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Vice President

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April 15, 1983

Re: Indian Point Unit No. 2
Docket No. 50-247

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Eisenhut:

Attachment 1 to this letter contains Con Edison's implementation plan for Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability", as requested in your December 17, 1982 Generic Letter 82-33. Our plan contains a description of the current status of emergency response capability initiatives as identified in Supplement 1 to NUREG-0737, plans for integration of these initiatives and activities, and proposed program goals for phased implementation of the basic requirements.

The plan presents our approach to implementing the Safety Parameter Display System (SPDS), Detailed Control Room Design Review (DCRDR), Regulatory Guide 1.97 (Revision 2) - Application to Emergency Response Facilities (R.G. 1.97), Upgrade of Emergency Operating Procedures (EOPs), Emergency Response Facilities (ERFs), and Integrated Training.

This plan is based on (1) the extensive effort Con Edison has expended and is expending in implementing post-TMI items at Indian Point Unit 2 (IP2); (2) a technical approach that takes into account the unique aspects of the IP2 plant design; and (3) current and projected Con Edison resources. Some related actions essentially completed or underway include:

- a) Control room design review completed in accordance with the Confirmatory Order of February 11 1980;
- b) Interim upgrade of emergency operating procedures, including human factors engineering, completed in accordance with the Confirmatory Order of February 11, 1980;

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- c) Interim SPDS installed with functional testing and editing in progress; final SPDS software specification completed and hardware fabrication/implementation is in progress;
- d) ERF specified in the Con Edison submittal of June 1, 1981, functionally completed and successfully demonstrated at the March 9, 1983 FEMA Emergency Plan exercise; and
- e) Post-TMI/NUREG-0737 instrumentation, providing enhanced post-accident monitoring capability (selected parameters only) and generally complying with the intent of R.G. 1.97, (for those selected parameters).

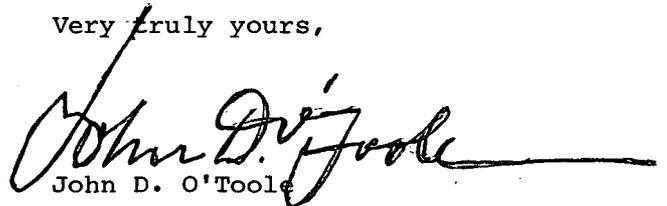
The attached Con Edison response plan is based on cost and engineering estimates with the scheduling of activities reflecting our management and resource capabilities and fuel cycles. We believe that the associated program goals are reasonable and achievable and reflect an optimized approach toward implementation of the Supplement 1 initiatives while not, in any way, compromising plant safety. Con Edison reserves the right to revise this plan as necessary to factor in unforeseen circumstances that may come up during the implementation stage.

The proposed implementation plan is based on the assumption that additional significant NRC requirements necessitating large resource expenditures will not be imposed on IP2. In the event such requirements are imposed, Con Edison will reexamine the plan within the context of the priorities of all requirements and Con Edison resources and operating schedules. In this manner proper implementation of the Supplement 1 initiatives can be achieved through a "living" schedule.

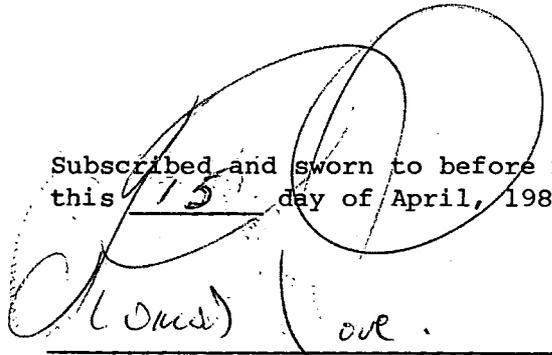
The information in this letter and Attachment 1 is being submitted pursuant to 10 CFR 50.54(f) as requested in Generic Letter 82-33.

Attachment

Very truly yours,


 John D. O'Toole
 Vice President

Subscribed and sworn to before me
 this 15 day of April, 1983.



