITION
B21EC157	VACUUM BREAKER POSITION
B21EC158	VACUUM BREAKER POSITION
B21EC159	VACUUM BREAKER POSITION
B21EC160	VACUUM BREAKER POSITION
B21EC161	VACUUM BREAKER POSITION
B21EC162	VACUUM BREAKER POSITION

## DIGITAL INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
B21EC163	VACUUM BREAKER POSITION
B21EC164	VACUUM BREAKER POSITION
B21EC165	VACUUM BREAKER POSITION
B21EC166	VACUUM BREAKER POSITION
B21EC167	VACUUM BREAKER POSITION
B21EC168	VACUUM BREAKER POSITION
B21EC169	VACUUM BREAKER POSITION
B21EC170	VACUUM BREAKER POSITION
B21EC171	VACUUM BREAKER POSITION
B21EC172	VACUUM BREAKER POSITION
B21EC173	VACUUM BREAKER POSITION
B21EC174	VACUUM BREAKER POSITION
B21EC175	VACUUM BREAKER POSITION
B21EC176	VACUUM BREAKER POSITION
B21EC177	VACUUM BREAKER POSITION
B21EC178	VACUUM BREAKER POSITION
B21EC179	VACUUM BREAKER POSITION
B21EC180	VACUUM BREAKER POSITION
B21EC181	VACUUM BREAKER POSITION
B21EC182	VACUUM BREAKER POSITION
B21EC183	VACUUM BREAKER POSITION
B21EC184	VACUUM BREAKER POSITION
B21EC185	VACUUM BREAKER POSITION
B21EC186	VACUUM BREAKER POSITION
B21EC187	VACUUM BREAKER POSITION
B21EC188	ISLN VALVE GROUP 3-E COMMAND
B21EC189	ISLN VALVE GROUP 3-F COMMAND
B33EC001	LFMG SET MOTOR CB 1A STATUS
B33EC002	LFMG SET MOTOR CB 1B STATUS
B33EC003	LFMG SET GEN CB 2A STATUS
B33EC004	LFMG SET GEN CB 2B STATUS
B33EC005	RPT CB 3A STATUS
B33EC006	RPT CB 3B STATUS
B33EC007	RPT CB 4A STATUS
B33EC008	RPT CB 4B STATUS
B33EC009	RECIRC PUMP CB 5A STATUS
B33EC010	RECIRC PUMP CB 5B STATUS
C11EC001	SELECTED CONTROL ROD POSITION
C11EC002	CRD PUMP A STATUS
C11EC003	CRD PUMP B STATUS
C11EC004	ALL CONTROL RODS IN
C22EC001	RRCS MNL INITIATE--CHANNEL 1A
C22EC002	RRCS MNL INITIATE--CHANNEL 1B
C22EC003	RRCS MNL INITIATE--CHANNEL 2A
C22EC004	RRCS MNL INITIATE--CHANNEL 2B
C22EC005	RRCS MNL INITIATE ARMED--DIV 1
C22EC006	RRCS MNL INITIATE ARMED--DIV 2
C22EC007	RRCS ARI INITIATED-DIV 1
C22EC008	RRCS ARI INITIATED-DIV 2
C22EC009	RRCS FW RUNBACK INITIATE-DIV 1
C22EC010	RRCS FW RUNBACK INITIATE-DIV 2
C22EC011	RRCS RX WATER LEVEL 2-1A



## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
C22EC012	RRCS RX WATER LEVEL 2-1B
C22EC013	RRCS RX WATER LEVEL 2-2A
C22EC014	RRCS RX WATER LEVEL 2-2B
C22EC015	RRCS RX HIGH DOME PRESS-1A
C22EC016	RRCS RX HIGH DOME PRESS-1B
C22EC017	RRCS RX HIGH DOME PRESS-2A
C22EC018	RRCS RX HIGH DOME PRESS-2B
C22EC019	RRCS CONFIRMED ATWS-DIV 1
C22EC020	RRCS CONFIRMED ATWS-DIV 2
C22EC021	RRCS POTENTIAL ATWS-DIV 1
C22EC022	RRCS POTENTIAL ATWS-DIV 2
C22EC023	RRCS FW/LFMG TRIP TIMER-DIV 1
C22EC024	RRCS FW/LFMG TRIP TIMER-DIV 2
C22EC025	RRCS ARI READY FOR RESET-DIV 1
C22EC026	RRCS ARI READY FOR RESET-DIV 2
C22EC027	RRCS READY FOR RESET-DIV 1
C22EC028	RRCS READY FOR RESET-DIV 2
C22EC029	RRCS LFMG SET TRANSFER-DIV 1
C22EC030	RRCS LFMG SET TRANSFER-DIV 2
C22EC031	RRCS RWCU ISOLATED-DIV 1
C22EC032	RRCS RWCU ISOLATED-DIV 2
C34EC001	TDFP A TRIP STATUS
C34EC002	TDFP B TRIP STATUS
C34EC003	MDFP C TRIP STATUS
C41EC001	SLCS PUMP A STATUS
C41EC002	SLCS PUMP B STATUS
C41EC003	SLCS SQUIB VALVE STATUS
C41EC004	SLCS SQUIB VALVE STATUS
C41EC005	SLCS PUMP SUCTION VALVE POSITION
C41EC006	SLCS PUMP SUCTION VALVE POSITION
C41EC007	SLCS RX INLET MAINT VALVE POSN
C41EC008	SLCS RX INLET MAINT VALVE POSN
C41EC009	SLCS TEST TANK OUTLET VALVE POSN
C41EC010	SLCS TEST TANK OUTLET VALVE POSN
C41EC011	SLCS PUMP SUCTION VALVE POSITION
C41EC012	SLCS PUMP SUCTION VALVE POSITION
C51EC001	SRM A POSITION--FULL IN
C51EC002	SRM B POSITION--FULL IN
C51EC003	SRM C POSITION--FULL IN
C51EC004	SRM D POSITION--FULL IN
C71EC001	CHANNEL SCRAM A STATUS
C71EC002	CHANNEL SCRAM B STATUS
C71EC003	CHANNEL SCRAM C STATUS
C71EC004	CHANNEL SCRAM D STATUS
C71EC005	MANUAL SCRAM A STATUS
C71EC006	MANUAL SCRAM B STATUS
C71EC007	MANUAL SCRAM C STATUS
C71EC008	MANUAL SCRAM D STATUS
C71EC009	RPT LOGIC A STATUS
C71EC010	RPT LOGIC B STATUS
C71EC011	RX MODE SWITCH POSITION
C71EC012	RX MODE SWITCH POSITION

INFORMATION ONLY

## DIGITAL INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
C71EC013	RX MODE SWITCH POSITION
C71EC014	RX MODE SWITCH POSITION
C95EC001	MNL EVENT MARKER-CONTROL ROOM
C95EC002	MNL EVENT MARKER-TSC
D17EC001	OUTBD ISOLATION VALVE POSITION
D17EC002	OUTBD ISOLATION VALVE POSITION
D17EC003	INBD ISOLATION VALVE POSITION
D17EC004	INBD ISOLATION VALVE POSITION
D17EC005	OUTBD ISOLATION VALVE POSITION
D17EC006	OUTBD ISOLATION VALVE POSITION
D17EC007	INBD ISOLATION VALVE POSITION
D17EC008	INBD ISOLATION VALVE POSITION
D17EC009	OUTBD ISOLATION VALVE POSITION
D17EC010	OUTBD ISOLATION VALVE POSITION
D17EC011	INBD ISOLATION VALVE POSITION
D17EC012	INBD ISOLATION VALVE POSITION
D17EC013	OUTBD ISOLATION VALVE POSITION
D17EC014	OUTBD ISOLATION VALVE POSITION
D17EC015	INBD ISOLATION VALVE POSITION
D17EC016	INBD ISOLATION VALVE POSITION
D23EC001	OUTBD ISOLATION VALVE POSITION
D23EC002	OUTBD ISOLATION VALVE POSITION
D23EC003	OUTBD ISOLATION VALVE POSITION
D23EC004	OUTBD ISOLATION VALVE POSITION
D23EC005	OUTBD ISOLATION VALVE POSITION
D23EC006	OUTBD ISOLATION VALVE POSITION
D23EC007	OUTBD ISOLATION VALVE POSITION
D23EC008	OUTBD ISOLATION VALVE POSITION
D23EC009	INBD ISOLATION VALVE POSITION
D23EC010	INBD ISOLATION VALVE POSITION
D23EC011	INBD ISOLATION VALVE POSITION
D23EC012	INBD ISOLATION VALVE POSITION
D23EC013	INBD ISOLATION VALVE POSITION
D23EC014	INBD ISOLATION VALVE POSITION
D23EC015	INBD ISOLATION VALVE POSITION
D23EC016	INBD ISOLATION VALVE POSITION
D23EC017	ISOLATION VALVE POSITION
D23EC018	ISOLATION VALVE POSITION
E12EC001	RHR PUMP A STATUS
E12EC002	RHR PUMP B STATUS
E12EC003	RHR PUMP C STATUS
E12EC004	OUTBD RHR SHTDN CLG SUCT VLV POS
E12EC005	OUTBD RHR SHTDN CLG SUCT VLV POS
E12EC006	INBD RHR SHTDN CLG SUCT VLV POSN
E12EC007	INBD RHR SHTDN CLG SUCT VLV POSN
E12EC008	RHR VALVE POSITION
E12EC009	RHR VALVE POSITION
E12EC012	RHR PUMP A POOL SUCT VALVE POSN
E12EC013	RHR PUMP A POOL SUCT VALVE POSN
E12EC014	RHR VALVE POSITION
E12EC015	RHR VALVE POSITION
E12EC016	RHR VALVE POSITION

## DIGITAL INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
E12EC017	RHR VALVE POSITION
E12EC018	RHR VALVE POSITION
E12EC019	RHR VALVE POSITION
E12EC020	RHR VALVE POSITION
E12EC021	RHR VALVE POSITION
E12EC022	RHR VALVE POSITION
E12EC023	RHR VALVE POSITION
E12EC024	RHR VALVE POSITION
E12EC025	RHR VALVE POSITION
E12EC026	RHR VALVE POSITION
E12EC027	RHR VALVE POSITION
E12EC028	RHR VALVE POSITION
E12EC029	RHR VALVE POSITION
E12EC030	RHR VALVE POSITION
E12EC031	RHR VALVE POSITION
E12EC032	RHR VALVE POSITION
E12EC033	RHR VALVE POSITION
E12EC034	RHR A SHTDN CLG RET VALVE POSN
E12EC035	RHR A SHTDN CLG RET VALVE POSN
E12EC036	RHR A CNTMT SPRAY VALVE POSN
E12EC037	RHR A CNTMT SPRAY VALVE POSN
E12EC038	RHR VALVE POSITION
E12EC039	RHR VALVE POSITION
E12EC040	RHR VALVE AIR STATUS
E12EC041	RHR VALVE AIR STATUS
E12EC042	RHR A INJECTION VALVE POSITION
E12EC043	RHR A INJECTION VALVE POSITION
E12EC044	RHR VALVE POSITION
E12EC045	RHR VALVE POSITION
E12EC046	RHR A INJECTION CHECK VLV POSN
E12EC047	RHR A INJECTION CHECK VLV POSN
E12EC048	RHR VALVE POSITION
E12EC049	RHR VALVE POSITION
E12EC052	RHR VALVE POSITION
E12EC053	RHR VALVE POSITION
E12EC054	RHR VALVE POSITION
E12EC055	RHR VALVE POSITION
E12EC056	RHR VALVE POSITION
E12EC057	RHR VALVE POSITION
E12EC058	RHR VALVE POSITION
E12EC059	RHR VALVE POSITION
E12EC060	RHR VALVE POSITION
E12EC061	RHR VALVE POSITION
E12EC062	RHR VALVE POSITION
E12EC063	RHR VALVE POSITION
E12EC064	RHR VALVE POSITION
E12EC065	RHR VALVE POSITION
E12EC066	RHR VALVE POSITION
E12EC067	RHR VALVE POSITION
E12EC068	RHR VALVE POSITION
E12EC069	RHR VALVE POSITION
E12EC070	RHR VALVE POSITION

INFORMATION ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
E12EC071	RHR VALVE POSITION
E12EC072	RHR VALVE POSITION
E12EC073	RHR VALVE POSITION
E12EC074	RHR VALVE POSITION
E12EC075	RHR VALVE POSITION
E12EC076	RHR B SHTDN CLG RET VALVE POSN
E12EC077	RHR B SHTDN CLG RET VALVE POSN
E12EC078	RHR B CNTMT SPRAY VALVE POSN
E12EC079	RHR B CNTMT SPRAY VALVE POSN
E12EC080	RHR VALVE POSITION
E12EC081	RHR VALVE POSITION
E12EC082	RHR VALVE AIR STATUS
E12EC083	RHR VALVE AIR STATUS
E12EC084	RHR B INJECTION VALVE POSITION
E12EC085	RHR B INJECTION VALVE POSITION
E12EC086	RHR VALVE POSITION
E12EC087	RHR VALVE POSITION
E12EC088	RHR B INJECTION CHECK VLV POSN
E12EC089	RHR B INJECTION CHECK VLV POSN
E12EC090	RHR VALVE POSITION
E12EC091	RHR VALVE POSITION
E12EC092	RHR C INJECTION CHECK VLV POSN
E12EC093	RHR C INJECTION CHECK VLV POSN
E12EC094	RHR C INJECTION VALVE POSITION
E12EC095	RHR C INJECTION VALVE POSITION
E12EC096	RHR VALVE POSITION
E12EC097	RHR VALVE POSITION
E12EC098	RHR VALVE POSITION
E12EC099	RHR VALVE POSITION
E12EC100	RHR VALVE POSITION
E12EC101	RHR VALVE POSITION
E12EC102	RHR VALVE POSITION
E12EC103	RHR VALVE POSITION
E12EC104	RHR PUMP C POOL SUCT VALVE POSN
E12EC105	RHR PUMP C POOL SUCT VALVE POSN
E12EC106	RHR WATER LEG PUMP STATUS
E12EC107	RHR VALVE POSITION
E12EC108	RHR VALVE POSITION
E12EC109	RHR VALVE POSITION
E12EC110	RHR VALVE POSITION
E12EC111	RHR VALVE POSITION
E12EC112	RHR VALVE POSITION
E12EC113	RHR A INOP STATUS
E12EC114	RHR B INOP STATUS
E12EC115	RHR C INOP STATUS
E21EC001	LPCS SYSTEM INITIATION STATUS
E21EC002	LPCS SYSTEM INOP STATUS
E21EC003	LPCS PUMP STATUS
E21EC004	LPCS INJECTION VALVE POSITION
E21EC005	LPCS INJECTION VALVE POSITION
E21EC006	LPCS TEST CHECK VALVE POSITION
E21EC007	LPCS TEST CHECK VALVE POSITION

