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May 28, 1985

MEMORANDUM

TO: Mary Wagner, Esq.
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William Jordan, Esq.
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Ms. Louise Bradford
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Thomas Au
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FROM: Deborah B. Bauser DBB

Enclosed is Licensee's proposed plan for satisfying the Licensing Board's long-term requirement that Licensee institute a procedure for evaluating after training the performance of its trained operators in the job setting for revision of the training program. Consistent with the Board's Order, Licensee would like to discuss with each of you your comments on the proposed plan prior to its formal submittal to the Board. I will be calling you within the next week to arrange such a discussion.

cc (w/enc.): Service List

D503

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	
METROPOLITAN EDISON COMPANY	)	Docket No. 50-289
	)	(Restart Remand
(Three Mile Island Nuclear Station, Unit No. 1)	)	on Management)
	)	

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May 28, 1985

PROPOSED EVALUATION PLAN

1. INTRODUCTION

On May 3, 1985, the Atomic Safety & Licensing Board issued its Partial Initial Decision (PID) on the remanded issue of licensed operator training at TMI-1. In its decision the Board concluded that the TMI-1 licensed operator training program is adequate to train reactor operators and senior reactor operators to operate the unit safely; provided that Licensee institute a procedure for evaluating after training the performance of its trained operators in the job setting for revision of the training program. The Board stated that implementation of this requirement should be effective but the license should not be laden with any unnecessary detail. The Board also reaffirmed its position that an order imposing an operator evaluation condition would be considered a long term requirement within the meaning of the notice of hearing and that, consequently, implementation need not precede restart. Licensee will have demonstrated reasonable progress toward the completion of this requirement if it begins immediately to satisfy the requirement. The purpose of this submittal is to respond to the Board's order that Licensee, within thirty days of the PID, present to the NRC Staff and other participants in the remanded proceeding its proposal for an evaluation plan.

2. BASIC PLAN

Upon receipt of the PID, Licensee began immediately to prepare a plan to meet the Licensing Board condition. This proposed plan creates a formal, periodic mechanism for evaluating licensed operators on the job for the purpose of validating and revising the licensed operator training program. There are three elements included in the basic plan:

1. For abnormal events involving licensed operators, the existing Technical Functions Procedure 1000-ADM-7370.04, "Analysis of GPUN Plant Transients (Post Trip Review)" Rev. 0, 11/15/84, requires the identification of unexpected, abnormal responses to a trip by personnel. This procedure and the existing TMI-1 plant procedure for evaluation of abnormal events (AP-1044, entitled "Event Review and Reporting Requirements," Rev. 13, 12/29/83) will be revised to more clearly indicate the requirement to evaluate the specific response and performance of the licensed operators. Procedure 1000-ADM-7370.04 already provides for evaluating training impact and feeding back any recommended changes to the licensed operator training program. In addition, TMI-1 plant procedure, AP-1029, entitled "Conduct of Operations," Rev. 14, 6/17/84, provides a process for reviewing incidents occurring on shift which, although viewed as not potentially reportable, could require some corrective actions, including revision to the licensed operator training program.

2. A routine on-the-job performance evaluation will be performed for each individual licensed operator six months after his/her initial licensing and thereafter annually. The existing procedure on trainee evaluation, 6200-ADM-2682.10 Trainee Evaluation Once Back On-The-Job, Rev. O, 4/15/85, along with the licensed operator training program descriptions, will be revised to reflect the required routine on-the-job performance evaluations.

3. The Training Systems Development (TSD) process (Procedure 6200-ADM-2682.01, "Training and Education Department Training System Development Process" Rev. O, 4/15/85) used by Licensee ensures incorporation of any revisions indicated by the on-the-job evaluation process into the appropriate training program descriptions and lesson plans.

3. DESCRIPTION OF EVALUATION PROCESS

The formal mechanism used to evaluate TMI-1 licensed operators for the purpose of validating and/or revising the initial and requalification licensed operator training programs includes three primary components already in place and described in the PID: simulator evaluations, drills, and written and oral examinations. While part of the operator evaluation process, they are not part of this proposed plan.

The components of the operator performance evaluation plan outlined in Section 2 include the evaluation of performance during an abnormal and/or potentially reportable event and the formal evaluation of routine on-the-job performance.

Technical Functions Procedure 1000-ADM-7370.04, entitled, "Analysis of GPUN Plant Transients (Post Trip Review)," establishes a consistent method for conducting the analysis of the GPUN plants' performance during transient events. This procedure is provided as Attachment 1. The procedure (§ 4.1.1.2) specifically includes requirements to identify any unexpected or abnormal response to a transient by plant personnel and to review the records of operator actions and plant activities affecting an event (§§ 4.1.2 and 4.7.1.1.7). The "Transient Assessment Report" (Exhibit 5 of the procedure) includes a section entitled, "Operator Action/Procedural Adequacy" which focuses on operator actions taken during the transient. And the Procedure Flow Chart (§ 5.1.16 and Exhibit 1) indicates, as part of the review process, evaluation of training impact and subsequent change to appropriate training programs. It is proposed that a few minor revisions to Sections 4.4.2.4, 4.4.2.5, 4.7, and 4.7.1.1.7 will be made to this procedure to more clearly indicate the requirement to evaluate licensed operator response during each step of the analysis process.