Notary Public
 Notary Public State of New York
 No. 31-2409638
 Qualified in New York County
 Commission Expires March 30, 1985

Attachment 1

RESPONSE TO
NUREG-0737, SUPPLEMENT 1
(GENERIC LETTER 82-33)

FOR

INDIAN POINT UNIT 2
DOCKET NO. 50-247

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

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SECTION 1.0 INTRODUCTION

1.1 Overview

On December 17, 1982, the Nuclear Regulatory Commission (NRC) issued Generic Letter 82-33. The purpose of the letter was to provide additional clarification regarding safety parameter display systems (SPDS), detailed control room design reviews (DCRDR), Regulatory Guide 1.97 (Rev. 2) - Application to Emergency Response Facilities (R. G. 1.97), upgrade of emergency operating procedures (EOPs), emergency response facilities (ERFs), and meteorological data. Enclosed with the letter was Supplement 1 to NUREG-0737 -Requirements for Emergency Response Capability (ERC). Supplement 1 to NUREG-0737 contains a distillation of the basic requirements of the topics identified above from the broad range of guidance documents that the NRC has issued (principally NUREG reports and regulatory guides). Supplement 1 to NUREG-0737 also requires that additional efforts be made by utilities to integrate and coordinate the implementation of the initiatives for which it provides clarification.

Generic Letter 82-33 requested operating reactor licensees and holders of construction permits to furnish no later than April 15, 1983, a proposed schedule for completing each of the basic requirements for the tasks identified. In addition to the schedule, a description of the utility's plans for phased implementation and integration of the emergency response activities was requested.

This document is submitted as the emergency response capability implementation plan for the Indian Point Unit No. 2 nuclear power plant (IP2) owned and operated by the Consolidated Edison Company of New York, Inc. (Con Edison). In accordance with Con Edison's understanding of Generic Letter 82-33, this plan contains the following information:

1. Description of current status of applicable emergency response capability initiatives (as identified in Supplement 1 to NUREG-0737).

2. Description of the interrelationships between and among emergency response initiatives and activities.
3. Proposed schedule for phased implementation of the basic requirements.

The following subsections describe the status of the SPDS, DCRDR, EOPs, R. G. 1.97, ERFs, and integrated training. For each activity area there is a description of (1) current status, (2) integration with other ERC activities and related projects, and (3) future activities. The description of completed activities addresses the large number of "good faith" actions that have been completed or are underway at IP2. As addressed in the February 22, 1983, NRC workshop, prior work done in "good faith" to implement the NRC NUREGs would be credited in Con Edison's favor for implementation of Supplement 1.

Supplement 1 to NUREG-0737 and Generic Letter 82-33 requests that specific information and dates as they relate to the various initiatives be submitted in this plan. Table 1 provides a summary/index of the information requested by the NRC.

TABLE 1 SUMMARY OF SUBMITTAL REQUIREMENTS

Submittal Requirement	Comment
<p>SPDS</p> <ul style="list-style-type: none"> ● PROVIDE CURRENT STATUS OF SPDS DESIGN ● PROVIDE DATE FOR SUBMITTAL OF A SAFETY ANALYSIS WHICH DESCRIBES THE BASIS FOR PARAMETER SELECTION ● PROVIDE DATE WHEN SPDS WILL BE OPERABLE AND OPERATORS TRAINED ● INDICATE IF UTILITY DESIRES PRE-IMPLEMENTATION REVIEW BY NRC ● PROPOSE INTEGRATED SCHEDULE FOR IMPLEMENTATION IN WHICH SPDS DESIGN IS AN INPUT TO OTHER INITIATIVES; i.e., DCRDR, EOPs AND TRAINING. 	<p>SEE SECTION 1.2</p> <p>JUNE, 1984</p> <p>JUNE, 1986</p> <p>NO</p> <p>SEE FIGURE 1</p>
<p>DCRDR</p> <ul style="list-style-type: none"> ● PROVIDE CURRENT STATUS OF DCRDR ● PROVIDE DATE FOR SUBMITTAL OF PROGRAM PLAN ● PROVIDE DATE FOR SUBMITTAL OF SUMMARY REPORT 	<p>SEE SECTION 1.3</p> <p>FEBRUARY, 1984</p> <p>JULY, 1986</p>