INFORMATION ONLY



## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
E21EC008	LPCS SUCTION VALVE POSITION
E21EC009	LPCS SUCTION VALVE POSITION
E21EC010	LPCS MIN FLOW TO POOL VALVE POSN
E21EC011	LPCS MIN FLOW TO POOL VALVE POSN
E21EC012	LPCS TEST RET TO POOL VALVE POSN
E21EC013	LPCS TEST RET TO POOL VALVE POSN
E21EC014	LPCS INJ MAINT VALVE POSITION
E21EC015	LPCS INJ MAINT VALVE POSITION
E21EC016	LPCS SYSTEM LINE BREAK STATUS
E21EC017	LPCS WATER LEG PUMP STATUS
E22EC001	HPCS SYSTEM INITIATION STATUS
E22EC002	HPCS SYSTEM INOP STATUS
E22EC003	HPCS PUMP STATUS
E22EC006	HPCS WATER LEG PUMP STATUS
E22EC007	HPCS INJECTION VALVE POSITION
E22EC008	HPCS INJECTION VALVE POSITION
E22EC009	HPCS TEST CHECK VALVE POSITION
E22EC010	HPCS TEST CHECK VALVE POSITION
E22EC011	HPCS TEST RET TO POOL VALVE POSN
E22EC012	HPCS TEST RET TO POOL VALVE POSN
E22EC013	HPCS MIN FLOW TO POOL VALVE POSN
E22EC014	HPCS MIN FLOW TO POOL VALVE POSN
E22EC015	HPCS PUMP POOL SUCT VALVE POSN
E22EC016	HPCS PUMP POOL SUCT VALVE POSN
E22EC017	HPCS PUMP CST SUCT VALVE POSN
E22EC018	HPCS VALVE POSITION
E22EC023	HPCS INJ MAINT VALVE POSITION
E22EC024	HPCS INJ MAINT VALVE POSITION
E22EC025	HPCS SYSTEM LINE BREAK STATUS
E22EC026	DIV 3 DIESEL GEN INOP STATUS
E31EC001	RWCU LEAK DETECTION DIFF FLOW A
E31EC002	RWCU LEAK DETECTION DIFF FLOW B
E51EC001	RCIC SYSTEM INITIATION STATUS
E51EC002	RCIC TURB SPLY DR POT LVL STATUS
E51EC003	RCIC TURB EXH DR POT LVL STATUS
E51EC004	RCIC WATER LEG PUMP STATUS
E51EC005	RCIC GLAND SEAL CPRSR STATUS
E51EC006	RCIC OUTBD ST SPLY ISLN VLV POSN
E51EC007	RCIC OUTBD ST SPLY ISLN VLV POSN
E51EC008	RCIC OUTBD VAC BRKR ISLN VLV POS
E51EC009	RCIC OUTBD VAC BRKR ISLN VLV POS
F51EC010	RCIC EXHAUST TO POOL VALVE POSN
E51EC011	RCIC EXHAUST TO POOL VALVE POSN
E51EC012	RCIC TRIP/OPERATOR STATUS
E51EC013	RCIC TRIP/OPERATOR STATUS
E51EC014	RCIC TRIP/THROTTLE VALVE POSN
E51EC015	RCIC TRIP/THROTTLE VALVE POSN
E51EC016	RCIC ST LINE DR ISLN VALVE POSN
E51EC017	RCIC ST LINE DR ISLN VALVE POSN
E51EC018	RCIC TURB EXH DR ISLN VALVE POSN
E51EC019	RCIC TURB EXH DR ISLN VALVE POSN
E51EC020	RCIC ST LINE DR ISLN VALVE POSN

INFORMATION ONLY

## DIGITAL INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
E51EC021	RCIC ST LINE DR ISLN VALVE POSN
E51EC022	RCIC TURB EXH DR ISLN VALVE POSN
E51EC023	RCIC TURB EXH DR ISLN VALVE POSN
E51EC024	RCIC INBD ST SPLY ISLN VLV POSN
E51EC025	RCIC INBD ST SPLY ISLN VLV POSN
E51EC026	RCIC ST LINE WARMUP VALVE POSN
E51EC027	RCIC ST LINE WARMUP VALVE POSN
E51EC028	RCIC INBD VAC BRKR ISLN VLV POSN
E51EC029	RCIC INBD VAC BRKR ISLN VLV POSN
E51EC034	RCIC TURBINE TRIP STATUS
E51EC035	RCIC CNDS TRAP BYP VALVE POSN
E51EC036	RCIC CNDS TRAP BYP VALVE POSN
E51EC037	RCIC LEAK DETECTION-DIV 1
E51EC038	RCIC LEAK DETECTION-DIV 2
E51EC039	ISLN VALVE GROUP 6-A COMMAND
E51EC040	ISLN VALVE GROUP 6-B COMMAND
E51EC041	RCIC TURB LUBE OIL TEMP STATUS
E51EC042	RCIC INJECTION VALVE POSN
E51EC043	RCIC INJECTION VALVE POSN
E51EC044	RCIC POOL SUCTION VLV POSN
E51EC045	RCIC POOL SUCTION VLV POSN
E51EC046	RCIC CST SUCTION VLV POSN
E51EC047	RCIC CST SUCTION VLV POSN
E51EC048	RCIC TEST CHECK VLV POSN
E51EC049	RCIC TEST CHECK VLV POSN
E51EC050	RCIC TEST RET TO POOL VLV POSN
E51EC051	RCIC TEST RET TO POOL VLV POSN
E51EC052	RCIC TEST RET TO CST VLV POSN
E51EC053	RCIC TEST RET TO CST VLV POSN
E51EC054	RCIC TEST RET TO CST VLV POSN
E51EC055	RCIC TEST RET TO CST VLV POSN
G33EC002	RWCU PUMP A STATUS
G33EC003	RWCU PUMP B STATUS
G33EC004	RWCU INBD ISLN VALVE POSITION
G33EC005	RWCU INBD ISLN VALVE POSITION
G33EC006	RWCU OUTBD ISLN VALVE POSITION
G33EC007	RWCU OUTBD ISLN VALVE POSITION
G33EC008	RWCU INBD ISLN VALVE POSITION
G33EC009	RWCU INED ISLN VALVE POSITION
G33EC010	RWCU OUTBD ISLN VALVE POSITION
G33EC011	RWCU OUTBD ISLN VALVE POSITION
G33EC012	RWCU INBD ISLN VALVE POSITION
G33EC013	RWCU INBD ISLN VALVE POSITION
G33EC014	RWCU OUTBD ISLN VALVE POSITION
G33EC015	RWCU OUTBD ISLN VALVE POSITION
G33EC016	RWCU OUTBD ISLN VALVE POSITION
G33EC017	RWCU OUTBD ISLN VALVE POSITION
G33EC018	RWCU INBD ISLN VALVE POSITION
G33EC019	RWCU INBD ISLN VALVE POSITION
G33EC020	RWCU VALVE POSITION
G33EC021	RWCU VALVE POSITION
G33EC024	RWCU VALVE POSITION

INFORMATION ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
G33EC025	RWCU VALVE POSITION
G33EC026	RWCU VALVE POSITION
G33EC027	RWCU VALVE POSITION
G33EC028	RWCU VALVE POSITION
G33EC029	RWCU VALVE POSITION
G33EC030	RWCU VALVE POSITION
G33EC031	RWCU VALVE POSITION
G33EC032	RWCU VALVE POSITION
G33EC033	RWCU VALVE POSITION
G33EC034	RWCU VALVE POSITION
G33EC035	RWCU VALVE POSITION
G33EC036	RWCU VALVE POSITION
G33EC037	RWCU VALVE POSITION
G33EC038	RWCU VALVE POSITION
G33EC039	RWCU VALVE POSITION
G33EC040	RWCU VALVE POSITION
G36EC001	FILTER/DEMIN VALVE POSITION
G36EC002	FILTER/DEMIN VALVE POSITION
G36EC003	FILTER/DEMIN VALVE POSITION
G36EC004	FILTER/DEMIN VALVE POSITION
G36EC005	FILTER/DEMIN VALVE POSITION
G36EC006	FILTER/DEMIN VALVE POSITION
G36EC007	FILTER/DEMIN VALVE POSITION
G36EC008	FILTER/DEMIN VALVE POSITION
G36EC009	FILTER/DEMIN VALVE POSITION
G36EC010	FILTER/DEMIN VALVE POSITION
G36EC011	FILTER/DEMIN VALVE POSITION
G36EC012	FILTER/DEMIN VALVE POSITION
G36EC013	FILTER/DEMIN VALVE POSITION
G36EC014	FILTER/DEMIN VALVE POSITION
G36EC015	FILTER/DEMIN VALVE POSITION
G36EC016	FILTER/DEMIN VALVE POSITION
G41EC001	OUTBD FPCCU ISOLATION VALVE POSN
G41EC002	OUTBD FPCCU ISOLATION VALVE POSN
G41EC003	OUTBD FPCCU ISOLATION VALVE POSN
G41EC004	OUTBD FPCCU ISOLATION VALVE POSN
G41EC005	INBD FPCCU ISOLATION VALVE POSN
G41EC006	INBD FPCCU ISOLATION VALVE POSN
G42EC001	SUPPR POOL CLEANUP PUMP STATUS
G42EC002	ISOLATION VALVE POSITION
G42EC003	ISOLATION VALVE POSITION
G42EC004	ISOLATION VALVE POSITION
G42EC005	ISOLATION VALVE POSITION
G43EC001	OUTBD ISOLATION VALVE POSITION
G43EC002	OUTBD ISOLATION VALVE POSITION
G43EC003	OUTBD ISOLATION VALVE POSITION
G43EC004	ISOLATION VALVE POSITION
G43EC005	ISOLATION VALVE POSITION
G43EC006	ISOLATION VALVE POSITION
G50EC001	OUTBD LIQ RAD SUMP ISLN VLV POSN
G50EC002	OUTBD LIQ RAD SUMP ISLN VLV POSN
G50EC003	INBD LIQ RAD SUMP ISLN VLV POSN



## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
G50EC004	INBD LIQ RAD SUMP ISLN VLV POSN
G50EC005	RWCU BACKWASH XFER PUMP STATUS
G61EC001	OUTBD ISOLATION VALVE POSN
G61EC002	OUTBD ISOLATION VALVE POSN
G61EC003	OUTBD ISOLATION VALVE POSN
G61EC004	OUTBD ISOLATION VALVE POSN
G61EC005	INBD ISOLATION VALVE POSN
G61EC006	INBD ISOLATION VALVE POSN
G61EC007	INBD ISOLATION VALVE POSN
G61EC008	INBD ISOLATION VALVE POSN
M14EC001	CNTMT PURGE SUPPLY FAN STATUS
M14EC002	CNTMT PURGE SUPPLY FAN STATUS
M14EC003	DRYWELL PURGE FAN STATUS
M14EC004	DRYWELL PURGE FAN STATUS
M14EC005	DW/CNTMT PURGE EXH FAN STATUS
M14EC006	DW/CNTMT PURGE EXH FAN STATUS
M14EC007	ISOLATION VALVE POSITION
M14EC008	ISOLATION VALVE POSITION
M14EC009	ISOLATION VALVE POSITION
M14EC010	ISOLATION VALVE POSITION
M14EC011	EMER VENT DAMPER POSITION
M14EC012	EMER VENT DAMPER POSITION
M14EC013	EMER VENT DAMPER POSITION
M14EC014	EMER VENT DAMPER POSITION
M14EC015	EMER VENT DAMPER POSITION
M14EC016	EMER VENT DAMPER POSITION
M14EC017	ISOLATION VALVE POSITION
M14EC018	ISOLATION VALVE POSITION
M14EC019	ISOLATION VALVE POSITION
M14EC020	ISOLATION VALVE POSITION
M14EC021	ISOLATION VALVE POSITION
M14EC022	ISOLATION VALVE POSITION
M14EC023	ISOLATION VALVE POSITION
M14EC024	ISOLATION VALVE POSITION
M14EC025	EMER VENT DAMPER POSITION
M14EC026	EMER VENT DAMPER POSITION
M14EC027	EMER VENT DAMPER POSITION
M14EC028	EMER VENT DAMPER POSITION
M14EC029	EMER VENT DAMPER POSITION
M14EC030	EMER VENT DAMPER POSITION
M15EC001	EMER VENT DAMPER POSITION
M15EC002	EMER VENT DAMPER POSITION
M15EC003	EMER VENT DAMPER POSITION
M15EC004	EMER VENT DAMPER POSITION
M15EC005	EMER VENT DAMPER POSITION
M15EC006	EMER VENT DAMPER POSITION
M15EC007	EMER VENT DAMPER POSITION
M15EC008	EMER VENT DAMPER POSITION
M16EC001	EMER VENT DAMPER POSITION
M16EC002	EMER VENT DAMPER POSITION
M16EC003	EMER VENT DAMPER POSITION
M16EC004	EMER VENT DAMPER POSITION