TMI Administrative Procedure AP 1044, entitled, "Event Review and Reporting Requirements," specifies the applicable evaluation and reporting requirements when an event has occurred which may require notification of NRC representatives and/or company management. AP 1044 is provided as Attachment 2. Enclosure 7 of AP 1044, provided as Attachment 3, is the potentially reportable event form which is filled out by the

shift supervisor. GPUN proposes to revise Enclosure 7 to include:

- a requirement for the shift supervisor to comment on potential training-related deficiencies and/or necessary training program changes which he finds as a result of the event;
- expansion of the distribution list to include the Manager of Plant Training, Manager of Plant Analysis in Parsippany and the Plant Analysis Manager, TMI-1.

Enclosure 7 also requires a detailed description of the event, plant status and immediate corrective actions.

TMI-1 Administrative Procedure AP-1029, "Conduct of Operations," in Section 5.10 describes the steps to be taken when an event occurs or finding is identified that places the plant or personnel in an unsafe condition, but where the event is not viewed as potentially reportable under AP-1044. AP-1029 is provided as Attachment 4. The review process under AP-1029 provides for a copy of each incident report to be sent to the Training Department for inclusion in the operator training program as applicable.

The proposed process for the evaluation of routine on-the-job performance will be accomplished by a combination of two elements. The first element is a proposed revision to the generic procedure for evaluating trainee performance once back on the job. The second element consists of proposed revisions to the program descriptions for licensed operators to include position specific (RO and SRO) lists of areas to be evaluated.

The GPU Nuclear Training Systems Development process contains a generic procedure for evaluating trainee performance once back on the job which is 6200-ADM-2682.10. This procedure is provided as Attachment 5. Due to the range and variation of training programs within GPU Nuclear to which this procedure applies, it has been deliberately designed to allow administrative flexibility. Included as Exhibit 2 of this procedure is a proposed revised supervisor's survey of the employee for whom the supervisor is responsible.

In addition, Licensee will use position-specific areas for evaluation for evaluating ROs and SROs on the job. This will ensure coverage of the breadth of on-the-job activities when the supervisor is evaluating the questions contained in Exhibit 2 of Attachment 5. These areas for evaluation will be included as an attachment to each of the licensed operator training program descriptions, and are provided as Attachments 6 and 7. Licensee also will revise the training program descriptions to include the provision for required on-the-job performance evaluations. Attachment 8 provides the proposed language for the proposed program description revisions.

4. IMPLEMENTATION

The supervisory performance evaluation, "Once Back On-The-Job," shall be conducted approximately six months after a candidate has received his/her license utilizing Exhibit 2 of 6200-ADM-2682.10 (Attachment 5) to evaluate training related

performance in the areas listed in the areas for evaluation for ROs and SROs (Attachments 6 and 7). Subsequent evaluations shall be done on an annual basis as part of the requalification process. The completed evaluations shall be forwarded to the Manager of Plant Operations TMI-1 for review and comment. Upon completion of this phase of the review, the documents will be transmitted to the Operator Training Manager who will also review and comment as appropriate.

The documents will then be transmitted to the Supervisor of Licensed Operator Training who will prepare a summary report of all of the observations and recommendations made by the supervisory personnel. When the report is complete, the Supervisor Licensed Operator Training, Operator Training Manager, and Manager of Plant Operations TMI-1 will meet to review the scope of the summary report and determine an appropriate course of action for each of the recommendations. The meeting shall be conducted consistent with the TSD Procedure, 6200-ADM-2682.03, "Technical Content Review & Interface Process," which is provided as Attachment 9. The operator training program descriptions will be modified to reflect the above described process for handling licensed operator performance evaluations.

The above-described process is consistent with the Training Systems Development process (T&E Procedure 6200-ADM-2682-01), used by Licensee. This procedure is provided as Attachment 10. Through its supporting procedures, TSD

ensures that all proposed revisions of training are systematically analyzed for incorporation into training program descriptions and lesson plans as appropriate.

5. SUMMARY AND CONCLUSION

The TSD approach to training implemented at TMI-1 is a dynamic process that ensures that training is performance based. Consistent with the TSD approach, a number of procedures are in existence, both formal and informal, that require the performance of licensed operators to be reviewed and fed back to Training. The purpose of this proposed plan is to add to these procedures additional requirements for formal on-the-job performance evaluations. All of the components of the evaluation process will be used to validate and revise, as appropriate, the licensed operator training program.

ATTACHMENTS

1. Technical Functions Procedure 1000-ADM-7370.04, entitled, "Analysis of GPUN Plant Transients (Post Trip Review)"

2. TMI Administrative procedure AP 1044, entitled, "Event Review and Reporting Requirements"

3. Enclosure 7 of AP 1044

4. TMI-1 Administrative Procedure AP-1029, "Conduct of Operations"

5. TSD Procedure 6200-ADM-2682.10 Trainee Evaluation Once Back On-The-Job, Rev. O, 4/15/85

6. Proposed Attachment to Initial and Requalification RO Training Program Descriptions

7. Proposed Attachment to Initial and Requalification SRO Training Program Descriptions

8. Proposed Change to TMI-1 Operator Training Program Descriptions

9. TSD Procedure, 6200-ADM-2682.03, "Technical Content Review & Interface Process," Rev. O, 4/15/85

10. Training Systems Development (TSD) Process Procedure 6200-ADM-2682.01, "Training and Education Department Training System Development Process" Rev. O, 4/15/85

GPU Nuclear	GPU Nuclear Corporate Policy and Procedure Manual	Number 1000-ADM-7370.04 (EP-029)
Title: ANALYSIS OF GPUN PLANT TRANSIENTS (POST TRIP REVIEW)		Revision No. 0-00 DRAFT 1-00
Applicability/Scope: GPUNC-wide, except TMI-2		Responsible Office EP&S-5110
This document is important to safety ☐ Yes ■ No		Effective Date 11/15/84