1-3

TABLE 1 SUMMARY OF SUBMITTAL REQUIREMENTS (Continued)

Submittal Requirement	Comment
<p>EOPs</p>	
<ul style="list-style-type: none"> ● CURRENT STATUS OF EOP UPGRADE DEVELOPMENT 	<p>SEE SECTION 1.4</p>
<ul style="list-style-type: none"> ● SUBMITTAL DATE FOR (GENERIC) TECHNICAL GUIDELINES 	<p>SUBMITTED BY WOG</p>
<ul style="list-style-type: none"> ● SUBMITTAL DATE FOR PROCEDURES GENERATION PACKAGE 	<p>MAY, 1984</p>
<ul style="list-style-type: none"> ● DATE FOR IMPLEMENTING EOPs 	<p>OCTOBER, 1985</p>
<p>R.G. 1.97</p>	
<ul style="list-style-type: none"> ● PROVIDE A SCHEDULE FOR IMPLEMENTING THE REQUIREMENTS OF THE REGULATORY GUIDE 	<p>SEE FIGURE 1</p>
<p>ERFs</p>	
<ul style="list-style-type: none"> ● PROVIDE PROJECTED COMPLETION DATES FOR FUNCTIONAL TSC, OSC AND EOF 	<p>MARCH, 1983</p>
<p>INTEGRATED TRAINING PLAN</p>	
<ul style="list-style-type: none"> ● DATE FOR DEVELOPMENT OF TRAINING PLAN (AS PART OF PROCEDURES GENERATION PACKAGE) 	<p>MAY, 1984</p>

1-4

1.2 Safety Parameter Display System (SPDS)

1.2.1 Current Status

In response to the NUREG-0696 SPDS implementation requirements, Con Edison has provided an interim rudimentary SPDS display in the IP2 control room. The interim SPDS was installed during the 1982 refueling outage as part of the plant computer upgrade modification program and is now undergoing functional testing and editing.

During the 1982 outage, Con Edison installed a new Proteus P2500 plant process computer with a rudimentary SPDS color graphic CRT display in the control room that monitors a minimum set of plant safety parameters. The interim SPDS provides data links with the TSC and EOF and has approximately one week of data storage and retrieval.

In addition to developing an interim SPDS, Con Edison was concurrently participating in the Quadrex SAS Owners Group that was sponsoring the development of SAS/SPDS interactive display software packages. On April 14, 1982, members of the NRC and ACRS staffs attended a demonstration of the generic SAS/SPDS system at the IP2 simulator and subsequently have concurred with the SAS/SPDS functional concept. These standard software display packages, developed by Quadrex will be implemented as the permanent SAS/SPDS at IP2. Although Con Edison has selected the SAS/SPDS, further consideration will be given to enhancing the system on the basis of the findings of the DCRDR, Regulatory Guide 1.97, and EOPs (final EOPs and critical safety function status trees). This integrated assessment will take place after installation of the basic system. If additional SAS/SPDS requirements arise as a result of the integrated assessment, the operational date for the SAS/SPDS may change.

The additional time required to perform this integrated plant assessment does not compromise the safety of IP2 because of the improvements already implemented at IP2 in response to the numerous post-TMI initiatives. A partial listing of the improvements includes, but is not limited to:

- Control room design review completed in accordance with the Confirmatory Order of February 11, 1980
- Emergency Operations Facility (EOF) functionally completed
- Operational Support Center (OSC) functionally completed
- Technical Support Center (TSC) functionally completed
- Post-TMI/NUREG-0737 instrumentation modifications generally comply with the intent of Regulatory Guide 1.97, Rev. 2, providing enhanced post-accident monitoring capability
- Broader operator training

1.2.2 Integration

The SAS/SPDS will interface with other requirements in the following ways:

- SAS/SPDS terminals will be installed in the Emergency Operations Facility and the Technical Support Center
- The supplemental DCRDR survey for control room modifications since the 1980/81 reviews and V&V activities will include the SAS/SPDS capability
- EOP preparation and training will include the SAS/SPDS
- The integrated assessment of SAS/SPDS will address problems arising from DCRDR, Regulatory Guide 1.97, and Generic Letter 82-28
- The SAS/SPDS displays will reflect final EOPs and critical safety function status trees