INFORMATION ONLY



## DIGITAL INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
M16EC005	EMER VENT DAMPER POSITION
M16EC006	EMER VENT DAMPER POSITION
M16EC007	EMER VENT DAMPER POSITION
M16EC008	EMER VENT DAMPER POSITION
M17EC001	ISOLATION VALVE POSITION
M17EC002	ISOLATION VALVE POSITION
M17EC003	ISOLATION VALVE POSITION
M17EC004	ISOLATION VALVE POSITION
M17EC005	ISOLATION VALVE POSITION
M17EC006	ISOLATION VALVE POSITION
M17EC007	ISOLATION VALVE POSITION
M17EC008	ISOLATION VALVE POSITION
M17EC009	ISOLATION VALVE POSITION
M17EC010	ISOLATION VALVE POSITION
M17EC011	ISOLATION VALVE POSITION
M17EC012	ISOLATION VALVE POSITION
M17EC013	ISOLATION VALVE POSITION
M17EC014	ISOLATION VALVE POSITION
M17EC015	ISOLATION VALVE POSITION
M17EC016	ISOLATION VALVE POSITION
M17EC017	ISOLATION VALVE POSITION
M17EC018	ISOLATION VALVE POSITION
M17EC019	ISOLATION VALVE POSITION
M17EC020	ISOLATION VALVE POSITION
M23EC001	EMER VENT DAMPER POSITION
M23EC002	EMER VENT DAMPER POSITION
M23EC003	EMER VENT DAMPER POSITION
M23EC004	EMER VENT DAMPER POSITION
M24EC001	EMER VENT DAMPER POSITION
M24EC002	EMER VENT DAMPER POSITION
M24EC003	EMER VENT DAMPER POSITION
M24EC004	EMER VENT DAMPER POSITION
M24EC005	EMER VENT DAMPER POSITION
M24EC006	EMER VENT DAMPER POSITION
M24EC007	EMER VENT DAMPER POSITION
M24EC008	EMER VENT DAMPER POSITION
M24EC009	EMER VENT DAMPER POSITION
M24EC010	EMER VENT DAMPER POSITION
M24EC011	EMER VENT DAMPER POSITION
M24EC012	EMER VENT DAMPER POSITION
M25EC001	EMER VENT DAMPER POSITION
M25EC002	EMER VENT DAMPER POSITION
M25EC003	EMER VENT DAMPER POSITION
M25EC004	EMER VENT DAMPER POSITION
M25EC005	EMER VENT DAMPER POSITION
M25EC006	EMER VENT DAMPER POSITION
M25EC007	EMER VENT DAMPER POSITION
M25EC008	EMER VENT DAMPER POSITION
M25EC009	EMER VENT DAMPER POSITION
M25EC010	EMER VENT DAMPER POSITION
M25EC011	EMER VENT DAMPER POSITION
M25EC012	EMER VENT DAMPER POSITION

INFORMATION ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
M25EC013	EMER VENT DAMPER POSITION
M25EC014	EMER VENT DAMPER POSITION
M25EC015	EMER VENT DAMPER POSITION
M25EC016	EMER VENT DAMPER POSITION
M25EC017	EMER VENT DAMPER POSITION
M25EC018	EMER VENT DAMPER POSITION
M25EC019	EMER VENT DAMPER POSITION
M25EC020	EMER VENT DAMPER POSITION
M25EC021	EMER VENT DAMPER POSITION
M25EC022	EMER VENT DAMPER POSITION
M25EC023	EMER VENT DAMPER POSITION
M25EC024	EMER VENT DAMPER POSITION
M25EC025	ISOLATION VALVE POSITION
M25EC026	ISOLATION VALVE POSITION
M25EC027	ISOLATION VALVE POSITION
M25EC028	ISOLATION VALVE POSITION
M26EC001	EMER VENT DAMPER POSITION
M26EC002	EMER VENT DAMPER POSITION
M26EC003	EMER VENT DAMPER POSITION
M26EC004	EMER VENT DAMPER POSITION
M28EC001	EMER VENT FAN STATUS
M28EC002	EMER VENT FAN STATUS
M32EC001	EMER VENT DAMPER POSITION
M32EC002	EMER VENT DAMPER POSITION
M32EC003	EMER VENT DAMPER POSITION
M32EC004	EMER VENT DAMPER POSITION
M39EC001	EMER VENT FAN STATUS
M39EC002	EMER VENT FAN STATUS
M39EC003	EMER VENT FAN STATUS
M39EC004	EMER VENT FAN STATUS
M39EC005	EMER VENT FAN STATUS
M39EC006	EMER VENT FAN STATUS
M40EC001	EMER VENT FAN STATUS
M40EC002	EMER VENT FAN STATUS
M40EC003	EMER VENT FAN STATUS
M40EC004	EMER VENT FAN STATUS
M40EC005	EMER VENT FAN STATUS
M43EC001	EMERGENCY VENT FAN STATUS
M43EC002	EMERGENCY VENT FAN STATUS
M43EC003	EMERGENCY VENT FAN STATUS
M43EC004	EMERGENCY VENT FAN STATUS
M43EC005	EMERGENCY VENT FAN STATUS
M43EC006	EMERGENCY VENT FAN STATUS
M51EC001	ISOLATION VALVE POSITION
M51EC002	ISOLATION VALVE POSITION
M51EC003	ISOLATION VALVE POSITION
M51EC004	ISOLATION VALVE POSITION
M51EC005	ISOLATION VALVE POSITION
M51EC006	ISOLATION VALVE POSITION
M51EC007	ISOLATION VALVE POSITION
M51EC008	ISOLATION VALVE POSITION
M51EC009	ISOLATION VALVE POSITION

RECOMMENDED ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
M51EC010	ISOLATION VALVE POSITION
M51EC011	ISOLATION VALVE POSITION
M51EC012	ISOLATION VALVE POSITION
M51EC013	ISOLATION VALVE POSITION
M51EC014	ISOLATION VALVE POSITION
M51EC015	ISOLATION VALVE POSITION
M51EC016	ISOLATION VALVE POSITION
M51EC017	ISOLATION VALVE POSITION
M51EC018	ISOLATION VALVE POSITION
M51EC019	ISOLATION VALVE POSITION
M51EC020	ISOLATION VALVE POSITION
M51EC021	ISOLATION VALVE POSITION
M51EC022	ISOLATION VALVE POSITION
M51EC023	ISOLATION VALVE POSITION
M51EC024	ISOLATION VALVE POSITION
N21EC001	FEEDWATER HEATER VALVE POSITION
N21EC002	FEEDWATER HEATER VALVE POSITION
N21EC003	FEEDWATER HEATER VALVE POSITION
N21EC004	FEEDWATER HEATER VALVE POSITION
N21EC005	FEEDWATER HEATER VALVE POSITION
N21EC006	FEEDWATER HEATER VALVE POSITION
N21EC007	FEEDWATER HEATER VALVE POSITION
N21EC008	FEEDWATER HEATER VALVE POSITION
N21EC009	FEEDWATER HEATER VALVE POSITION
N21EC010	FEEDWATER HEATER VALVE POSITION
N21EC011	CNDS BOOSTER PUMP A TRIP STATUS
N21EC012	CNDS BOOSTER PUMP C TRIP STATUS
N21EC013	HOTWELL PUMP A TRIP STATUS
N21EC014	CNDS BOOSTER PUMP B TRIP STATUS
N21EC015	HOTWELL PUMP B TRIP STATUS
N21EC016	HOTWELL PUMP C TRIP STATUS
N23EC001	CNDS FILTER A ON-LINE STATUS
N23EC002	CNDS FILTER B ON-LINE STATUS
N23EC003	CNDS FILTER C ON-LINE STATUS
N23EC004	CNDS FILTER D ON-LINE STATUS
N23EC005	CNDS FILTER E ON-LINE STATUS
N23EC006	CNDS FILTER F ON-LINE STATUS
N23EC007	CNDS FILTER G ON-LINE STATUS
N23EC008	CNDS FILTER H ON-LINE STATUS
N24EC001	CNDS DEMIN A ON-LINE STATUS
N24EC002	CNDS DEMIN B ON-LINE STATUS
N24EC003	CNDS DEMIN C ON-LINE STATUS
N24EC004	CNDS DEMIN D ON-LINE STATUS
N24EC005	CNDS DEMIN E ON-LINE STATUS
N24EC006	CNDS DEMIN F ON-LINE STATUS
N27EC001	FEEDWATER VALVE POSITION
N27EC002	FEEDWATER VALVE POSITION
N27EC003	FEEDWATER VALVE POSITION
N27EC004	FEEDWATER VALVE POSITION
N27EC005	FEEDWATER VALVE POSITION
N27EC006	FEEDWATER VALVE POSITION
N27EC007	FEEDWATER VALVE POSITION



## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
N27EC008	FEEDWATER VALVE POSITION
N27EC009	FEEDWATER VALVE POSITION
N27EC010	FEEDWATER VALVE POSITION
N27EC011	FEEDWATER VALVE POSITION
N27EC012	FEEDWATER VALVE POSITION
N27EC013	FEEDWATER VALVE POSITION
N27EC014	FEEDWATER VALVE POSITION
N27EC015	FEEDWATER VALVE POSITION
N27EC016	FEEDWATER VALVE POSITION
N27EC017	FEEDWATER VALVE POSITION
N27EC018	FEEDWATER VALVE POSITION
N27EC019	FEEDWATER VALVE POSITION
N27EC020	FEEDWATER VALVE POSITION
N27EC021	FEEDWATER VALVE POSITION
N27EC022	FEEDWATER VALVE POSITION
N27EC023	FEEDWATER VALVE POSITION
N27EC024	FEEDWATER VALVE POSITION
N27EC025	FEEDWATER BOOSTER PUMP A STATUS
N27EC026	FEEDWATER BOOSTER PUMP B STATUS
N27EC027	FEEDWATER BOOSTER PUMP C STATUS
N27EC028	FEEDWATER BOOSTER PUMP D STATUS
N27EC029	MDFP C STATUS
N32EC001	TURBINE TRIP STATUS
N41EC001	MAIN GEN CB S610 PH A-STATUS
N41EC002	MAIN GEN CB S611 PH A-STATUS
N41EC003	GENERATOR TRIP STATUS
N41EC004	MAIN GEN CB S610 PH B-STATUS
N41EC005	MAIN GEN CB S610 PH C-STATUS
N41EC006	MAIN GEN CB S611 PH B-STATUS
N41EC007	MAIN GEN CB S611 PH C-STATUS
P11EC001	ISOLATION VALVE POSITION
P11EC002	ISOLATION VALVE POSITION
P11EC003	ISOLATION VALVE POSITION
P11EC004	ISOLATION VALVE POSITION
P11EC005	ISOLATION VALVE POSITION
P11EC006	ISOLATION VALVE POSITION
P22EC001	ISOLATION VALVE POSITION
P22EC002	ISOLATION VALVE POSITION
P43EC001	NCC OUTBD ISOLATION VALVE POSN
P43EC002	NCC OUTBD ISOLATION VALVE POSN
P43EC003	NCC OUTBD ISOLATION VALVE POSN
P43EC004	NCC OUTBD ISOLATION VALVE POSN
P43EC005	NCC INBD ISOLATION VALVE POSN
P43EC006	NCC INBD ISOLATION VALVE POSN
P45EC001	DIV 1 ESW PUMP STATUS
P45EC002	DIV 2 ESW PUMP STATUS
P45EC003	DIV 3 ESW PUMP STATUS
P50EC001	ISOLATION VALVE POSITION
P50EC002	ISOLATION VALVE POSITION
P50EC003	ISOLATION VALVE POSITION
P50EC004	ISOLATION VALVE POSITION
P50EC005	ISOLATION VALVE POSITION



## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
P50EC006	ISOLATION VALVE POSITION
P51EC001	ISOLATION VALVE POSITION
P51EC002	ISOLATION VALVE POSITION
P52EC001	ISOLATION VALVE POSITION
P52EC002	ISOLATION VALVE POSITION
P52EC003	ISOLATION VALVE POSITION
P52EC004	ISOLATION VALVE POSITION
P52EC005	ISOLATION VALVE POSITION
P52EC006	ISOLATION VALVE POSITION
P53EC001	ISOLATION VALVE POSITION
P53EC002	ISOLATION VALVE POSITION
P53EC003	ISOLATION VALVE POSITION
P53EC004	ISOLATION VALVE POSITION
P53EC005	ISOLATION VALVE POSITION
P53EC006	ISOLATION VALVE POSITION
P53EC007	ISOLATION VALVE POSITION
P53EC008	ISOLATION VALVE POSITION
P53EC009	ISOLATION VALVE POSITION
P53EC010	ISOLATION VALVE POSITION
P53EC011	ISOLATION VALVE POSITION
P53EC012	ISOLATION VALVE POSITION
P53EC013	ISOLATION VALVE POSITION
P53EC014	ISOLATION VALVE POSITION
P53EC015	ISOLATION VALVE POSITION
P53EC016	ISOLATION VALVE POSITION
P53EC017	ISOLATION VALVE POSITION
P53EC018	ISOLATION VALVE POSITION
P53EC019	ISOLATION VALVE POSITION
P53EC020	ISOLATION VALVE POSITION
P54EC001	ISOLATION VALVE POSITION
P54EC002	ISOLATION VALVE POSITION
P54EC003	ISOLATION VALVE POSITION
P54EC004	ISOLATION VALVE POSITION
P57EC001	ISOLATION VALVE POSITION
P57EC002	ISOLATION VALVE POSITION
P57EC003	ISOLATION VALVE POSITION
P57EC004	ISOLATION VALVE POSITION
P57EC005	ISOLATION VALVE POSITION
P57EC006	ISOLATION VALVE POSITION
P57EC007	ISOLATION VALVE POSITION
P57EC008	ISOLATION VALVE POSITION
P86EC001	ISOLATION VALVE POSITION
P86EC002	ISOLATION VALVE POSITION
P87EC001	ISOLATION VALVE POSITION
P87EC002	ISOLATION VALVE POSITION
P87EC003	ISOLATION VALVE POSITION
P87EC004	ISOLATION VALVE POSITION
P87EC005	ISOLATION VALVE POSITION
P87EC006	ISOLATION VALVE POSITION
P87EC007	ISOLATION VALVE POSITION
P87EC008	ISOLATION VALVE POSITION
P87EC009	ISOLATION VALVE POSITION