Draft Date 5-20-85

List of Effective Pages

Page	Revision		Page	Revision
1.0	0-00		E3-1	0-00
2.0	0-00		E4-1	0-00
3.0	0-00		E4-2	0-00
4.0	0-00		E4-3	0-00
5.0	0-00		E4-4	0-00
6.0 -	0-00	1-00	E4-5	0-00
7.0	0-00		E4-6	0-00
8.0	0-00		E4-7	0-00
9.0	0-00		E4-8	0-00
10.0 -	0-00	1-00	E4-9	0-00
11.0 -	0-00	1-00	E4-10	0-00
12.0	0-00		E4-11	0-00
13.0	0-00		E5-1	0-00
14.0	0-00		E5-2	0-00
15.0	0-00			
16.0	0-00			
E1-1	0-00			
E1-2	0-00			
E2-1	0-00			

Proposed changes are highlighted with || double bar indication in right margin.

	Signature	Concurring Organizational Element	Date
Originator		Engrg. Procedures & Stds. Manager	8/31/84
Concurred by		Manager-Plant Analysis	10/24/84
		Director-Systems Engineering	10-25-84
	/S	Director-Engrg. & Design	10/17/84
		Vice Pres/Director Oyster Creek	10/26/84
	/S	Sr. Analyst Bus. Info. Systems	10/10/84
	/s/	VP & Dir.-Maintenance & Construction	10/31/84
Approved by		Vice Pres.-Technical Functions	10/26/84

A0001051 3-8

GPU Nuclear

DOCUMENT NO.
1000-ADM-7370.04
(EP-029)

TITLE Analysis of GPUN Plant Transients (Post Trip Review)

REV	SUMMARY OF CHANGE	APPROVAL	DATE
1	This revision supersedes previous procedures issued with the number EP-029. Rev. 0 refers to "Document Distribution" and not the subject of this series		
2	Revised to include plant transients at Oyster Creek		
3	Deleted reference to LP-003		
0-00	Extensively rewritten to include new corporate format and include requirements of NRC Letter 83-28 for Post Trip review of transients.		

FORM 5000 ADM 1218.01 1

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1.0 PURPOSE

This procedure establishes a consistent method for conducting the technical analysis of TMI-1 and OC plants' performance during transient events.

2.0 APPLICABILITY/SCOPE

2.1 This procedure applies to the Technical Functions Division, and other divisions within GPUN which are responsible for performing specific tasks associated with the review and analysis of transient events. This procedure does not apply to TMI-2.

2.2 This procedure applies primarily for reactor trips, but can be used for guidance in conducting the technical review of non-reactor trip transient events, as determined by the Director, Systems Engineering and the Station Operations Director.

3.0 DEFINITIONS

3.1 TRANSIENT EVENT - Any unscheduled reactor trip, or unscheduled power excursion, or other event which in the estimation of management warrants an evaluation.

3.2 TRANSIENT ASSESSMENT REPORTS (TAR) - A comprehensive analysis of a transient event and its impact. It includes a sequence of events, a discussion of nuclear safety concerns, and corrective action assignments.

3.3 TRANSIENT ASSESSMENT PROGRAM (TAP) - A program to improve information flow among B&W operating utilities concerning lessons learned from operating plant experience (described in Transient Assessment Program Guidelines B&W Report 12-1122130-Rev).

3.4 POST TRIP REVIEW GROUP (PTRG) - A group consisting of a Plant Analysis, Plant Operations and Plant Engineering representative called together immediately after an event to gather, analyze and report on information, data and events that took place at the time of the transient event.

3.5 NUCLEAR NETWORK - A computer assisted reporting and information exchange system whereby timely information is fed to a central computer and can be retrieved by member utility users.

4.0 PROCEDURE REQUIREMENTS

4.1 General

4.1.1 This procedure establishes guidelines for a systematic method of conducting the technical review and analyses of Oyster Creek and TMI-1 plant performance associated with reactor trips in order to:

1. Determine the immediate and root cause(s) of the trip.
2. Identify unexpected, abnormal response to the trip by plant systems, equipment, and personnel.
3. Assess the impact of identified abnormalities on nuclear safety, equipment reliability, system performance, and availability.
4. Develop corrective actions/recommendations to prevent the recurrence of the trip and mitigate abnormal responses.
5. Document observed plant behavior for use in subsequent evaluations.
6. Satisfy reporting requirements.

4.1.2 The GPUN Reactor Trip Review Program implemented at TMI-1 and Oyster Creek applies to every reactor trip, planned and unplanned. However, planned reactor trips need not undergo all phases of the review if response is normal. The scope of the information reviewed under the program is sufficient to accomplish its objectives and includes data on plant system behavior, actuation and sequence of equipment operation, and records of operator actions and plant activities affecting the event. The program prescribes activities that are performed immediately following a trip, prior to restart, and continue through a subsequent in-depth evaluation that supports preparation of internal and external reports. The program also outlines the criteria for determining the approval and concurrence levels for plant restart.

4.1.3 The programs major steps are illustrated in Exhibit 1.

The reactor trip review program consists of four distinct phases:

1. Post-Trip Review
2. Independent Review
3. Restart Decision
4. Subsequent Evaluation

Every reactor trip will be subjected to a Post-Trip Review and Restart Decision. Only reactor trips with abnormalities identified will undergo an Independent Review. In such cases, this review will be completed prior to the Restart Decision. Planned reactor trips, where no abnormalities have been identified, need not proceed to the subsequent Evaluation phase. The major elements of each of these phases is described in following sections.