1.2.3 Future Activities

Con Edison has established the following SAS/SPDS milestones:

- Installation of interim SPDS (functional testing and editing is continuing)
- Preparation of procurement specification for SAS/SPDS and selection of contractor (completed February 1983)
- Definition of preliminary signal/display parameters and required safety analysis
- Installation of SAS/SPDS
- Verification and validation
- Training of operators
- Integrated SAS/SPDS assessment

1.3 Detailed Control Room Design Review (DCRDR)

1.3.1 Current Status

In response to the NRC Confirmatory Order of February 11, 1980, Con Edison contracted with Essex Corporation to perform a human engineering review of the IP2 control room. The control room review included central control room surveys, interviews with operators, simulator exercises of procedures, video-taping of selected emergency procedures, and a review and revision of selected emergency procedures. As a result of that review, numerous human engineering discrepancies (HEDs) were identified. For each human engineering discrepancy identified, documentation is provided which includes a description of components involved, their location, priority listing, and recommended correction.

In addition, the NRC conducted a review of the IP2 control room in February 1980. The results of the NRC review were documented in a letter to Con Edison dated October 31, 1980.

Gibbs and Hill was retained by Con Edison in June 1981 to evaluate the significance of human engineering discrepancies identified in the Essex report. The evaluation performed by Gibbs and Hill also included the design review of control room modifications made after the initial review and recommended appropriate changes to address the discrepancies.

The 1981 review was based on documentation of the 1980 review consisting of HED files, annunciator schematics, lighting drawings, photographs, nameplate and instrument listing and videotapes of procedure execution simulations.

In summary, the 1981 Gibbs and Hill study included:

- Evaluation of the human engineering discrepancies (HEDs) identified in the 1980 review
- Human factors review of control room modifications subsequent to the 1980 review
- Recommendations for correcting those HEDs considered valid with an effect on plant safety
- Justifications for retaining existing control room design for those HEDs which have no effect on plant safety or operability
- Comparison of the 1980 review against NUREG-0700 requirements

In its letters of December 29, 1980, May 15, 1981, February 11, 1982, and May 14, 1982, Con Edison documented proposed corrective actions and implementation schedules based on the early control room reviews. In response to NRC review items as described in its May 14, 1982, submittal to NRC, Con Edison has implemented several changes in the control room. These are:

- Installation of battery-operated emergency lighting fixtures in the control room to provide for continuously available emergency lighting
- Replacement of "J" handle controls on flight panels to prevent inadvertent actuation (subsequent experience has resulted in return to the preferred "J" handles for ease of operation)
- Installation of several new multipoint recorders and relocation of some recorders to be adjacent to the flight panel
- Implementation of revised interim emergency procedures
- Revised flash rate of supervisory annunciators from one to two flashes per second

In a letter to NRC dated February 11, 1982, Con Edison proposed modifications to the IP2 control room to correct human engineering discrepancies identified during the 1980 and 1981 reviews as part of Con Edison's continuing control room improvement program. The commitments to be implemented by the Cycle 6/7 (1984) refueling outage include:

- Annunciator point relocations and consolidations
- Audible alarm localization, flash rate frequency, and horn silence controls
- Eliminating normally lit annunciator points to achieve a dark board of normal operations
- Regrouping of alarms
- Control/display alignment
- Prevention of inadvertent actuations
- Integration of recent control room modifications

During the 1982 refueling outage, Con Edison completed a portion of the above commitments. The human engineering improvements completed were:

- Audible alarm localization, flash rate frequency and horn silence controls
- Integration of recent control room modifications

Because of continuing control room modifications due to the integration of requirements from other emergency response capability programs (i.e., SPDS, Regulatory Guide 1.97, PROTEUS, and control room review of modifications) several items, as proposed in the February 11, 1982 letter, will be deferred pending further review. Resolution of annunciator tile, panel device labeling, and lamp test capability for all ESF systems will be integrated with findings from completion of the DCRDR and other control room modifications, to be implemented on a schedule consistent with other HED solutions.