INFORMATION ONLY

## DIGITAL INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
P87EC010	ISOLATION VALVE POSITION
P87EC011	ISOLATION VALVE POSITION
P87EC012	ISOLATION VALVE POSITION
P87EC013	ISOLATION VALVE POSITION
P87EC014	ISOLATION VALVE POSITION
P87EC015	ISOLATION VALVE POSITION
P87EC016	ISOLATION VALVE POSITION
P87EC017	ISOLATION VALVE POSITION
P87EC018	ISOLATION VALVE POSITION
P87EC019	ISOLATION VALVE POSITION
P87EC020	ISOLATION VALVE POSITION
P87EC021	ISOLATION VALVE POSITION
P87EC022	ISOLATION VALVE POSITION
P87EC023	ISOLATION VALVE POSITION
P87EC024	ISOLATION VALVE POSITION
P87EC025	ISOLATION VALVE POSITION
P87EC026	ISOLATION VALVE POSITION
P87EC027	ISOLATION VALVE POSITION
P87EC028	ISOLATION VALVE POSITION
R22EC001	AUTO XFER SWITCH POSITION
R22EC002	EH2101 CB POSITION
R22EC003	EH1114 CB POSITION
R22EC004	EH1102 CB POSITION
R22EC005	EH1115 CB POSITION
R22EC006	EH1116 CB POSITION
R22EC007	EH1113 CB POSITION
R22EC008	EH1104 CB POSITION
R22EC009	EH1212 CB POSITION
R22EC010	EH1214 CB POSITION
R22EC011	EH1213 CB POSITION
R22EC012	EH1201 CB POSITION
R22EC013	EH1209 CB POSITION
R22EC014	EH1204 CB POSITION
R22EC015	EH1303 CB POSITION
R22EC016	EH1302 CB POSITION
R22EC017	EH1301 CB POSITION
R22EC019	LH1A LOCKOUT
R22EC020	L1003 CB POSITION
R22EC021	L1004 CB POSITION
R22EC022	L1006 CB POSITION
R22EC023	L1009 CB POSITION
R22EC024	L1010 CB POSITION
R22EC018	EH1305 CB POSITION
R23EC001	EF1A03 CB POSITION
R23EC002	EF1B13 CB POSITION
R23EC003	EF1B03 CB POSITION
R23EC004	EF1C13 CB POSITION
R23EC005	EF1C03 CB POSITION
R23EC006	EF1D03 CB POSITION
R23EC007	BUS F1A POTENTIAL
R23EC008	BUS F1B POTENTIAL
R23EC009	BUS F1B08 POTENTIAL

## DIGITAL INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
R23EC010	BUS F1C POTENTIAL
R23EC011	BUS F1D POTENTIAL
R23EC012	BUS F1D08 POTENTIAL
R23EC013	BUS XF1A POTENTIAL
R23EC014	BUS B1A POTENTIAL
R23EC015	BUS V1A POTENTIAL
R23EC016	BUS V1B POTENTIAL
R23EC017	BUS V1C POTENTIAL
R42EC002	ED1A07 CB POSITION
R42EC003	ED1A05 CB POSITION
R42EC004	ED1A04 CB POSITION
R42EC005	ED1A03 CB POSITION
R42EC007	ED1B05 CB POSITION
R42EC008	ED1B07 CB POSITION
R42EC009	ED1B04 CB POSITION
R42EC010	ED1B03 CB POSITION
R42EC011	DIV 3 CB 5 POSITION
R42EC012	DIV 3 CB 10 POSITION
R42EC013	DIV 3 CB 9 POSITION
R42EC014	DIV 3 CB 6 POSITION
R42EC504	ED2A04 CB POSITION
R42EC509	ED2B04 CB POSITION
R42EC512	DIV 3 CB 10 POSITION-U2
R43EC001	DIV 1 DIESEL GEN INOP STATUS
R43EC002	DIV 2 DIESEL GEN INOP STATUS
S11EC001	MANUAL DISCONNECT SWITCH 180
S11EC002	MANUAL DISCONNECT SWITCH 180
S11EC003	100-PY-B XFORMER LOCKOUT

INFORMATION ONLY

## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)*
B21EA001	RX WIDE RANGE LEVEL C	0.033
B21EA002	RX WIDE RANGE LEVEL A	0.033
B21EA003	RX WIDE RANGE LEVEL L	0.033
B21EA004	RX WIDE RANGE LEVEL B	0.033
B21EA005	RX FUEL ZONE LEVEL C	
B21EA006	RX FUEL ZONE LEVEL D	
B21EA007	RX SHUTDOWN RANGE LEVEL	
B21EA008	POST ACCIDENT MON RX PRESS A	
B21EA009	POST ACCIDENT MON RX PRESS B	
B21EA010	RX UPSET RANGE PRESSURE A	
B21EA011	RX UPSET RANGE PRESSURE B	
B21EA012	RX UPSET RANGE PRESSURE C	
B21EA013	RX UPSET RANGE PRESSURE D	
B21EA014	RX CORE PLATE DIFF PRESSURE	0.033
B21EA015	REF LEG TEMPERATURE-COLUMN 1	
B21EA016	REF LEG TEMPERATURE-COLUMN 2	
B21EA017	REF LEG TEMPERATURE-COLUMN 3	
B21EA018	REF LEG TEMPERATURE-COLUMN 4	
B21EA019	REF LEG TEMP-SHUTDOWN COLUMN	
B21EA020	FEEDWATER LINE A TEMPERATURE	0.083
B21EA021	FEEDWATER LINE B TEMPERATURE	0.083
B21EA022	RX BOTTOM HEAD DRAIN TEMPERATURE	1.667
B21EA190	RX VESSEL FLANGE TEMPERATURE	
B21EA191	RX VESSEL FLANGE TEMPERATURE	
B33EA001	FLUX CONTROLLER INPUT	0.020
B33EA002	RECIRC FLOW CONT INPUT (DEMAND)	0.020
B33EA003	RECIRC A FLOW CONT FLOW INPUT	0.011
B33EA004	RECIRC A FLOW CONTROLLER OUTPUT	0.020
B33EA005	RECIRC B FLOW CONT FLOW INPUT	0.011
B33EA006	RECIRC B FLOW CONTROLLER OUTPUT	0.020
B33EA007	RECIRC FLUX ESTIMATOR INPUT	0.020
B33EA008	RECIRC FLUX ESTIMATOR OUTPUT	0.020
B33EA011	LOAD DEMAND RATE LIMITER OUTPUT	0.020
B33EA012	LOAD DEMAND ERROR/MA CONT INPUT	0.020
B33EA013	RECIRC FCV A VEL CONT INP-DEMAND	0.011
B33EA014	RECIRC FCV B VEL CONT INP-DEMAND	0.011
B33EA015	RECIRC FCV A VEL CONT OUTPUT	0.011
B33EA016	RECIRC FCV B VEL CONT OUTPUT	0.011
B33EA017	RECIRC FCV A ACTUATOR VELOCITY	0.011
B33EA018	RECIRC FCV B ACTUATOR VELOCITY	0.011
B33EA019	RECIRC FCV A POSN CONT IN-DEMAND	0.011
B33EA020	RECIRC FCV B POSN CONT IN-DEMAND	0.011
B33EA021	REACTOR CORE FLOW	0.033
B33EA024	RECIRC PUMP A DIFF PRESSURE	0.033
B33EA025	RECIRC PUMP B DIFF PRESSURE	0.033
B33EA026	JET PUMP LOOP A FLOW--DOUBLE TAP	0.011
B33EA027	JET PUMP LOOP B FLOW--DOUBLE TAP	0.011
B33EA028	RECIRC PUMP ELBOW TAP 14A DP	0.011
B33EA029	RECIRC PUMP ELBOW TAP 14C DP	0.011
B33EA030	RECIRC PUMP ELBOW TAP 24A DP	0.011
B33EA031	RECIRC PUMP ELBOW TAP 24C DP	0.011
B33EA032	JET PUMP 1 DIFF PRESSURE	0.167
B33EA033	JET PUMP 2 DIFF PRESSURE	0.167

\*Scan intervals not listed have not yet been determined.



## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
B33EA034	JET PUMP 3 DIFF PRESSURE	0.167
B33EA035	JET PUMP 4 DIFF PRESSURE	0.167
B33EA036	JET PUMP 5A DIFF PRESSURE	0.167
B33EA037	JET PUMP 5B DIFF PRESSURE	0.167
B33EA038	JET PUMP 6 DIFF PRESSURE	0.167
B33EA039	JET PUMP 7 DIFF PRESSURE	0.167
B33EA040	JET PUMP 8 DIFF PRESSURE	0.167
B33EA041	JET PUMP 9 DIFF PRESSURE	0.167
B33EA042	JET PUMP 10A DIFF PRESSURE	0.167
B33EA043	JET PUMP 10B DIFF PRESSURE	0.167
B33EA044	JET PUMP 11 DIFF PRESSURE	0.167
B33EA045	JET PUMP 12 DIFF PRESSURE	0.167
B33EA046	JET PUMP 13 DIFF PRESSURE	0.167
B33EA047	JET PUMP 14 DIFF PRESSURE	0.167
B33EA048	JET PUMP 15A DIFF PRESSURE	0.167
B33EA049	JET PUMP 15B DIFF PRESSURE	0.167
B33EA050	JET PUMP 16 DIFF PRESSURE	0.167
B33EA051	JET PUMP 17 DIFF PRESSURE	0.167
B33EA052	JET PUMP 18 DIFF PRESSURE	0.167
B33EA053	JET PUMP 19 DIFF PRESSURE	0.167
B33EA054	JET PUMP 20A DIFF PRESSURE	0.167
B33EA055	JET PUMP 20B DIFF PRESSURE	0.167
B33EA056	RECIRC LOOP A SUCT TEMP-NAR RNG	1.667
B33EA057	RECIRC LOOP B SUCT TEMP-NAR RNG	1.667
B33EA062	RECIRC FCV A POSITION	0.004
B33EA063	RECIRC FCV B POSITION	0.004
B33EA064	RECIRC PUMP MOTOR CURRENT	0.017
B33EA065	RECIRC PUMP MOTOR CURRENT	0.017
B33EA066	RECIRC PUMP A SPEED	0.011
B33EA067	RECIRC PUMP B SPEED	0.011
B33EA089	RECIRC PUMP A VOLTAGE	
B33EA090	RECIRC PUMP B VOLTAGE	
B33EA091	RECIRC LOOP A SUCT TEMP-WIDE RNG	
B33EA092	RECIRC LOOP B SUCT TEMP-WIDE RNG	
B33EA093	LFMG A GENERATOR VOLTAGE	
B33EA094	LFMG B GENERATOR VOLTAGE	
C11EA001	CRD HCU CHARGING FLOW	
C11EA002	CRD HCU DRIVE FLOW-GROUP A	
C11EA003	CRD HCU DRIVE FLOW-GROUP B	
C11EA004	CRD HCU DRIVE FLOW-GROUP C	
C11EA005	CRD HCU DRIVE FLOW-GROUP D	
C11EA006	CRD HCU COOLING WATER FLOW	
C11EA007	CRD HCU COOLING WATER DIFF PRESS	
C11EA008	CRD HCU DRIVE FLOW DIFF PRESS	
C11EA011	CRD CHARGING WATER HEADER PRESS	
C11EA013	CRD PUMP A MOTOR CURRENT	
C11EA014	CRD PUMP B MOTOR CURRENT	
C11EA015	SCRAM VALVE PILOT AIR HDR PRESS	
C34EA001	FEEDWATER FLOW DEMAND	0.020
C34EA002	MASTER LEVEL CONTROLLER OUTPUT	0.020
C34EA003	FW SU LEVEL CONTROLLER OUTPUT	0.020
C34EA004	REACTOR LEVEL SETPOINT	0.020

## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
C34EA005	SINGLE ELEMENT CONTROLLER OUTPUT	0.020
C34EA006	FW GAIN CHANGER OUTPUT	0.020
C34EA007	FEEDPUMP A CONTROLLER OUTPUT	0.020
C34EA008	FEEDPUMP B CONTROLLER OUTPUT	0.020
C34EA009	FEEDPUMP C CONTROLLER OUTPUT	0.020
C34EA010	FEEDPUMP A M/A STATION OUTPUT	0.020
C34EA011	FEEDPUMP B M/A STATION OUTPUT	0.020
C34EA012	FEEDPUMP C M/A STATION OUTPUT	0.020
C34EA013	TOTAL REACTOR STEAM FLOW	0.033
C34EA014	STEAM LINE A FLOW	0.033
C34EA015	STEAM LINE B FLOW	0.033
C34EA016	STEAM LINE C FLOW	0.033
C34EA017	STEAM LINE D FLOW	0.033
C34EA018	TOTAL REACTOR FEEDWATER FLOW	0.033
C34EA019	FEEDWATER FLOW A	0.033
C34EA020	FEEDWATER FLOW B	0.033
C34EA021	TDFP A FLOW TO VESSEL	0.033
C34EA022	TDFP B FLOW TO VESSEL	0.033
C34EA023	MDFP C FLOW TO VESSEL	0.033
C34EA024	RX NARROW RANGE LEVEL A	0.033
C34EA025	RX NARROW RANGE LEVEL B	0.033
C34EA026	RX NARROW RANGE LEVEL C	0.033
C34EA027	RX UPSET RANGE LEVEL	0.033
C34EA028	NARROW RANGE RX DOME PRESSURE	0.033
C34EA030	WIDE RANGE RX DOME PRESSURE	0.033
C34EA031	TURB ST FLOW (1ST STAGE PRESS)	0.033
C34EA032	TDFP A RECIRC MINIMUM FLOW	0.033
C34EA033	TDFP B RECIRC MINIMUM FLOW	0.033
C34EA034	MDFP C RECIRC MINIMUM FLOW	0.033
C34EA035	FW CONT LEVEL INPUT-AFTER SWITCH	
C41EA002	SLCS TANK LEVEL	
C41EA003	SLCS PUMP A DISCHARGE PRESSURE	
C41EA004	SLCS PUMP B DISCHARGE PRESSURE	
C41EA005	SLCS TANK TEMPERATURE	
C41EA006	SLCS PUMP A CURRENT	
C41EA007	SLCS PUMP B CURRENT	
C51EA001	APRM A ROD BLOCK	0.033
C51EA002	APRM B ROD BLOCK	0.033
C51EA003	APRM A FLUX	0.020
C51EA004	APRM B FLUX	0.020
C51EA005	APRM C FLUX	0.020
C51EA006	APRM D FLUX	0.020
C51EA007	APRM E FLUX	0.020
C51EA008	APRM F FLUX	0.020
C51EA009	APRM G FLUX	0.020
C51EA010	APRM H FLUX	0.020
C51EA011	LPRM A SELECT	0.020
C51EA012	LPRM B SELECT	0.020
C51EA013	LPRM C SELECT	0.020
C51EA014	LPRM D SELECT	0.020
C51EA015	LPRM E SELECT	0.020
C51EA016	LPRM F SELECT	0.020

## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
C51EA017	LPRM G SELECT	0.020
C51EA018	LPRM H SELECT	0.020
C51EA019	HEAT FLUX A	0.033
C51EA020	HEAT FLUX B	0.033
C51EA021	SRM A LOG COUNT RATE	
C51EA022	SRM B LOG COUNT RATE	
C51EA023	SRM C LOG COUNT RATE	
C51EA024	SRM D LOG COUNT RATE	
C85EA001	PRESSURE SETPOINT A	0.020
C85EA002	PRESSURE SETPOINT B	0.020
C85EA003	PRESS SETPOINT ADJUSTER A OUT	0.020
C85EA004	PRESS SETPOINT ADJUSTER B OUT	0.020
C85EA005	PRESSURE REGULATOR A OUTPUT	0.020
C85EA006	PRESSURE REGULATOR B OUTPUT	0.020
C85EA007	PRESS SET ADJR A FD FWD OUTPUT	0.020
C85EA008	PRESS SET ADJR B FD FWD OUTPUT	0.020
C85EA009	PRESS CONTROLLER A SENSED PRESS	0.033
C85EA010	PRESS CONTROLLER B SENSED PRESS	0.033
C85EA011	MAIN TURB TOTAL BYP VALVE POSN	0.004
C85EA012	MAIN TURBINE BYPASS VALVE 1 POSN	0.004
C85EA013	MAIN TURBINE BYPASS VALVE 2 POSN	0.004
C85EA014	MAIN TURBINE BYPASS VALVE 3 POSN	0.004
C85EA015	MAIN TURBINE BYPASS VALVE 4 POSN	0.004
C85EA016	MAIN TURBINE BYPASS VALVE 5 POSN	0.004
C85EA017	MAIN TURBINE BYPASS VALVE 6 POSN	0.004
C85EA018	MAIN TURBINE BYPASS VALVE 7 POSN	0.004
C85EA019	MAIN TURB BYPASS VALVE DEMAND A	0.020
C85EA020	MAIN TURB BYPASS VALVE DEMAND B	0.020
D17EA001	OFFGAS POST TREATMENT A-RAD MON	
D17EA002	OFFGAS POST TREATMENT B-RAD MON	
D17EA003	CNTMT VENT EXH PLEN A-RAD MON	
D17EA004	CNTMT VENT EXH PLEN B-RAD MON	
D17EA005	CNTMT VENT EXH PLEN C-RAD MON	
D17EA006	CNTMT VENT EXH PLEN D-RAD MON	
D17EA007	OFFGAS PRE-TREATMENT-RAD MON	
D17EA008	RADWASTE TO ESW-RAD MON	
D17EA009	NUC CLOSED COOLING WATER-RAD MON	
D17EA010	RADWASTE EFL TO SEWAGE-RAD MON	
D17EA011	STEAM LINE A RADIATION MON	0.011
D17EA012	STEAM LINE B RADIATION MON	0.011
D17EA013	STEAM LINE C RADIATION MON	0.011
D17EA014	STEAM LINE D RADIATION MON	0.011
D17EA015	ESW HX DISCH A-RAD MON	
D17EA016	ESW HX DISCH B-RAD MON	
D17EA030	PLANT VENT-GAS RAD MON	
D17EA031	PLANT VENT-IODINE RAD MON	
D17EA032	PLANT VENT-PARTICULATE RAD MON	
D17EA033	OFFGAS VENT-GAS RAD MON	
D17EA034	OFFGAS VENT-IODINE RAD MON	
D17EA035	OFFGAS VENT-PARTICULATE RAD MON	
D17EA036	TB/HB VENT-GAS RAD MON	
D17EA037	TB/HB VENT-IODINE RAD MON	



## ANALOG INPUTS ERLS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
D17EA038	TB/HB VENT-PARTICULATE RAD MON	
D17EA039	CONTROL ROOM-GAS RAD MONITOR	
D17EA040	CONTROL ROOM-IODINE RAD MONITOR	
D17EA041	CONTROL ROOM-PARTICULATE RAD MON	
D17EA042	DRYWELL ATM-GAS RAD MONITOR	
D17EA043	DRYWELL ATM-IODINE RAD MONITOR	
D17EA044	DRYWELL ATM-PART RAD MONITOR	
D17EA045	CNTMT ATM-GAS RAD MONITOR	
D17EA046	CNTMT ATM-IODINE RAD MONITOR	
D17EA047	CNTMT ATM-PARTICULATE RAD MON	
D17EA048	CNTMT VES/DW PURGE-GAS RAD MON	
D17EA049	CNTMT VES/DW PURGE-IOD RAD MON	
D17EA050	CNTMT VES/DW PURGE-PART RAD MON	
D17EA051	AUX BLDG VENT-GAS RAD MON	
D17EA052	AUX BLDG VENT-IODINE RAD MON	
D17EA053	AUX BLDG VENT-PART RAD MON	
D17EA054	OFFGAS BLDG VENT-GAS RAD MON	
D17EA055	OFFGAS BLDG VENT-IODINE RAD MON	
D17EA056	OFFGAS BLDG VENT-PART RAD MON	
D17EA059	STEAM PACKING EXH-GAS RAD MON	
D17EA060	ANNULUS EXHAUST A-GAS RAD MON	
D17EA061	ANNULUS EXHAUST B-GAS RAD MON	
D17EA065	FUEL BLDG VENT-GAS RAD MON	
D17EA066	FUEL BLDG VENT-IODINE RAD MON	
D17EA067	FUEL BLDG VENT-PART RAD MON	
D17EA068	RADWASTE BLDG EXH-GAS RAD MON	
D17EA069	RADWASTE BLDG EXH-IODINE RAD MON	
D17EA070	RADWASTE BLDG EXH-PART RAD MON	
D17EA071	INTER BLDG EXH-GAS RAD MON	
D17EA072	UNDERDRAIN SYS-23 EAST-RAD MON	
D17EA073	UNDERDRAIN SYS-20 WEST-RAD MON	
D17EA530	PLANT VENT-GAS RAD MON-U2	
D17EA531	PLANT VENT-IODINE RAD MON-U2	
D17EA532	PLANT VENT-PART RAD MON-U2	
D17EA533	OFFGAS VENT-GAS RAD MON-U2	
D17EA534	OFFGAS VENT-IODINE RAD MON-U2	
D17EA535	OFFGAS VENT-PART RAD MON-U2	
D17EA536	TB/HB VENT-GAS RAD MON-U2	
D17EA537	TB/HB VENT-IODINE RAD MON-U2	
D17EA538	TB/HB VENT-PART RAD MON-U2	
D17EA560	ANNULUS EXH A-GAS RAD MON-U2	
D17EA561	ANNULUS EXH B-GAS RAD MON-U2	
D19EA001	DRYWELL A RADIATION MON	
D19EA002	DRYWELL B RADIATION MON	
D19EA003	PLANT VENT-GAS RAD MON	
D19EA004	PLANT VENT-GAS RAD MON	
D19EA005	OFFGAS VENT-GAS RAD MON	
D19EA006	OFFGAS VENT-GAS RAD MON	
D19EA007	TB/HB VENT-GAS RAD MON	
D19EA008	TB/HB VENT-GAS RAD MON	
D19EA012	TSC AREA RADIATION MONITOR	
D19EA013	EOF AREA RADIATION MONITOR	



## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
D19EA014	TSC-GAS RAD MONITOR	
D19EA015	TSC-IODINE RAD MONITOR	
D19EA016	TSC-PARTICULATE RAD MONITOR	
D19EA017	EOF-GAS RAD MONITOR	
D19EA018	EOF-IODINE RAD MONITOR	
D19EA019	EOF-PARTICULATE RAD MONITOR	
D19EA020	RX BUILDING A RADIATION MONITOR	
D19EA021	RX BUILDING B RADIATION MONITOR	
D19EA503	PLANT VENT-GAS RAD MON-U2	
D19EA504	PLANT VENT-GAS RAD MON-U2	
D19EA505	OFFGAS VENT-GAS RAD MON-U2	
D19EA506	OFFGAS VENT-GAS RAD MON-U2	
D19EA507	TB/HB VENT-GAS RAD MON-U2	
D19EA508	TB/HB VENT-GAS RAD MON-U2	
D21EA001	ARM-CRD HCU AREA EAST	
D21EA002	ARM-CRD HCU AREA WEST	
D21EA003	ARM-RWCU FLOOR DRAIN AREA	
D21EA004	ARM-RWCU F/D RCV TANK AREA	
D21EA005	ARM-TIP DRIVE AREA	
D21EA006	ARM-UPPER POOL AREA	
D21EA007	ARM-PERSONNEL AIR LOCK	
D21EA008	ARM-AUX BUILDING-EL 574 EAST	
D21EA009	ARM-AUX BUILDING-EL 574 WEST	
D21EA010	ARM-HP FW HEATER AREA	
D21EA011	ARM-FEED PUMP AREA	
D21EA012	ARM-TURBINE ROOM EAST	
D21EA013	ARM-TURBINE ROOM WEST	
D21EA014	ARM-HOTWELL PUMP AREA	
D21EA015	ARM-TURBINE BUILDING SUMP AREA	
D21EA016	ARM-TURBINE BUILDING-EL 605	
D21EA017	ARM-CONDENSATE FILTER PUMP AREA	
D21EA018	ARM-OFFGAS HOLDUP AREA	
D21EA019	ARM-OFFGAS BUILDING-EL 584	
D21EA020	ARM-OFFGAS AFTER FILTER AREA	
D21EA022	ARM-RADWASTE BLDG-EL 574-WEST	
D21EA023	ARM-RADWASTE BLDG-EL 574-EAST	
D21EA024	ARM-RADWASTE BUILDING-EL 602	
D21EA025	ARM-RADWASTE BLDG PRCS SAMPLE RM	
D21EA026	ARM-RADWASTE EVAPORATOR AREA	
D21EA027	ARM-FPCCU FLOOR DRAIN AREA	
D21EA028	ARM-FUEL STORE/PREP POOL AREA	
D21EA029	ARM-SPENT FUEL STORAGE POOL AREA	
D21EA030	ARM-FUEL POOL CIRC PUMP AREA	
D21EA031	ARM-RADWASTE SRW DRUM AREA	
D21EA032	ARM-RADWASTE BLDG-WASTE COMP	
D21EA501	ARM-CRD HCU AREA EAST-U2	
D21EA502	ARM-CRD HCU AREA WEST-U2	
D21EA503	ARM-RWCU FLOOR DRAIN AREA-U2	
D21EA504	ARM-RWCU F/D RCV TANK AREA-U2	
D21EA505	ARM-TIP DRIVE AREA-U2	
D21EA506	ARM-UPPER POOL AREA-U2	
D21EA507	ARM-PERSONNEL AIR LOCK-U2	

## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
D21EA508	ARM-AUX BLDG-EL 574 EAST-U2	
D21EA509	ARM-AUX BLDG-EL 574 WEST -U2	
D21EA510	ARM-HP FW HEATER AREA-U2	
D21EA511	ARM-FEED PUMP AREA-U2	
D21EA512	ARM-TURBINE ROOM EAST-U2	
D21EA513	ARM-TURBINE ROOM WEST-U2	
D21EA514	ARM-HOTWELL PUMP AREA-U2	
D21EA515	ARM-TURBINE BLDG SUMP AREA-U2	
D21EA516	ARM-TURBINE BUILDING-EL 605-U2	
D21EA517	ARM-CNDS FILTER PUMP AREA-U2	
D21EA518	ARM-OFFGAS HOLDUP AREA-U2	
D21EA519	ARM-OFFGAS BUILDING-EL 584-U2	
D21EA520	ARM-OFFGAS AFTER FILTER AREA-U2	
D23EA001	CNTMT PRESS-WIDE RANGE	
D23EA002	CNTMT PRESS-WIDE RANGE	
D23EA003	CNTMT PRESS-NORMAL RANGE	
D23EA004	SUPPR POOL WATER TEMPERATURE	
D23EA005	SUPPR POOL WATER TEMPERATURE	
D23EA006	SUPPR POOL WATER TEMPERATURE	
D23EA007	SUPPR POOL WATER TEMPERATURE	
D23EA008	SUPPR POOL WATER TEMPERATURE	
D23EA009	SUPPR POOL WATER TEMPERATURE	
D23EA010	SUPPR POOL WATER TEMPERATURE	
D23EA011	SUPPR POOL WATER TEMPERATURE	
D23EA012	DRYWELL PRESSURE-NARROW RANGE	0.033
D23EA013	DRYWELL PRESSURE-WIDE RANGE	0.033
D23EA014	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA015	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA016	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA017	CNTMT PRESS-NORMAL RANGE	
D23EA018	SUPPR POOL WATER TEMPERATURE	
D23EA019	SUPPR POOL WATER TEMPERATURE	
D23EA020	SUPPR POOL WATER TEMPERATURE	
D23EA021	SUPPR POOL WATER TEMPERATURE	
D23EA022	SUPPR POOL WATER TEMPERATURE	
D23EA023	SUPPR POOL WATER TEMPERATURE	
D23EA024	SUPPR POOL WATER TEMPERATURE	
D23EA025	SUPPR POOL WATER TEMPERATURE	
D23EA026	DRYWELL PRESSURE-NARROW RANGE	0.033
D23EA027	DRYWELL PRESSURE-WIDE RANGE	0.033
D23EA028	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA029	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA030	DRYWELL ATMOSPHERE TEMPERATURE	
D23EA031	UPPER CONTAINMENT TRAIN A TEMP	
D23EA032	UPPER CONTAINMENT TRAIN A TEMP	
D23EA033	LOWER CONTAINMENT TRAIN A TEMP	
D23EA034	LOWER CONTAINMENT TRAIN A TEMP	
D23EA035	UPPER CONTAINMENT TRAIN B TEMP	
D23EA036	UPPER CONTAINMENT TRAIN B TEMP	
D23EA037	LOWER COMTAINMENT TRAIN B TEMP	
D23EA038	LOWER CONTAINMENT TRAIN B TEMP	
E12EA001	RHR HX A LEVEL CONT OUTPUT	0.033