4.2 Roles and Authorities

4.2.1 Various Plant and Technical Functions personnel coordinate their efforts in the post-trip review program. An overview of the entire program can be seen in the Analysis of Plant Transients Flow Chart (PO-002) and is outlined in the steps in Section 5.0. The role of each participant is summarized below.

4.2.1.1 Plant Operations is responsible for operating the plant. Under the program, the Shift Supervisor (SS) is responsible for notifying plant management of a transient event. The Shift Technical Advisor (STA) is the Technical Functions' contact with the operating plant. The STA is responsible for notifying Technical Functions (TF) personnel per TF Engineering Standard ES-005, "STA Duties and Responsibilities". The Operating Crew along with the STA, are responsible for diagnosing and controlling the event and thus will have firsthand knowledge of the event. This information is to be promptly documented to help ensure that a complete record of the event is obtained.

4.2.1.2 The Plant Analysis Section at the operating site is responsible for supporting the Post Trip Review. The Plant Analysis Section reports to the Director of Systems Engineering and thus will provide an independent assessment of the plant's behavior and the acceptability of restarting. The

Post-Trip Review must be completed and documented prior to restart. In addition, Plant Analysis will perform the subsequent evaluation, if necessary.

4.2.1.3 Various Technical Functions Departments, especially Systems Engineering, and Engineering & Design, will provide analytical and technical support and recommend corrective action as required.

4.2.1.4 The Plant Engineering, and Operations & Maintenance Departments will make a preliminary determination of the root cause(s) of the event and specify and implement corrective actions.

4.2.1.5 Plant Management is responsible for determining when and how the unit is to be restarted.

4.2.1.6 Technical Functions is responsible for concurring with Restart Plans and corrective actions.

4.2.1.7 In addition, the Independent On-Site Review Group and Plant Review Group may conduct additional evaluations.

4.3 Qualification Requirements

Technical Functions individuals will serve in the transient event review and analysis function. Independent of their qualification for a particular position via expertise in an engineering, science, or operational discipline, it is also required that all cognizant individuals in charge of the analysis process be qualified either as responsible technical reviewers or independent safety reviewers. Certain analysis may be performed by non-qualified individuals as long as it is under direct supervision of a qualified individual.

Personnel certifying completion of steps in the review process will be qualified to one of the below levels:

4.3.1 Senior Reactor Operator (SRO)

4.3.2 Shift Technical Advisor (STA)

4.3.3 Responsible Technical Reviewer (RTR)

4.3.4 Independent Safety Reviewer (ISR)

4.4 Post Trip Review

The Post-Trip Review is performed immediately after plant stabilization from a trip and completed prior to restart.

4.4.1 Purpose

The purpose of the Post-Trip Review is to:

1. Determine the cause(s) of the trip.
2. Identify other-than-expected performance of plant systems and equipment.
3. Assess the impact of identified abnormal performance on safe operation.
4. Specify corrective actions required to restart.
5. Ensure continued availability of information and data pertaining to the event.

4.4.2 Scope

The scope of the Post-Trip Review has been established to ensure that abnormal performance in important systems will be identified. Guidelines and criteria, which define the range of expected response, are used in the process. The major elements of the Post-Trip Review, and the responsible lead organization are:

1. Plant Analysis with assistance from Station Operations, will gather plant data.
2. The responsible Station Operations Department will make a preliminary determination of the cause(s) of the trip.
3. Plant Analysis will make a preliminary determination of the reactor trip sequence.
4. Plant Analysis will review the pre and post-trip behavior of key parameters that reflect overall plant performance and will tentatively identify abnormal performance of important systems, equipment and personnel. personnel
5. Plant Analysis will review the performance of and of important systems and equipment, both safety and control, to tentatively identify other-than-expected response to the trip.
6. The responsible Station Operations Department or Technical Functions Section will conduct additional review as required based on identified abnormal response.
7. The responsible Station Operations Department and Technical Functions will identify corrective actions that must be completed prior to restart.

4.4.3 Data Collection

4.4.3.1 The data specified in Exhibit 2 shall be gathered as soon after each event as practical. This data will form the basis of event analysis and shall be maintained as a permanent record.

In as much as the data to be used in the analyses may be original plant documents such as logs, recorder charts, etc., care shall be expressed when using them. It is advisable to use a photostatic copy of this material whenever possible.

4.4.3.2 The Plant Computer System will be a prime source of data used to determine and evaluate plant response.

When the computer is not available much of the data specified in Exhibit 2 will not be available. Other sources of data should be used, if possible, to determine and evaluate plant response. All available data from Exhibit 2 will be collected including, in-depth interviews of involved personnel, copies of all strip chart recorders, operating staff logs and any hand calculations or manually plotted graphs.

4.4.4 Implementation

The Reactor Trip Review Program will be implemented via a Plant Administrative Procedure.

4.4.5 Post-Trip Review Group

As soon after a transient event as is practical, the Post Trip Review Group will be assembled. This group will consist of representatives of Plant Analysis, Plant Operations, and Plant Engineering. Additional personnel may be assigned to the PTRG as requested by the above members. The activities of the PTRG will include event analysis to confirm the cause, sequence, and response of the event, and development of appropriate corrective actions, recommendations, and conclusions. This information will be documented in written form. It will be distributed to the Operations & Maintenance Director (TMI) or the Plant

Operations Director (OC), the Plant Engineering Director, the Director, Systems Engineering, and other interested parties as warranted.