In June 1982, NRC issued the SER for the IP2 control room design review. The NRC review and evaluation of Con Edison's control room corrections and implementation schedules (documented in submittals December 29, 1980, May 15, 1981, February 11, 1982, and May 14, 1982) found them satisfactory. A new complete control room survey and DCRDR is not required because the 1980/1981 reviews identified all visual HEDs and selected procedural changes. The 1980/1981 reviews will be supplemented by evaluating subsequent control room modifications and from an ongoing feedback of the emergency operating procedure review program. This will identify any additional task-related HEDs.

The supplemental DCRDR program plan will be submitted by February 1984. It is anticipated that the NRC will provide their approval on the plan via an SER.

The submittal of the summary report will be contingent on the completion of review activities, prioritization of HEDs, and identification of corrective actions. It is intended that any audit of Con Edison's supplemental DCRDR by NRC will use

the program plan as its reference document and that the criteria for completeness and adequacy of the supplemental DCRDR will be taken from that document.

1.3.2 Integration

As a complement to improvements of plant operating staff capabilities in response to transients and other abnormal conditions that will result from implementation of the SAS/SPDS and from upgraded EOPs, the continued design review activities will identify any modifications of control room configurations that would contribute to a significant reduction of risk and enhancement in the safety of operation. This will be carefully reviewed by Con Edison's human factors engineering task force. Task analysis will be used to identify control room HEDs from an operational perspective. This analysis, which will be done using the upgraded emergency operating procedures, will be performed by executing procedure walk-throughs. The task analysis activity will be performed in conjunction with the verification and validation of the new procedures. Task analysis data will be used to verify the control room equipment requirements, including the data provided by the SAS/SPDS.

The supplemental DCRDR will include an evaluation of the SAS/SPDS, including verification of parameter selection and a human engineering review of the SAS/SPDS design (e.g., display formats, and operator interface). The supplemental DCRDR also will include a human engineering review of the Reactor Vessel Level Instrumentation addressed in the Con Edison response to Generic Letter 82-28.

Additional interfaces between the supplemental DCRDR and other Supplement 1 initiatives include the following:

- Documentation and implementation of CR corrective actions resulting from the supplemental DCRDR will be integrated with the R.G. 1.97 review.
- CR corrective actions will be reviewed in order to determine if they should be reflected in the ERFs, EOPs, and training.

1.3.3 Future Activities

Recognizing the NRC's commitment to allow credit for prior activities performed in good faith toward the goal of improving control room human engineering, the 1980 and 1981 reviews will be supplemented by the following activities to ensure full compliance with the Supplement 1 NUREG-0737 requirements:

- Development of IP2 Program Plan which utilizes the prior activities as "building blocks" to optimize the supplemental review efforts
- Task analysis; coordinated with EOP verification and validation program to document the control and display requirements for performance of operator tasks in executing upgraded EOPs
- Control room survey, assessment of control room modifications since 1980 and 1981 reviews as well as assessment of overall control room integration using new EOPs, SAS/SPDS, and ICC instrumentation
- HED assessment, documentation of process or criteria used to prioritize and evaluate HEDs for correction
- Design/develop corrective actions
- Verification of proposed control room modifications and HED corrections
- Summary Report
- Implementation of corrective actions

The following milestones have been established by Con Edison for completing the supplemental DCRDR:

- Implement CR modifications (i.e., prior commitments to be met during cycle 6/7 outage with the exceptions noted on page 1-10).

- Establish Human Factors Task Force
- Assess in-house capability to conduct remaining DCRDR activities
- Prepare specification and select human factor contractor
- Develop and submit Program Plan
- NRC review of Program Plan and issuance of SER
- CR survey (limited to modifications, enhancements, and ICC instrumentation)
- Verification of task performance capability and validation of CR functions (based on task analysis and integrated with EOP V&V)
- HED assessment
- V&V of proposed modifications
- Develop and submit Summary Report
- NRC review of Summary Report and issuance of SER
- Implement corrective actions

1.4 EOPs

1.4.1 Current Status

As stated in Con Edison letter of June 17, 1982, in response to Generic Letter 82-10, Con Edison is planning to develop plant-specific procedures using the generic procedural instructions prepared by the Westinghouse Owners Group (WOG). Con Edison will prepare and implement the generic procedure guidelines as applicable to IP2 and train operators accordingly.