INFORMATION ONLY

## ANALOG INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
E12EA002	RHR HX B LEVEL CONT OUTPUT	0.033
E12EA003	RHR HX A PRESS CONT OUTPUT	0.033
E12EA004	RHR HX B PRESS CONT OUTPUT	0.033
E12EA005	RHR A FLOW	0.033
E12EA006	RHR B FLOW	0.033
E12EA007	RHR C FLOW	0.033
E12EA008	RHR SERVICE WATER FLOW-A	
E12EA009	RHR SERVICE WATER FLOW-B	
E12EA010	RHR HX A LEVEL	0.033
E12EA011	RHR HX B LEVEL	0.033
E12EA012	RHR HX A PRESSURE	0.033
E12EA013	RHR HX B PRESSURE	0.033
E12EA017	RHR PUMP A DISCHARGE PRESSURE	
E12EA018	RHR PUMP B DISCHARGE PRESSURE	
E12EA019	RHR PUMP C DISCHARGE PRESSURE	
E12EA020	RHR HX 1A OUTLET TEMPERATURE	
E12EA021	RHR HX 1B OUTLET TEMPERATURE	
E12EA022	RHR HX 1C OUTLET TEMPERATURE	
E12EA023	RHR HX 1D OUTLET TEMPERATURE	
E12EA024	RHR PUMP A CURRENT	
E12EA025	RHR PUMP B CURRENT	
E12EA026	RHR PUMP C CURRENT	
E12EA027	RHR WATER LEG PUMP DISCH PRESS	
E12EA028	RCIC SUCT PRESS CONT OUTPUT	0.033
E21EA001	LPCS FLOW	
E21EA003	LPCS PUMP DISCHARGE PRESSURE	
E21EA004	LPCS PUMP CURRENT	
E21EA005	LPCS WATER LEG PUMP DISCH PRESS	
E22EA001	HPCS FLOW	0.033
E22EA004	HPCS WATER LEG PUMP DISCH PRESS	
E22EA005	HPCS PUMP SUCTION PRESSURE	
E22EA006	HPCS PUMP DISCHARGE PRESSURE	0.033
E22EA007	HPCS PUMP CURRENT	
E22EA008	HPCS TEST LINE VALVE POSITION	
E22EA009	HPCS TEST LINE VALVE POSITION	
E31EA001	RCIC STEAM LINE DIFF PRESS	0.033
E31EA002	RCIC/RHR STEAM LINE DIFF PRESS	0.033
E31EA003	RCIC STEAM LINE DIFF PRESS	0.033
E31EA004	RCIC/RHR STEAM LINE DIFF PRESS	0.033
E31EA005	DRYWELL UNIDENTIFIED SUMP LEVEL	
E31EA006	DRYWELL IDENTIFIED SUMP LEVEL	
E31EA007	RWCU RETURN FLOW TO CONDENSER	
E31EA008	RWCU DUMP FLOW TO FEEDWATER	
E31EA009	RWCU INLET FLOW-RECIRC SUCTION	
E32EA001	MN ST LINE A LEAKAGE FLOW	
E32EA003	MN ST LINE B LEAKAGE FLOW	
E32EA005	MN ST LINE C LEAKAGE FLOW	
E32EA006	MN ST LINE D LEAKAGE FLOW	
E51EA001	RCIC FLOW CONTROLLER OUTPUT	0.033
E51EA002	RCIC RGSC CONTROLLER OUTPUT	0.033
E51EA003	RCIC SPEED CONTROLLER OUTPUT	0.033
E51EA004	RCIC PUMP FLOW	0.033

## ANALOG INPUTS ERI5 SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
E51EA005	RCIC PUMP SUCTION PRESSURE	0.033
E51EA006	RCIC PUMP DISCHARGE PRESSURE	0.033
E51EA007	RCIC TURBINE INLET PRESSURE	0.033
E51EA008	RCIC TURBINE EXHAUST PRESSURE	0.033
E51EA011	RCIC TURBINE GOVERNOR VALVE POSN	0.033
E51EA012	RCIC STEAM ADMISSION VALVE POSN	0.020
E51EA013	RCIC RUPTURE DISK STATUS	
E51EA014	RCIC TURBINE SPEED	0.033
G33EA001	RWCU PUMPS DISCH HEADER PRESSURE	
G33EA002	RWCU NON-REGEN HX OUTLET TEMP	
G33EA003	RWCU REGEN HX OUTLET TEMP	
G36EA001	RWCU FLTR/DEMIN 1A FILTER DP	
G36EA002	RWCU FLTR/DEMIN IB FILTER DP	
G43EA001	SUPPR POOL LEVEL-EXTENDED RANGE	
G43EA002	SUPPR POOL LEVEL-EXTENDED RANGE	
G43EA003	SUPPR POOL LEVEL-NARROW RANGE	
G43EA004	SUPPR POOL LEVEL-WIDE RANGE	
G43EA005	UPPER CNTMT POOL WATER LEVEL A	
G43EA006	SUPPR POOL LEVEL-NARROW RANGE	
G43EA007	SUPPR POOL LEVEL-WIDE RANGE	
G43EA008	UPPER CNTMT POOL WATER LEVEL B	
G50EA001	FUEL POOL F/D B/W RCV TANK LEVEL	
G50EA002	CNDS FLTR BACKWASH RCV TANK LVL	
G50EA003	RWCU FLTR/DEMIN B/W RCV TANK LVL	
M33EA001	PLANT VENT FLOW	
M33EA002	PLANT VENT FLOW-U2	
M36EA001	OFFGAS VENT FLOW	
M36EA501	OFFGAS VENT FLOW-U2	
M41EA001	TB/HB VENT FLOW	
M41EA501	TB/HB VENT FLOW-U2	
M51EA001	CNTMT HYDROGEN CONCENTRATION	
M51EA002	CNTMT HYDROGEN CONCENTRATION	
N11EA001	TDFF A LP STEAM FLOW	0.033
N11EA002	TDFF B LP STEAM FLOW	0.033
N11EA003	TDFF HP STEAM FLOW	0.033
N11EA004	REHEAT STEAM PRESSURE TO TDFF A	0.033
N11EA005	REHEAT STEAM PRESSURE TO TDFF B	0.033
N11EA006	M/S 1A 2ND STAGE STEAM FLOW	0.033
N11EA007	M/S 1B 2ND STAGE STEAM FLOW	0.033
N11EA008	M/S 2A 2ND STAGE STEAM FLOW	0.033
N11EA009	M/S 2B 2ND STAGE STEAM FLOW	0.033
N11EA010	M/S 1A 2ND STAGE PRESSURE	0.033
N11EA011	M/S 1B 2ND STAGE PRESSURE	0.033
N11EA012	M/S 2A 2ND STAGE PRESSURE	0.033
N11EA013	M/S 2B 2ND STAGE PRESSURE	0.033
N11EA014	M/S 1A 1ST STAGE STEAM FLOW	0.033
N11EA015	M/S 1B 1ST STAGE STEAM FLOW	0.033
N11EA016	M/S 2A 1ST STAGE STEAM FLOW	0.033
N11EA017	M/S 2B 1ST STAGE STEAM FLOW	0.033
N11EA018	M/S 1A 1ST STAGE PRESSURE	0.033
N11EA019	M/S 1B 1ST STAGE PRESSURE	0.033
N11EA020	M/S 2A 1ST STAGE PRESSURE	0.033



## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N11EA021	M/S 2B 1ST STAGE PRESSURE	0.033
N11EA022	M/S 1A 2ND STAGE PRESS CONT OUT	0.020
N11EA023	M/S 1B 2ND STAGE PRESS CONT OUT	0.020
N11EA024	M/S 2A 2ND STAGE PRESS CONT OUT	0.020
N11EA025	M/S 2B 2ND STAGE PRESS CONT OUT	0.020
N21EA001	CONDENSER A LEVEL	0.033
N21EA002	CONDENSER B LEVEL	0.033
N21EA003	CONDENSER C LEVEL	0.033
N21EA004	CONDENSATE SYS FLOW CONT OUTPUT	0.020
N21EA005	CONDENSER A TEMPERATURE	1.667
N21EA006	CONDENSER B TEMPERATURE	1.667
N21EA007	CONDENSER C TEMPERATURE	1.667
N21EA008	FW HEATER VALVE POSITION	
N21EA009	PTV VALVE POSITION	0.011
N21EA010	HOT SURGE TANK TEMPERATURE	0.033
N21EA011	HOTWELL LEVEL	0.033
N21EA012	EMER HOTWELL LEVEL CONT OUTPUT	0.020
N21EA013	NORM HOTWELL LEVEL CONT OUTPUT	0.020
N21EA014	EMER HOTWELL MAKEUP LVL CONT OUT	0.020
N21EA015	AUXILIARY CONDENSER A LEVEL	0.033
N21EA016	AUXILIARY CONDENSER B LEVEL	0.033
N21EA017	AUX COND A LEVEL CONT OUTPUT	0.020
N21EA018	AUX COND B LEVEL CONT OUTPUT	0.020
N21EA019	CONDENSER PRESSURE-A	0.167
N21EA020	CONDENSER PRESSURE-B	0.167
N21EA021	CONDENSER PRESSURE-C	0.167
N21EA022	FW REJECTION FLOW TO CST	0.033
N21EA023	HOTWELL MAKEUP FLOW FROM CST	0.033
N21EA024	HOT SURGE TANK LEVEL	0.033
N21EA025	HOT SURGE TANK LEVEL CONT OUT	0.020
N21EA026	CONDENSATE FLOW	0.167
N21EA027	COND BSTR PUMP A DISCH PRESS	0.167
N21EA028	COND BSTR PUMP B DISCH PRESS	0.167
N21EA029	COND BSTR PUMP C DISCH PRESS	0.167
N21EA030	HOTWELL PUMP A DISCH PRESSURE	0.033
N21EA031	HOTWELL PUMP B DISCH PRESSURE	0.033
N21EA032	HOTWELL PUMP C DISCH PRESSURE	0.033
N21EA033	COND BSTR PUMP A SUCTION PRESS	0.167
N21EA034	COND BSTR PUMP B SUCTION PRESS	0.167
N21EA035	COND BSTR PUMP C SUCTION PRESS	0.167
N21EA036	FW HEATER OUTLET FLOW	0.033
N21EA037	DC HEATER TEMPERATURE	0.033
N21EA038	AUXILIARY CONDENSER A VACUUM	0.033
N21EA039	AUXILIARY CONDENSER B VACUUM	0.033
N21EA040	HOT SURGE TANK PRESSURE	
N21EA041	NORM HOTWELL MAKEUP LVL CONT OUT	0.020
N23EA001	CONDENSATE FILTER SYSTEM DP	0.033
N23EA002	CNDS FLTR SYS OUT TO DP CONT	0.020
N23EA003	CNDS FLTR SYS OUT TO FLOW CONT	0.020
N24EA001	CONDENSATE DEMIN SYSTEM DP	0.033
N24EA002	CONDENSATE DEMIN DP CONT OUTPUT	0.020
N25EA001	M/S REHEATER TANK 1 LEVEL	0.033

## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N25EA002	M/S REHEATER TANK 2 LEVEL	0.033
N25EA003	M/S REHEATER TANK 3 LEVEL	0.033
N25EA004	M/S REHEATER TANK 4 LEVEL	0.033
N25EA005	M/S 1B TANK EMER LEVEL CONT OUT	0.020
N25EA006	M/S 1B TANK NORM LEVEL CONT OUT	0.020
N25EA007	M/S 1B 1ST STG DRAIN TANK LEVEL	0.033
N25EA008	M/S 1B 1ST STG EMER LVL CONT OUT	0.020
N25EA009	M/S 1B 1ST STG NORM LVL CONT OUT	0.020
N25EA010	M/S 1B 2ND STG DRAIN TANK LEVEL	0.033
N25EA011	M/S 1B 2ND STG EMER LVL CONT OUT	0.020
N25EA012	M/S 1B 2ND STG NORM LVL CONT OUT	0.020
N25EA013	M/S 1A TANK EMER LEVEL CONT OUT	0.020
N25EA014	M/S 1A TANK NORM LEVEL CONT OUT	0.020
N25EA015	M/S 1A 1ST STG DRAIN TANK LEVEL	0.033
N25EA016	M/S 1A 1ST STG EMER LVL CONT OUT	0.020
N25EA017	M/S 1A 1ST STG NORM LVL CONT OUT	0.020
N25EA018	M/S 1A 2ND STG DRAIN TANK LEVEL	0.033
N25EA019	M/S 1A 2ND STG EMER LVL CONT OUT	0.020
N25EA020	M/S 1A 2ND STG NORM LVL CONT OUT	0.020
N25EA021	FW HTR 6A EMER LEVEL CONT OUT	0.020
N25EA022	FW HTR 6B EMER LEVEL CONT OUT	0.020
N25EA023	M/S 2B TANK EMER LEVEL CONT OUT	0.020
N25EA024	M/S 2B TANK NORM LEVEL CONT OUT	0.020
N25EA025	M/S 2B 1ST STG DRAIN TANK LEVEL	0.033
N25EA026	M/S 2B 1ST STG EMER LVL CONT OUT	0.020
N25EA027	M/S 2B 1ST STG NORM LVL CONT OUT	0.020
N25EA028	M/S 2B 2ND STG DRAIN TANK LEVEL	0.033
N25EA029	M/S 2B 2ND STG EMER LVL CONT OUT	0.020
N25EA030	M/S 2B 2ND STG NORM LVL CONT OUT	0.020
N25EA031	FW HTR 6A NORM LEVEL CONT OUT	0.020
N25EA032	FW HTR 6B NORM LEVEL CONT OUT	0.020
N25EA033	FW HTR 5A EMER LEVEL CONT OUT	0.020
N25EA034	FW HTR 5B EMER LEVEL CONT OUT	0.020
N25EA035	FW HTR 5A NORM LEVEL CONT OUT	0.020
N25EA036	FW HTR 5B NORM LEVEL CONT OUT	0.020
N25EA037	M/S 1B DRAIN TANK LEVEL	0.033
N25EA038	M/S 2B DRAIN TANK LEVEL	0.033
N25EA039	M/S 1A DRAIN TANK LEVEL	0.033
N25EA040	M/S 2A DRAIN TANK LEVEL	0.033
N25EA041	M/S 2A TANK EMER LEVEL CONT OUT	0.020
N25EA042	M/S 2A TANK NORM LEVEL CONT OUT	0.020
N25EA043	M/S 2A 1ST STG EMER LVL CONT OUT	0.020
N25EA044	M/S 2A 1ST STG NORM LVL CONT OUT	0.020
N25EA045	M/S 2A 2ND STG DRAIN TANK LEVEL	0.033
N25EA046	M/S 2A 2ND STG EMER LVL CONT OUT	0.020
N25EA047	M/S 2A 2ND STG NORM LVL CONT OUT	0.020
N25EA048	FEEDWATER HEATER 6A LEVEL	0.033
N25EA049	FEEDWATER HEATER 6B LEVEL	0.033
N25EA050	FEEDWATER HEATER 5A LEVEL	0.033
N25EA051	FEEDWATER HEATER 5B LEVEL	0.033
N25EA052	M/S 2A 1ST STG DRAIN TANK LEVEL	0.033
N26EA001	FW HTR 2A EMER LEVEL CONT OUT	0.020

## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N26EA002	FW HTR 2B EMER LEVEL CONT OUT	0.020
N26EA003	FW HTR 2C EMER LEVEL CONT OUT	0.020
N26EA004	FW HTR 2A NORM LEVEL CONT OUT	0.020
N26EA005	FW HTR 2B NORM LEVEL CONT OUT	0.020
N26EA006	FW HTR 2C NORM LEVEL CONT OUT	0.020
N26EA007	FW HTR 1A EMER LEVEL CONT OUT	0.020
N26EA008	FW HTR 1B EMER LEVEL CONT OUT	0.020
N26EA009	FW HTR 1C EMER LEVEL CONT OUT	0.020
N26EA010	FW HTR 1A NORM LEVEL CONT OUT	0.020
N26EA011	FW HTR 1B NORM LEVEL CONT OUT	0.020
N26EA012	FW HTR 1C NORM LEVEL CONT OUT	0.020
N26EA013	FEEDWATER HEATER 2A LEVEL	0.033
N26EA014	FEEDWATER HEATER 2B LEVEL	0.033
N26EA015	FEEDWATER HEATER 2C LEVEL	0.033
N26EA016	FEEDWATER HEATER 1A LEVEL	0.033
N26EA017	FEEDWATER HEATER 1B LEVEL	0.033
N26EA018	FEEDWATER HEATER 1C LEVEL	0.033
N26EA019	FEEDWATER HEATER 3A LEVEL	0.033
N26EA020	FEEDWATER HEATER 3B LEVEL	0.033
N26EA021	FW HTR 3A EMER LEVEL CONT OUT	0.020
N26EA022	FW HTR 3B EMER LEVEL CONT OUT	0.020
N26EA023	FW HTR 3A NORM LEVEL CONT OUT	0.020
N26EA024	FW HTR 3B NORM LEVEL CONT OUT	0.020
N27EA001	TDFP A MIN FLOW CONT OUTPUT	0.020
N27EA002	TDFP B MIN FLOW CONT OUTPUT	0.020
N27EA003	MDFP C MIN FLOW CONT OUTPUT	0.020
N27EA004	FW HTR 5A OUTLET TEMPERATURE	
N27EA006	FW HTR 5B OUTLET TEMPERATURE	
N27EA008	FW HTR 6A OUTLET TEMPERATURE	
N27EA010	FW HTR 6B OUTLET TEMPERATURE	
N27EA012	TDFP A TURBINE SPEED	0.020
N27EA013	TDFP B TURBINE SPEED	0.020
N27EA014	TDFP A TURB CONT VALVE POSITION	0.020
N27EA015	TDFP B TURB CONT VALVE POSITION	0.020
N27EA016	FW STARTUP VALVE POSITION	0.020
N27EA017	FW PUMP SUCTION HEADER PRESSURE	0.033
N27EA018	LOW FEEDWATER FLOW	0.033
N27EA019	LOW FW FLOW CONTROLLER OUTPUT	0.020
N27EA020	FW BOOSTER PUMP A SUCTION PRESS	0.033
N27EA021	FW BOOSTER PUMP B SUCTION PRESS	0.033
N27EA022	FW BOOSTER PUMP C SUCTION PRESS	0.033
N27EA023	FW BOOSTER PUMP D SUCTION PRESS	0.033
N27EA024	FW BOOSTER PUMP A DISCH PRESS	0.033
N27EA025	FW BOOSTER PUMP B DISCH PRESS	0.033
N27EA026	FW BOOSTER PUMP C DISCH PRESS	0.033
N27EA027	FW BOOSTER PUMP D DISCH PRESS	0.033
N27EA028	TDFP A SUCTION FLOW	0.033
N27EA029	TDFP B SUCTION FLOW	0.033
N27EA030	MDFP C SUCTION FLOW	0.033
N27EA032	MDFP C DISCHARGE PRESSURE	0.033
N27EA033	MDFP C SUCTION PRESSURE	0.033
N27EA034	TDFP A DISCHARGE PRESSURE	0.033

## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N27EA035	TDFP A SUCTION PRESSURE	0.033
N27EA036	TDFP B DISCHARGE PRESSURE	0.033
N27EA037	TDFP B SUCTION PRESSURE	0.033
N27EA040	MDFP C MOTOR CURRENT	
N27EA041	FEEDWATER INJECTION PRESSURE A	0.033
N27EA042	FEEDWATER INJECTION PRESSURE B	0.033
N27EA043	TDFP A COUPLING BEARING VIB	ATER
N27EA044	TDFP B COUPLING BEARING VIB	ATER
N27EA045	TDFP A FRONT BEARING VIB	ATER
N27EA046	TDFP B FRONT BEARING VIB	ATER
N27EA047	MDFP C SUCTION END BEARING VIB	ATER
N27EA048	MDFP C DISCH END BEARING VIB	ATER
N27EA050	MDFP C FLOW CONT VALVE POSITION	0.020
N31EA001	MAIN TURBINE SPEED	0.020
N31EA002	MAIN TURBINE TOTAL CV POSITION	0.004
N32EA001	MAIN TURBINE STOP VALVE 1 POSN	0.004
N32EA002	MAIN TURBINE STOP VALVE 2 POSN	0.004
N32EA003	MAIN TURBINE STOP VALVE 3 POSN	0.004
N32EA004	MAIN TURBINE STOP VALVE 4 POSN	0.004
N32EA005	MAIN TURBINE CONT VALVE 1 POSN	0.004
N32EA006	MAIN TURBINE CONT VALVE 2 POSN	0.004
N32EA007	MAIN TURBINE CONT VALVE 3 POSN	0.004
N32EA008	MAIN TURBINE CONT VALVE 4 POSN	0.004
N32EA009	LOAD REFERENCE	0.020
N32EA010	MAIN TURB CONTROL VALVE DEMAND	0.020
N32EA011	MAIN TURBINE STEAM FLOW DEMAND	0.020
N32EA012	MAIN TURBINE FLOW REFERENCE	0.020
N32EA013	MAIN TURBINE SPEED LOAD DEMAND A	0.020
N32EA014	MAIN TURBINE SPEED LOAD DEMAND B	0.020
N33EA001	STEAM SEAL EVAPORATOR LEVEL	0.033
N33EA002	STEAM SEAL EVAP LEVEL CONT OUT	0.020
N33EA003	STEAM SEAL EVAP DRAIN TANK LEVEL	0.033
N33EA004	SSE DR TANK EMER LEVEL CONT OUT	0.020
N33EA005	SSE DR TANK NORM LEVEL CONT OUT	0.020
N33EA006	STEAM SEAL EVAP TUBE PRESSURE	0.033
N33EA007	STEAM SEAL EVAP SHEET PRESSURE	0.033
N33EA008	STEAM SEAL EVAP PRESS CONT OUT	0.020
N33EA009	STEAM SEAL EVAP PRESS CONT OUT	0.020
N33EA010	STEAM SEAL PRESSURE	0.033
N33EA011	ST SEAL AUX ST PRESS CONT OUT	0.033
N36EA001	DC HTR 4 AUX STEAM PRESSURE	0.033
N41EA001	GEN STATOR WINDING TEMPERATURE	
N41EA002	GEN STATOR WINDING TEMPERATURE	
N41EA003	GEN STATOR WINDING TEMPERATURE	
N41EA004	GEN STATOR WINDING TEMPERATURE	
N41EA005	GEN STATOR WINDING TEMPERATURE	
N41EA006	GEN STATOR WINDING TEMPERATURE	
N41EA007	GEN STATOR WINDING TEMPERATURE	
N41EA008	GEN STATOR WINDING TEMPERATURE	
N41EA009	GEN STATOR WINDING TEMPERATURE	
N41EA010	GEN STATOR WINDING TEMPERATURE	
N41EA011	GEN STATOR WINDING TEMPERATURE	



## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N41EA012	GEN STATOR WINDING TEMPERATURE	
N41EA013	GEN STATOR WINDING TEMPERATURE	
N41EA014	GEN STATOR WINDING TEMPERATURE	
N41EA015	GEN STATOR WINDING TEMPERATURE	
N41EA016	GEN STATOR WINDING TEMPERATURE	
N41EA017	GEN STATOR WINDING TEMPERATURE	
N41EA018	GEN STATOR WINDING TEMPERATURE	
N41EA019	GEN STATOR WINDING TEMPERATURE	
N41EA020	GEN STATOR WINDING TEMPERATURE	
N41EA021	GEN STATOR WINDING TEMPERATURE	
N41EA022	GEN STATOR WINDING TEMPERATURE	
N41EA023	GEN STATOR WINDING TEMPERATURE	
N41EA024	GEN STATOR WINDING TEMPERATURE	
N41EA025	GEN STATOR WINDING TEMPERATURE	
N41EA026	GEN STATOR WINDING TEMPERATURE	
N41EA027	GEN STATOR WINDING TEMPERATURE	
N41EA028	GEN STATOR WINDING TEMPERATURE	
N41EA029	GEN STATOR WINDING TEMPERATURE	
N41EA030	GEN STATOR WINDING TEMPERATURE	
N41EA031	GEN STATOR WINDING TEMPERATURE	
N41EA032	GEN STATOR WINDING TEMPERATURE	
N41EA033	GEN STATOR WINDING TEMPERATURE	
N41EA034	GEN STATOR WINDING TEMPERATURE	
N41EA035	GEN STATOR WINDING TEMPERATURE	
N41EA036	GEN STATOR WINDING TEMPERATURE	
N41EA037	GEN STATOR WINDING TEMPERATURE	
N41EA038	GEN STATOR WINDING TEMPERATURE	
N41EA039	GEN STATOR WINDING TEMPERATURE	
N41EA040	GEN STATOR WINDING TEMPERATURE	
N41EA041	GEN STATOR WINDING TEMPERATURE	
N41EA042	GEN STATOR WINDING TEMPERATURE	
N41EA043	GEN STATOR WINDING TEMPERATURE	
N41EA044	GEN STATOR WINDING TEMPERATURE	
N41EA045	GEN STATOR WINDING TEMPERATURE	
N41EA046	GEN STATOR WINDING TEMPERATURE	
N41EA047	GEN STATOR WINDING TEMPERATURE	
N41EA048	GEN STATOR WINDING TEMPERATURE	
N41EA049	GEN STATOR WINDING TEMPERATURE	
N41EA050	GEN STATOR WINDING TEMPERATURE	
N41EA051	GEN STATOR WINDING TEMPERATURE	
N41EA052	GEN STATOR WINDING TEMPERATURE	
N41EA053	GEN STATOR WINDING TEMPERATURE	
N41EA054	GEN STATOR WINDING TEMPERATURE	
N41EA055	GEN STATOR WINDING TEMPERATURE	
N41EA056	GEN STATOR WINDING TEMPERATURE	
N41EA057	GEN STATOR WINDING TEMPERATURE	
N41EA058	GEN STATOR WINDING TEMPERATURE	
N41EA059	GEN STATOR WINDING TEMPERATURE	
N41EA060	GEN STATOR WINDING TEMPERATURE	
N41EA061	GEN STATOR WINDING TEMPERATURE	
N41EA062	GEN STATOR WINDING TEMPERATURE	
N41EA063	GEN STATOR WINDING TEMPERATURE	

INFORMATION ONLY

## ANALOG INPUTS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N41EA064	GEN STATOR WINDING TEMPERATURE	
N41EA065	GEN STATOR WINDING TEMPERATURE	
N41EA066	GEN STATOR WINDING TEMPERATURE	
N41EA067	GEN STATOR WINDING TEMPERATURE	
N41EA068	GEN STATOR WINDING TEMPERATURE	
N41EA069	GEN STATOR WINDING TEMPERATURE	
N41EA070	GEN STATOR WINDING TEMPERATURE	
N41EA071	GEN STATOR WINDING TEMPERATURE	
N41EA072	GEN STATOR WINDING TEMPERATURE	
N41EA073	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA074	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA075	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA076	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA077	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA078	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA079	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA080	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA081	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA082	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA083	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA084	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA085	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA086	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA087	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA088	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA089	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA090	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA091	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA092	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA093	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA094	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA095	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA096	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA097	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA098	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA099	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA100	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA101	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA102	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA103	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA104	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA105	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA106	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA107	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA108	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA109	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA110	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA111	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA112	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA113	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA114	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA115	GEN STATOR COIL LIQ OUTLET TEMP	

## ANALOG INPUTS ERI5 SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N41EA116	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA117	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA118	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA119	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA120	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA121	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA122	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA123	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA124	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA125	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA126	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA127	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA128	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA129	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA130	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA131	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA132	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA133	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA134	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA135	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA136	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA137	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA138	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA139	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA140	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA141	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA142	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA143	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA144	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA145	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA146	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA147	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA148	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA149	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA150	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA151	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA152	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA153	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA154	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA155	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA156	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA157	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA158	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA159	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA160	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA161	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA162	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA163	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA164	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA165	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA166	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA167	GEN STATOR COIL LIQ OUTLET TEMP	

## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N41EA168	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA169	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA170	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA171	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA172	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA173	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA174	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA175	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA176	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA177	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA178	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA179	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA180	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA181	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA182	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA183	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA184	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA185	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA186	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA187	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA188	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA189	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA190	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA191	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA192	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA193	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA194	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA195	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA196	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA197	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA198	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA199	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA200	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA201	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA202	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA203	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA204	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA205	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA206	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA207	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA208	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA209	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA210	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA211	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA212	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA213	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA214	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA215	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA216	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA217	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA218	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA219	GEN STATOR COIL LIQ OUTLET TEMP	



## ANALOG INPUTS ERIIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
N41EA220	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA221	GEN STATOR COIL LIQ OUTLET TEMP	
N41EA222	GENERATOR STATOR PHASE CURRENT	
N41EA223	MAIN GENERATOR GROSS MWE	0.020
N43EA001	GEN STATOR CLG WATER INLET TEMP	
P11EA001	CONDENSATE STORAGE TANK LEVEL	
P20EA010	CLEARWELL LEVEL	
P21EA001	TWO BED TANK LEVEL	
P22EA001	MIX BED TANK LEVEL	
P33EA001	CNDS DEMIN EFFLUENT CONDUCTIVITY	0.033
P41EA001	COOLING TOWER BASIN LEVEL	
P42EA001	ECC HX A OUTLET FLOW	
P42EA002	ECC HX A OUTLET TEMPERATURE	
P42EA003	ECC HX B OUTLET TEMPERATURE	
P42EA004	ECC HX B OUTLET FLOW	
P43EA001	NCC SYS NON-REGEN HX OUTLET TEMP	
P45EA001	ESW PUMP A DISCHARGE TEMPERATURE	
P45EA002	ESW FLOW FROM ECC HX A	
P45EA003	ESW FLOW FROM DIESEL GEN HX A	
P45EA004	ESW FLOW FROM HPCS DIESEL GEN HX	
P45EA005	ESW PUMP B DISCHARGE TEMPERATURE	
P45EA006	ESW FLOW FROM DIESEL GEN HX B	
P45EA007	ESW FLOW FROM ECC HX B	
P51EA001	SERVICE AIR HEADER PRESSURE	
P52EA001	INSTRUMENT AIR HEADER PRESSURE	
P57EA001	ADS AIR SUPPLY PRESSURE A	
P57EA002	ADS AIR SUPPLY PRESSURE B	
P61EA001	DC HTR 4 AUX ST PRESS CONT OUT	0.020
R22EA001	BUS TH-21 VOLTAGE	
R22EA002	BUS TH-1 VOLTAGE	
R22EA004	BUS EH-11 VOLTAGE	0.011
R22EA005	DIV 1 DIESEL GENERATOR VOLTAGE	
R22EA007	BUS EH-12 VOLTAGE	0.011
R22EA008	DIV 2 DIESEL GENERATOR VOLTAGE	
R22EA009	BUS EH-13 VOLTAGE	0.011
R22EA010	DIV 3 DIESEL GENERATOR VOLTAGE	
R22EA011	BUS TL-21 VOLTAGE	
R22EA012	BUS L-10 VOLTAGE	
R22EA013	100-PY-B TRANSFORMER VOLTAGE	
R22EA014	BUS L-11 VOLTAGE	
R22EA015	BUS L12 VOLTAGE	
R23EA001	BUS EF-1-E1 VOLTAGE	0.011
R23EA002	BUS EF-1A VOLTAGE	0.011
R23EA003	BUS EF-1B VOLTAGE	0.011
R23EA004	BUS EF-1C VOLTAGE	0.011
R23EA005	BUS EF-1D VOLTAGE	0.011
R42EA001	BATTERY E-1A CURRENT	
R42EA002	CHARGER EFD-1A OUTPUT VOLTAGE	
R42EA003	CHARGER EFD-12A OUTPUT VOLTAGE	
R42EA004	DC BUS ED-1A VOLTAGE	
R42EA005	BATTERY E-1A VOLTAGE	
R42EA006	BATTERY E-1B CURRENT	

INFORMATION ONLY

## ANALOG INPUTS ERS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION	SCAN INTERVAL (SEC)
R42EA007	CHARGER EFD-1B OUTPUT VOLTAGE	
R42EA008	CHARGER EFD-12B OUTPUT VOLTAGE	
R42EA009	DC BUS ED-1B VOLTAGE	
R42EA010	BATTERY E-1B VOLTAGE	
R42EA011	CHARGER EFD-12C OUTPUT VOLTAGE	
R42EA012	DC BUS D-1A VOLTAGE	
R42EA013	DC BUS D-1B VOLTAGE	
R42EA014	DC BUS ED-1C VOLTAGE	
R42EA015	CHARGER EFD-1C OUTPUT VOLTAGE	
R42EA016	BATTERY E-1C CURRENT	
R42EA017	BATTERY E-1C VOLTAGE	
R42EA504	DC BUS ED-2A VOLTAGE	
R42EA509	DC BUS ED-2B VOLTAGE	
R42EA513	DC BUS D-2B VOLTAGE	
R42EA514	DC BUS ED-2C VOLTAGE	

INFORMATION ONLY

## CONTROL ROD POSITIONS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
C11EJ001	CONTROL ROD 22-03
C11EJ002	CONTROL ROD 26-03
C11EJ003	CONTROL ROD 30-03
C11EJ004	CONTROL ROD 34-03
C11EJ005	CONTROL ROD 38-03
C11EJ006	CONTROL ROD 14-07
C11EJ007	CONTROL ROD 18-07
C11EJ008	CONTROL ROD 22-07
C11EJ009	CONTROL ROD 26-07
C11EJ010	CONTROL ROD 30-07
C11EJ011	CONTROL ROD 34-07
C11EJ012	CONTROL ROD 38-07
C11EJ013	CONTROL ROD 42-07
C11EJ014	CONTROL ROD 46-07
C11EJ015	CONTROL ROD 10-11
C11EJ016	CONTROL ROD 14-11
C11EJ017	CONTROL ROD 18-11
C11EJ018	CONTROL ROD 22-11
C11EJ019	CONTROL ROD 26-11
C11EJ020	CONTROL ROD 30-11
C11EJ021	CONTROL ROD 34-11
C11EJ022	CONTROL ROD 38-11
C11EJ023	CONTROL ROD 42-11
C11EJ024	CONTROL ROD 46-11
C11EJ025	CONTROL ROD 50-11
C11EJ026	CONTROL ROD 06-15
C11EJ027	CONTROL ROD 10-15
C11EJ028	CONTROL ROD 14-15
C11EJ029	CONTROL ROD 18-15
C11EJ030	CONTROL ROD 22-15
C11EJ031	CONTROL ROD 26-15
C11EJ032	CONTROL ROD 30-15
C11EJ033	CONTROL ROD 34-15
C11EJ034	CONTROL ROD 38-15
C11EJ035	CONTROL ROD 42-15
C11EJ036	CONTROL ROD 46-15
C11EJ037	CONTROL ROD 50-15
C11EJ038	CONTROL ROD 54-15
C11EJ039	CONTROL ROD 06-19
C11EJ040	CONTROL ROD 10-19
C11EJ041	CONTROL ROD 14-19
C11EJ042	CONTROL ROD 18-19
C11EJ043	CONTROL ROD 22-19
C11EJ044	CONTROL ROD 26-19
C11EJ045	CONTROL ROD 30-19
C11EJ046	CONTROL ROD 34-19
C11EJ047	CONTROL ROD 38-19
C11EJ048	CONTROL ROD 42-19
C11EJ049	CONTROL ROD 46-19
C11EJ050	CONTROL ROD 50-19
C11EJ051	CONTROL ROD 54-19
C11EJ052	CONTROL ROD 02-23
C11EJ053	CONTROL ROD 06-23

## CONTROL ROD POSITIONS ERIS SYSTEM

10/26/83

FUNCTION ID      DESCRIPTION

C11EJ054	CONTROL ROD 10-23
C11EJ055	CONTROL ROD 14-23
C11EJ056	CONTROL ROD 18-23
C11EJ057	CONTROL ROD 22-23
C11EJ058	CONTROL ROD 26-23
C11EJ059	CONTROL ROD 30-23
C11EJ060	CONTROL ROD 34-23
C11EJ061	CONTROL ROD 38-23
C11EJ062	CONTROL ROD 42-23
C11EJ063	CONTROL ROD 46-23
C11EJ064	CONTROL ROD 50-23
C11EJ065	CONTROL ROD 54-23
C11EJ066	CONTROL ROD 58-23
C11EJ067	CONTROL ROD 02-27
C11EJ068	CONTROL ROD 06-27
C11EJ069	CONTROL ROD 10-27
C11EJ070	CONTROL ROD 14-27
C11EJ071	CONTROL ROD 18-27
C11EJ072	CONTROL ROD 22-27
C11EJ073	CONTROL ROD 26-27
C11EJ074	CONTROL ROD 30-27
C11EJ075	CONTROL ROD 34-27
C11EJ076	CONTROL ROD 38-27
C11EJ077	CONTROL ROD 42-27
C11EJ078	CONTROL ROD 46-27
C11EJ079	CONTROL ROD 50-27
C11EJ080	CONTROL ROD 54-27
C11EJ081	CONTROL ROD 58-27
C11EJ082	CONTROL ROD 02-31
C11EJ083	CONTROL ROD 06-31
C11EJ084	CONTROL ROD 10-31
C11EJ085	CONTROL ROD 14-31
C11EJ086	CONTROL ROD 18-31
C11EJ087	CONTROL ROD 22-31
C11EJ088	CONTROL ROD 26-31
C11EJ089	CONTROL ROD 30-31
C11EJ090	CONTROL ROD 34-31
C11EJ091	CONTROL ROD 38-31
C11EJ092	CONTROL ROD 42-31
C11EJ093	CONTROL ROD 46-31
C11EJ094	CONTROL ROD 50-31
C11EJ095	CONTROL ROD 54-31
C11EJ096	CONTROL ROD 58-31
C11EJ097	CONTROL ROD 02-35
C11EJ098	CONTROL ROD 06-35
C11EJ099	CONTROL ROD 10-35
C11EJ100	CONTROL ROD 14-35
C11EJ101	CONTROL ROD 18-35
C11EJ102	CONTROL ROD 22-35
C11EJ103	CONTROL ROD 26-35
C11EJ104	CONTROL ROD 30-35
C11EJ105	CONTROL ROD 34-35



## CONTROL ROD POSITIONS ERIS SYSTEM

10/26/83

FUNCTION ID DESCRIPTION

C11EJ106	CONTROL ROD 38-35
C11EJ107	CONTROL ROD 42-35
C11EJ108	CONTROL ROD 46-35
C11EJ109	CONTROL ROD 50-35
C11EJ110	CONTROL ROD 54-35
C11EJ111	CONTROL ROD 58-35
C11EJ112	CONTROL ROD 02-39
C11EJ113	CONTROL ROD 06-39
C11EJ114	CONTROL ROD 10-39
C11EJ115	CONTROL ROD 14-39
C11EJ116	CONTROL ROD 18-39
C11EJ117	CONTROL ROD 22-39
C11EJ118	CONTROL ROD 26-39
C11EJ119	CONTROL ROD 30-39
C11EJ120	CONTROL ROD 34-39
C11EJ121	CONTROL ROD 38-39
C11EJ122	CONTROL ROD 42-39
C11EJ123	CONTROL ROD 46-39
C11EJ124	CONTROL ROD 50-39
C11EJ125	CONTROL ROD 54-39
C11EJ126	CONTROL ROD 58-39
C11EJ127	CONTROL ROD 06-43
C11EJ128	CONTROL ROD 10-43
C11EJ129	CONTROL ROD 14-43
C11EJ130	CONTROL ROD 18-43
C11EJ131	CONTROL ROD 22-43
C11EJ132	CONTROL ROD 26-43
C11EJ133	CONTROL ROD 30-43
C11EJ134	CONTROL ROD 34-43
C11EJ135	CONTROL ROD 38-43
C11EJ136	CONTROL ROD 42-43
C11EJ137	CONTROL ROD 46-43
C11EJ138	CONTROL ROD 50-43
C11EJ139	CONTROL ROD 54-43
C11EJ140	CONTROL ROD 06-47
C11EJ141	CONTROL ROD 10-47
C11EJ142	CONTROL ROD 14-47
C11EJ143	CONTROL ROD 18-47
C11EJ144	CONTROL ROD 22-47
C11EJ145	CONTROL ROD 26-47
C11EJ146	CONTROL ROD 30-47
C11EJ147	CONTROL ROD 34-47
C11EJ148	CONTROL ROD 38-47
C11EJ149	CONTROL ROD 42-47
C11EJ150	CONTROL ROD 46-47
C11EJ151	CONTROL ROD 50-47
C11EJ152	CONTROL ROD 54-47
C11EJ153	CONTROL ROD 10-51
C11EJ154	CONTROL ROD 14-51
C11EJ155	CONTROL ROD 18-51
C11EJ156	CONTROL ROD 22-51
C11EJ157	CONTROL ROD 26-51

INFORMATION ONLY

## CONTROL ROD POSITIONS ERIS SYSTEM

10/26/83

FUNCTION ID	DESCRIPTION
C11EJ158	CONTROL ROD 30-51
C11EJ159	CONTROL ROD 34-51
C11EJ160	CONTROL ROD 38-51
C11EJ161	CONTROL ROD 42-51
C11EJ162	CONTROL ROD 46-51
C11EJ163	CONTROL ROD 50-51
C11EJ164	CONTROL ROD 14-55
C11EJ165	CONTROL ROD 18-55
C11EJ166	CONTROL ROD 22-55
C11EJ167	CONTROL ROD 26-55
C11EJ168	CONTROL ROD 30-55
C11EJ169	CONTROL ROD 34-55
C11EJ170	CONTROL ROD 38-55
C11EJ171	CONTROL ROD 42-55
C11EJ172	CONTROL ROD 46-55
C11EJ173	CONTROL ROD 22-59
C11EJ174	CONTROL ROD 26-59
C11EJ175	CONTROL ROD 30-59
C11EJ176	CONTROL ROD 34-59
C11EJ177	CONTROL ROD 38-59

INFORMATION ONLY