4.4.6 Data Analysis

4.4.6.1 The Post-Trip Review Group will analyze the plant response to determine anomalies. Areas to be analyzed are listed below:

- 4.4.6.1.1 RCS and Core Heat Removal
- 4.4.6.1.2 RCS Pressure & Inventory Control
- 4.4.6.1.3 Reactivity Control
- 4.4.6.1.4 Fuel Integrity & Core Heat Removal
- 4.4.6.1.5 Containment Environment & Isolation
- 4.4.6.1.6 Radiation Control
- 4.4.6.1.7 Electrical Power
- 4.4.6.1.8 Chemistry Control
- 4.4.6.1.9 Safety System Status

4.4.6.2 The Post-Trip Review has been established to ensure that abnormal performance in important systems will be identified. A predetermined check-list, to be contained in a Plant Administrative Procedure, listing specific plant performance criteria will be used to conduct the review.

4.4.6.3 Any deviations in plant response shall be documented and the event placed into one of the following categories.

4.4.6.3.1 Category 0

The RPS trip function and root cause(s) are positively known and have been corrected; plant response was normal with all equipment functioning properly during the event.

4.4.6.3.2 Category I

The root cause(s) is not positively known and corrected or plant response was abnormal or safety related equipment did not function

properly or conditions associated with the transient resulted in operation in violation of the Technical Specifications.

4.4.6.3.3 Category II

Cold shutdown is required.

Events classified as Category I or II will require an Independent Review prior to restart.

4.4.6.4 The Post-Trip Review Group will ensure investigation of the cause of the trip to the fullest extent possible. When the root cause is unknown attempts to locate and duplicate the cause through troubleshooting and testing, and appropriate calibration and maintenance checks will be made. If the root cause(s) of an event can not be determined then it will be classified as a Category I event, requiring an Independent Review prior to restart.

4.4.7 Corrective Actions

The Post-Trip Review Group will specify corrective actions required prior to startup to prevent or mitigate the consequences of future reoccurrences so as to ensure an orderly plant restart.

4.5 Independent Review

4.5.1 Under certain conditions, further review must be performed prior to restart to ensure that all questions regarding the ability to safely restart and operate the plant are resolved. They are as follows:

4.5.1.1 If the immediate (RPS trip function) and root cause(s) of the trip cannot be determined, or
4.5.1.2 Plant post-trip response is abnormal, or
4.5.1.3 If any unresolved safety issues exists, or
4.5.1.4 If compliance with licensing requirements is in question.

4.5.2 The Independent Review will be performed by a group of

experienced and knowledgeable individuals, such as RTRs or ISRs, designated by the Operations & Maintenance Director (TMI), or Operations Director (OC), and the Director Systems Engineering.

4.5.3 In addition, it may also be appropriate to forward data and event information to the NSSS vendor if it is beneficial to obtain their analysis. Transient data will be released to the NSSS vendor via the vendor resident engineer. Data released to the NSSS vendor will be proprietary, for vendor internal use only, unless specifically released for further distribution by GPUN Systems Engineering.

4.5.4 Results will be reported to the Operations & Maintenance Director (TMI), or Operations Director (OC), and the Director, Systems Engineering.

4.6 Restart Decision

4.6.1 Prior to restarting the unit, Operations and Technical Functions must ensure that:

4.6.1.1 The cause(s) of the trip (RPS Trip function and initiating event) are known or have been investigated to the fullest extent possible.

4.6.1.2 The plant's transient response was as expected for the type of event, and either did not identify any problems that impact the ability of the unit to be safely restarted and operated or that the problems have been corrected.

4.6.1.3 Any problems with equipment subject to Tech Spec LCO requirements are corrected as required.

4.6.1.4 The corrective actions identified during the Post-Trip Review as being required prior to restart, are implemented.

4.6.2 The decision to restart will be made by the Plant Vice President or his designee with Technical Functions concurrence, per the Exhibit 3 matrix.

4.7 Subsequent Evaluation

Every unplanned trip will be subjected to a follow-up, in depth evaluation as specified by Plant Analysis. In addition, planned reactor trips which show abnormalities in plant response will [illegible] operate

also receive further evaluation. The purpose of the Subsequent Evaluation is to ensure that all aspects of the events are fully investigated, evaluated, and documented.

The Subsequent Evaluation takes the knowledge gained from the Post-Trip Review and expands upon it in areas of identified abnormal response. It ensures that the more subtle aspect of system performance, even though they did not significantly affect the plant response, are evaluated and needed corrective action identified. This report need not be completed before restart. The scope of the Subsequent Evaluation is prescribed to ensure that all reporting requirements can be met.

4.7.1 GPUN Analysis

4.7.1.1 The Plant Analysis Section, represented by the STA shall ensure that the proper material is forwarded to the appropriate Technical Function section(s) for detailed analysis. The responsible Technical Functions engineering sections will analyze the plant response to determine response anomalies. Areas to be analyzed include, but are not limited to, those listed below.

4.7.1.1.1 Reactivity control, fuel integrity, and core transient conditions;
4.7.1.1.2 Core heat removal, RCS heat removal, and RCS inventory and pressure control;
4.7.1.1.3 Steam generator heat transfer, inventory and pressure control (TMI only);
4.7.1.1.4 Normal and emergency electrical system performance;
4.7.1.1.5 Containment environment & isolation
4.7.1.1.6 System and component operation as appropriate;
4.7.1.1.7 ~~Effects of~~ procedures, training, and control room design; ~~on operator response;~~
4.7.1.1.8 Potential effect of different plant conditions or additional credible failures/errors.

Operator response in relation to

4.7.1.2 If abnormal response is indicated, then Systems Engineering will coordinate additional specific analyses to determine the cause of the abnormal response and to investigate alternate event paths, as appropriate.