It should be noted that Con Edison has implemented improved emergency operating procedures. This effort was undertaken in order to comply with NRC Confirmatory Order of February 11, 1980, which required a review of control room emergency procedures for the purpose of improving these procedures from a human factors engineering standpoint. Con Edison contracted with the Essex Corporation to make a study of plant emergency procedures from a human engineering standpoint. Essex found the existing procedures (which were originally written and upgraded to conform with the intent of ANSI Std. 18.7 and Regulatory Guide 1.33) technically correct and adequate for present use. However, Essex undertook the task of rewriting these procedures utilizing a different format. The revised procedures have been implemented.

1.4.2 Integration

Con Edison views the EOPs as being the central focus of all of the Supplement 1 NUREG-0737 activities. Proper EOP preparation requires careful integration to avoid an iterative process that unduly burdens plant operators. As such, the following integration will occur:

- The SAS/SPDS parameters will be considered in the preparation of the EOPs.
- Training in EOPs will be conducted to implement interim SPDS and to implement SAS/SPDS after it is completed.
- The task analysis conducted as a basis for the EOPs shall be a basis for supplemental DCRDR review activities.
- The EOP V&V efforts shall be conducted simultaneously with the DCRDR verification of task performance capability and validation of CR functions.
- EOP preparation shall consider RCP trip issue resolution (Generic Letter 83-10D) and ICC instrumentation (Generic Letter 82-28).

- Final EOPs/critical safety function status trees will be considered in an integrated analysis of the SAS/SPDS.
- The procedures generation package shall include the integrated training plan
- EOPs shall be revised to reflect all control room improvements.
- EOPs will include plant-specific operating instructions for the reactor cooling system vents. This supersedes our response to Request No. 10 in our letter of June 2, 1982.

1.4.3 Future Activities

Con Edison has established major milestones for the EOP activities. However, these milestones are dependent upon the issuance of an SER regarding the Westinghouse generic technical guidelines. It is anticipated that the SER will be issued within 60 days. The program's major milestones are as follows:

- NRC approval of W generic emergency response guidelines (ERGs) and issuance of SER.
- Assessment of in-house capability and manpower to prepare EOPs.
- Preparation of a procurement specification and selection of a contractor to develop EOPs.
- Completion of the WOG ERGs - Rev. 1 (currently scheduled for July 31, 1983)
- Development of the procedures generation package including the integrated training plan.
- NRC review and issuance of SER

- Preparation of the EOPs
- EOP verification and validation
- Training of operators
- EOP implementation
- Revision of EOPs as necessary

1.5 Regulatory Guide 1.97 (Rev. 2) - Application to Emergency Response Facilities (R. G. 1.97)

1.5.1 Current Status

The current General Design Criteria (GDC) 13, 19 and 64 of Appendix A to 10CFR50, which are the bases for Regulatory Guide 1.97, were not available to serve as design objectives during the IP2 design phase. Because alternative design criteria were applied in developing the IP2 design, a prescriptive evaluation to determine compliance of the IP2 design with Regulatory Guide 1.97 would not be appropriate or effective. An integrated systems analysis is required to fully address the intent of Regulatory Guide 1.97 and the associated GDCs, and to provide a thorough engineering assessment of the status of IP2. This study, which will incorporate applicable guidance of NUREG-0737, Supplement 1 (concerning data to be submitted for NRC review), has been scheduled for completion in August 1985, as shown on Figure 1.

In an effort to establish an initial reference point for further post-accident monitoring work, the status of post-accident monitoring instrumentation at IP2 has been effectively evaluated through two independent studies: (1) the human factors engineering review of the control room, as discussed herein under Detailed Control Room Design Review, Section 1.3, and (2) the Regulatory Guide 1.97 preliminary instrumentation survey, performed by Westinghouse for Con Edison as part of our initial efforts.

The human factors review included a preliminary survey of the existing control room displays against the requirements of Regulatory Guide 1.97. This preliminary survey included a tabulation of the parameters addressed by Regulatory Guide 1.97, Table 2, identified applicable instrument tag numbers, and indicated parameter display in the control room.