4.7.2 NSSS Vendor

For some events, a review and site visit by the NSSS vendor may be necessary.

4.7.2.1 The Plant Analysis section will be the interface between the NSSS vendor representatives and the plant staff.

4.7.2.2 The format of the NSSS vendor review for TMI will be as specified in current Transient Assessment Program Guidelines (B&W Report 12-1122130-Rev).

4.7.2.3 For those events when a site visit by the NSSS vendor is made, an exit interview will be conducted to discuss their preliminary transient assessment, if necessary.

4.8 Owners Group Notification

The Plant Analysis section will formulate the required notification to the appropriate Owners Group Utilities, preferably via Nuclear Network. Exhibit 4 provides a sample format.

An event summary for Nuclear Network, shall be released with the concurrence of the Director, Operations and Maintenance (TMI) or Operations Director (OC), following approval by the Director, Systems Engineering for each event investigated. This event summary should be released within one working day following the event.

4.9 Report Preparation

4.9.1 The Plant Analysis section is responsible for preparing the Transient Assessment Report. Exhibit 5 contains a sample report format. This report shall be approved by the Director, Systems Engineering with Operations and Maintenance Director (TMI-1), or Operations Director (OC) concurrence and released within 30 days of the event.

4.9.2 Any subsequent Technical Data Reports detailing the analysis of a transient aspect by the responsible Technical Functions department and/or plant department, will be prepared in accordance with 5000-ADM-7316.01.

4.9.3 The appropriate Licensing section will process Licensee Event Reports (LER) in accordance with 1000-ADM-1216.03. The appropriate plant department will provide input for the LER submittal.

4.10 Followup Action

4.10.1 The Plant Analysis section will utilize 5000-ADM-7370.02 to initiate, monitor and document the implementation of corrective actions recommended in the Transient Assessment Report.

5.0 RESPONSIBILITIES

5.1 Analysis of GPUN Plant Transients (Refer to the Procedure Flow Chart, Exhibit 1).

5.1.1 POST TRIP REVIEW GROUP (PTRG)	Gathers event data/information (see Exhibit 2) Forwards event data/information to DSE, O&MD (TMI) or OD (OC) Assembles as soon as possible after transient event Confirms sequence of events Evaluates plant response Confirms cause of initiating event Recommends corrective actions Generates written documentation of results
5.1.2 PLANT ANLYSIS SECTION (PAS)	Forwards event data/information to NSSS vendor, if needed, for preliminary analysis, and specifies extent of analysis Forwards documentation of results to O&MD (TMI) or OD (OC), PED
5.1.3 STATION OPERATIONS DIVISION (SOD)	Determines corrective actions
5.1.4 NSSS VENDOR (NSSSV)	Conducts site visit, if appropriate Performs preliminary analysis of event data and prepares summary report, if necessary

5.1.5 DIRECTOR, SYSTEMS ENGINEERING (DSE) or DIRECTOR, ENGINEERING AND DESIGN (DED)	Assign Section Manager(s) to investigate transient Reviews and approves NSSS vendor Preliminary Summary Report
5.1.6 PLANT ANALYSIS SECTION (PAS)	Prepares event summary for release to Owners' Group Utilities via NUCLEAR NETWORK Submits summary to O&MD (TMI-1) or OD (OC) for concurrence Perform subsequent Evaluations, if required
5.1.7 OPERATIONS & MAINTENANCE DIRECTOR (TMI) (O&MD) or OPERATIONS DIRECTOR, OC (OD)	Concurs with event summary for NUCLEAR NETWORK
5.1.8 DIRECTOR, SYSTEMS ENGINEERING (DSE)	Approves event summary and authorizes release to Owners' Group Utilities via NUCLEAR NETWORK
5.1.9 SECTION MANAGER (SM)	Perform further analysis as warranted Assists Station Operations in review of Restart Criteria Assists Station Operations in planning of recovery actions Prepares reports of specific analysis, if warranted
5.1.10 STATION OPERATIONS DIVISION (SOD)	Plans and implements plant recovery actions Completes required recovery action Prepares LER Input and submits to Licensing
5.1.11 DIRECTOR, SYSTEMS ENGINEERING (DSE)	Concurs with restart plans Approves Transient Assessment Report and authorizes release
5.1.12 STATION OPERATION DIVISION (SOD)	Approves Plant restart

5.1.13 OPERATIONS & MAINTENANCE DIRECTOR TMI-1 (OMD) or OPERATIONS DIRECTOR OC (OD)	Concurs with Transient Assessment Report
5.1.14 LICENSING SECTION (LS)	Processes LER in accordance with 1000-ADM-1216.03 (LP-002)
5.1.15 PLANT ANALYSIS SECTION (PAS)	Distributes final event reports Assigns followup corrective actions regarding training, operating procedures and/or plant design
5.1.16 NUCLEAR ASSURANCE DIVISION (NA)	Manager, IOSRG reviews event reports Manager, Plant Training implements training program changes as required Manager, Quality Assurance implements QA procedure change as necessary
5.1.17 STATION OPERATIONS DIVISION (SOD)	Implements changes in plant operating and/or maintenance procedures as necessary
5.1.18 ENGINEERING PROJECTS/ENGINEERING AND DESIGN (EP/ED)	Initiates plant design changes as required
5.1.19 SYSTEMS ENGINEERING (SE)	Determines if additional evaluation is required on action item followup response
5.1.20 PLANT ANALYSIS SECTION (PAS)	Reviews/approves action taken Recommends additional action as required Files closed-out action document

6.0 REFERENCES

6.1 5000-ADM-7316.01 - Technical Reports

6.2 1000-ADM-1216.03 - Regulatory Correspondence Management and Committment Control

6.3 5000-ADM-7370.02 - Review of Industry/GPUN Operating Experience

6.4 ES-005 - "STA Duties and Responsibilities"

7.0 EXHIBITS

7.1 Exhibit 1 - Procedure Flow Chart

7.2 Exhibit 2 - Transient Event Data Requirements

7.3 Exhibit 3 - Restart Decision/Concurrence Matrix

7.4 Exhibit 4 - Nuclear Network Transient Notification

7.5 Exhibit 5 - Transient Assessment Report Format

EXHIBIT 1

PROCEDURE FLOW CHART

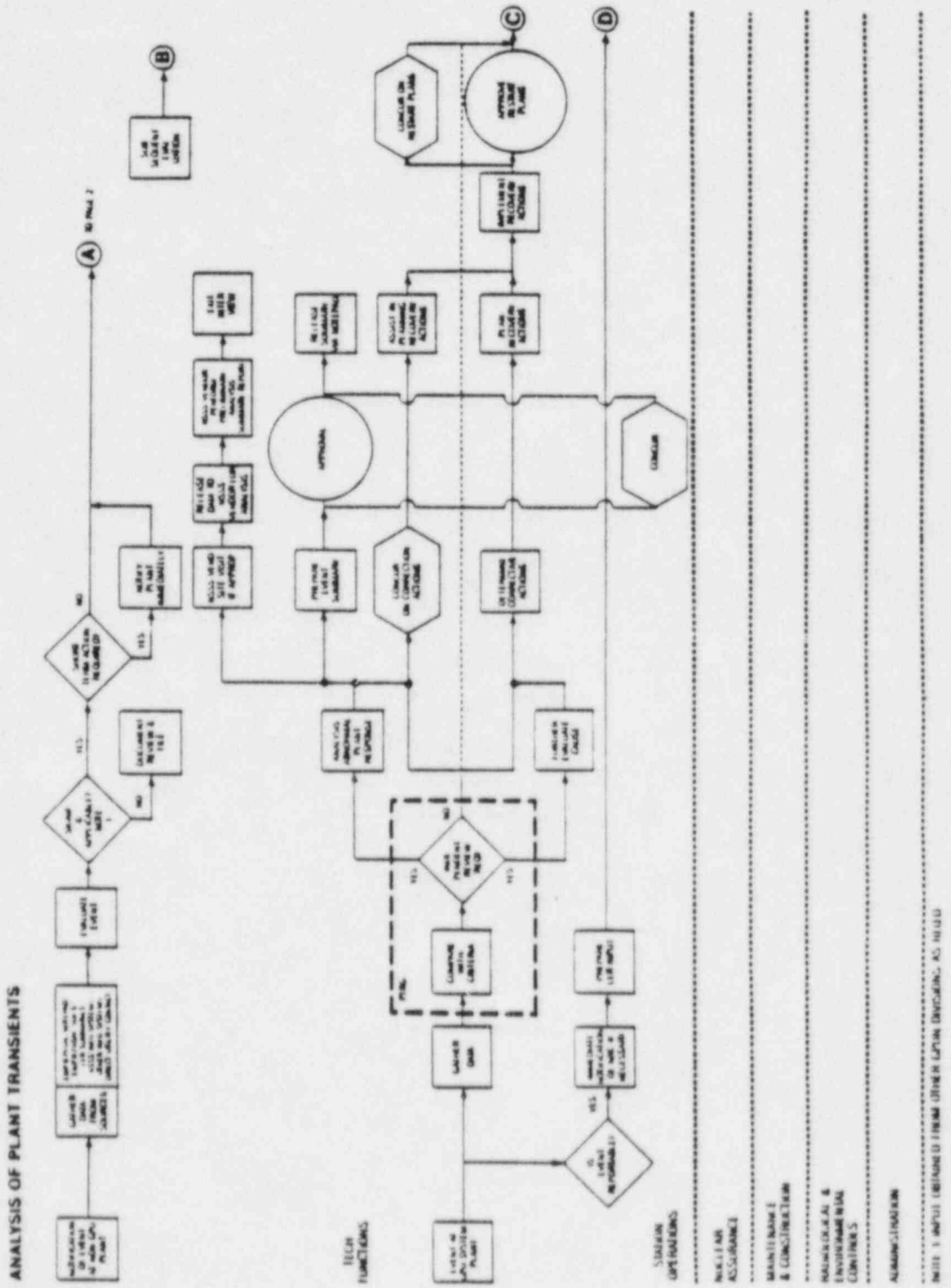

EXHIBIT I

PROCEDURE FLOW CHART (Cont'd)