The Westinghouse preliminary review of the instrumentation was performed on the basis of meeting the intent of Regulatory Guide 1.97, although without strict adherence to the specific instrumentation requirements expressed in the Guide. This approach is particularly applicable to the evaluation of "Type A" variables, which are "plant-specific" in nature, requiring interpretation of the plant configuration, support equipment complement, and normal and emergency operating scenarios.

Most of the parameters listed in Regulatory Guide 1.97 are currently monitored by one or more instrument channels (with control room displays) of appropriate range for the Regulatory Guide 1.97-stipulated post-accident conditions, although potential discrepancies may exist in areas such as equipment qualifications, displays, power sources, and redundancy.

In developing NRC required hardware solutions to other post-TMI (NUREG-0737) plant accident monitoring requirements, Con Edison has implemented those instrumentation modifications to meet the intent of Regulatory Guide 1.97. The relevant post-TMI/NUREG-0737 modifications include but are not limited to:

- Reactor vessel level indication system (RVLIS)
- Subcooling margin monitor
- Containment water level instrumentation
- Containment H₂ monitoring system
- Main steam line radiation monitoring instrumentation

- Containment high-range radiation monitors
- Pressurizer safety valve acoustic monitors

1.5.2 Integration With Other ERC Initiatives

In order to establish compliance with the intent of NUREG-0737, Supplement 1, and to ensure the development of emergency response capabilities that are well-integrated with each other and the normal and emergency operating modes of IP2, the initiatives (and other plant backfit programs, where applicable) will be coordinated as follows:

- EOP Development

Preliminary EOP drafts will be coordinated with preliminary Regulatory Guide 1.97 evaluations. Identification and resolution of any discrepancies and optimization of EOPs and Regulatory Guide 1.97 should be realized by this effort utilizing existing plant instrumentation.

- ERF Development

The data sets for the TSC and EOF will be coordinated with the Regulatory Guide 1.97 review.

- Equipment Qualification Programs

Any analysis or documentation research associated with the Regulatory Guide 1.97 effort will be coordinated with ongoing "EQ" (10CFR50.49, 79-01B) programs to ensure that consistent assessment criteria are applied and to avoid possible duplication of analytical effort.

- SAS/SPDS Computer

The Regulatory Guide 1.97 preliminary evaluation and parameter/instrument tabulations will be evaluated against the SAS/SPDS computer design basis document or detail design package. The objective of this evaluation would be to identify those monitoring or display functions that may be appropriate to consolidate into the SAS/SPDS system, if cost estimates can demonstrate a minimization of plant impact and installed cost.

- Supplemental DCRDR

In the event that design changes are necessary, the Regulatory Guide 1.97 conceptual design packages will require human engineering review prior to design finalization. However, some benefit may be realized (e.g., verification of compatibility of new display configurations with supplemental DCRDR findings) by ensuring that preliminary design information is made available for DCRDR integration prior to implementation of any necessary Regulatory Guide 1.97 design packages.

- Other Backfit Programs

RCP trip resolution and ICC instrumentation will be considered in the R.G. 1.97 review.

1.5.3 Future Activities

The Regulatory Guide 1.97 review to be developed will utilize the results of previous preliminary studies as a basis for the integrated systems assessment. As noted in Section 1.5.2 and as shown on Figure 1, the assessment will be coordinated with other ERC initiatives; trade-off studies will be performed to identify solutions that meet the intent of applicable NUREG-0737 requirements, while optimizing plant operability and minimizing plant impact.

Where existing plant status monitoring capabilities are found to be deficient, proposed hardware modifications or procedural solutions will be described in the report for the Regulatory Guide 1.97 review. In the event that any hardware modifications are required, conceptual design packages and installation schedules will be developed. This report will be submitted for NRC pre-implementation review and concurrence. Consistent with this schedule, any further detailed design effort (if required) would commence after NRC review. Procurement and installation of hardware (if required), would also begin at that time. As such, no fixed end date can be shown at this time, since the outcome of the NRC review of our report is not known. However, following completion of the Regulatory Guide 1.97 review and any initial design efforts that may be required as a part of it, finalization of an implementation schedule will then be possible.

In order to complete the assessment of Regulatory Guide 1.97 issues in accordance with the intent of the Guide as applicable to IP2, the following milestones will be accomplished.

- Develop Regulatory Guide 1.97 review plan to determine whether hardware or administrative modifications are indicated to establish compliance with the intent of applicable portions of Regulatory Guide 1.97.
- Perform equipment qualification analyses and/or documentation research where indicated to determine acceptability of existing hardware (e.g., transmitters, indicators, recorders). This effort will be coordinated with ongoing equipment qualification programs (10CFR50.49, 79-01B).
- Identify instrumentation components or entire instrument channels, or procedures requiring retrofit.
- Develop conceptual design packages, if required, for component, channel, or system retrofits with consideration given to outage dependencies.

- Perform budgetary cost and projected implementation schedule tradeoff analyses (addressing the interfaces with other ERC initiatives).
- Determine availability and lead time of instrumentation hardware to accomplish the Regulatory Guide 1.97 monitoring functions not presently available at IP2 and deemed necessary as part of the Regulatory Guide 1.97 review. Particular attention will be given to those functions requiring specialized hardware.
- Submit report to NRC for approval.
- Perform verification and validation of conceptual designs (as applicable), in conjunction with the review of the SAS/SPDS detail design, ERF detail designs, output of the DCRDR, and EOPs.

1.6 Emergency Response Facilities (ERFs)

1.6.1 Current Status

Con Edison has the following operational ERFs:

1. Emergency Operations Facility (EOF)*
2. Emergency Control Center (ECC)*
3. Recovery Center (RC)
4. Alternate Emergency Operations Facility (AEOF)
5. Emergency News Center (ENC)
6. Technical Support Center (TSC)
7. Operational Support Center (OSC)

In developing the facilities, Con Edison has taken into consideration NRC guidance in regard to facilities, location, space requirements, structural, environmental control, radiological monitoring, reliable communication, site status data, records and staffing. Conceptual design information was submitted to the NRC on June 1, 1981. An interim SPDS display capability has been provided with a Proteus 2500 computer.

* At Con Edison, the ECC is referred to as the EOF.

1.6.2 Integration Requirements

The ERF requirements are identified in Supplement 1, NUREG-0737. The SAS/SPDS implementation will include placing terminals in the TSC and EOF. The Con Edison ERFs, as defined in the Con Edison submittal of June 1, 1981, became fully functional on March 8, 1983. The functional capability of the ERFs was demonstrated on March 9, 1983, at a full-scale FEMA exercise.

1.7 Integrated Training

The integrated training program will take place in conjunction with the development of the upgraded EOPs. NUREG-0737, Item I.C.1 required integrated training, but no submittal is addressed in Supplement 1 or called out in any clarification that NRC has provided to Supplement 1. The training plan that will be submitted as part of the procedures generation package for the EOPs will cover the following issues:

- Scope of training
- Systematic analysis to determine training objectives
- Training design based on objectives
- Trainee performance evaluation during training
- Training program revision: evaluation of on-the-job performance of trainees following training

1.8 Related Items

There are three NRC requirements whose fulfillment and implementation will impact the overall Supplement 1 NUREG-0737 implementation plan. These items are as follows:

1. Response to Generic Letter 83-10D

2. Response to Generic Letter 82-28
3. 10CFR50.49, Generic Letter 79-01B ("EQ")

This response to Generic Letter 82-33 will incorporate any submittals in response to the previously identified requirements. However, it is noted that these requirements will impact NUREG-0737 items, including I.C.1, I.D.2, Regulatory Guide 1.97, and SAS/SPDS. Progress made in developing the responses to the three items mentioned will be integrated into the Supplement I NUREG-0737 activities as indicated in the implementation schedule presented in Section 2.0.

SECTION 2.0
PROGRAM GOALS

Figure 1 is an illustration of the Con Edison program goals for meeting the requirements of Supplement 1 to NUREG-0737. Integration of initiatives is indicated on the illustration and explained in the notes.

FIGURE 1- PROGRAM GOALS