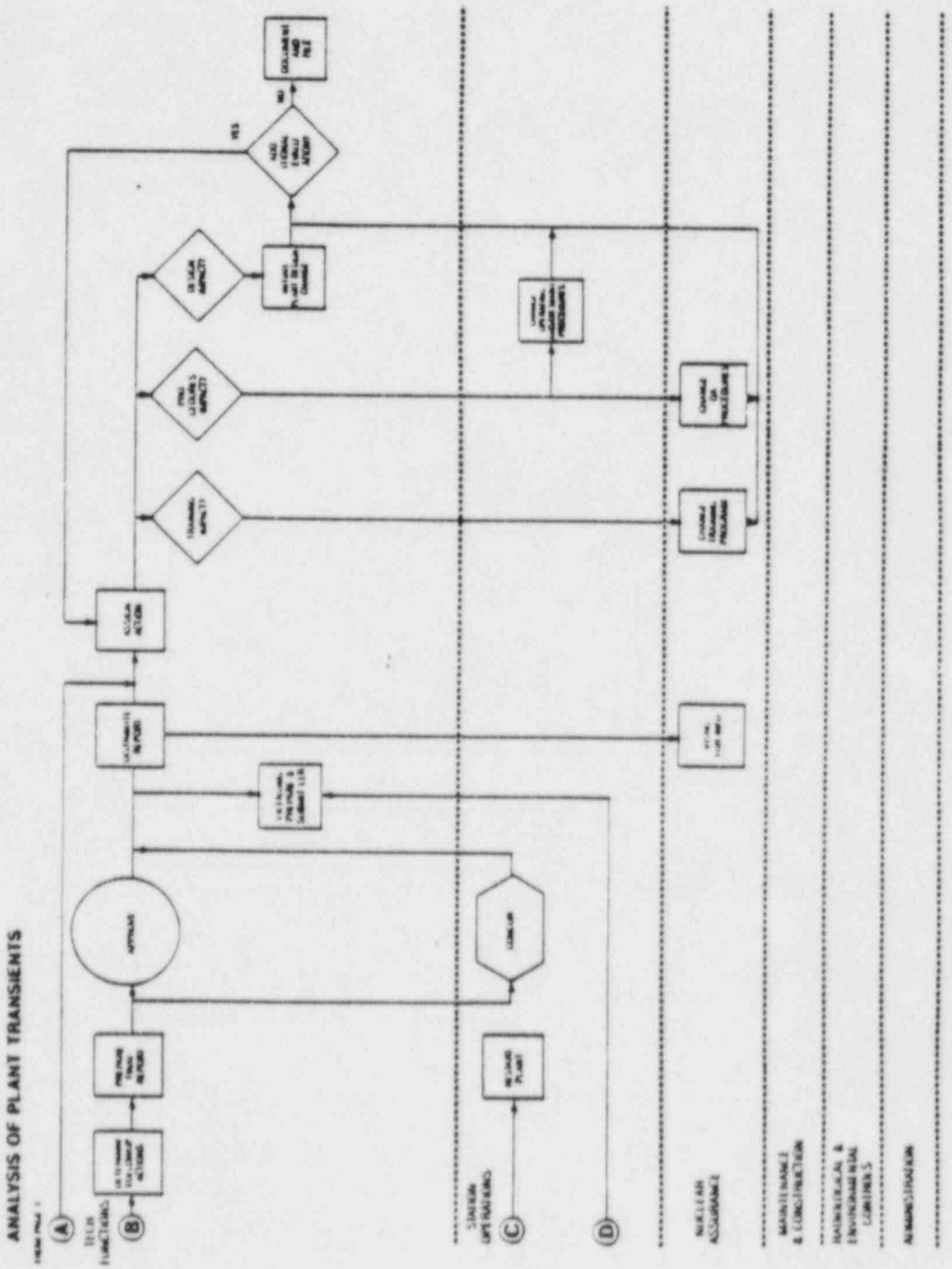

EXHIBIT 2

TRANSIENT EVENT DATA REQUIREMENTS

The GPUN Plant Analysis Section engineer and Shift Technical Advisor, assisted by Plant Engineering and Operations personnel, will gather data associated with a transient event. The following data should be gathered:

1. Plant Equipment Configuration before, during and following the event
2. Computer Chronological Alarm Listing (TMI)
3. Computer Sequence of Events Printout
4. Computer Post Trip Review Summary
5. Transient Monitor System Data Dumps and Plots (TMI)
6. CRT Video-Copied Data generated during the event (TMI)
7. Computer Utility Printer data gathered during the event (TMI)
8. Operating Staff Logs
9. Applicable Strip Chart Records
10. Any other data that may be useful in analyzing the transient event. Specific requirements are further detailedin the implementing plant procedure.

NOTE: To preserve the original records of the plant transient, photostatic copies of the above should be used where practical.

EXHIBIT 3

RESTART CONCURRENCE MATRIX

Catetory	Cause(s) Known and Corrected	Plant Response Normal	Cold Shutdown Required	Tech. Functions Concurrence Level
0	Yes	Yes	No	Plant Analysis Manager (TMI-1,OC)*
I	Yes	No	No	Director, Systems Engineering*
	No	Yes	No	Director, Systems Engineering*
II	---	---	Yes	VP-Tech. Functions*

* or his designee

EXHIBIT 4 - PART I

B&W OWNERS GROUP TRANSIENT NOTIFICATION (TMI-1)

TMI-1

PLANT _____ TRANSIENT DATE: _____

TYPE OF TRANSIENT _____ TRANSIENT TIME: _____

_____

EXECUTIVE SUMMARY _____

_____

_____

_____

_____

_____

I. A. PLANT CONDITIONS: (Prior to Transient)

Reactor Power: _____ RCS T_H: _____ T_C: _____

RCS Press: _____ Pressurizer Level: _____

Steam Press: _____ OTSG Level: A_____ B_____

RCS Pumps Combination _____ MFW Pump Status _____

ICS Mode: _____

B. Testing in Progress:

C. Abnormal Lineups or Plant Conditions: (Pertinent to the transient)

EXHIBIT 4 - PART I (Contd.)

D. Major Equipment Out of Service: (Pertinent to the transient)

II. EVENT SUMMARY:

A. Major parameters during the transient

RCS Temp: Max. _____ Max. RCS Cooldown Rate: _____

Min. _____ Min. Subcooling Margin: _____

RCS Press: Max. _____ Pressurizer Level:

Min. _____ Max. _____

Min. _____

OTSG Press: OTSG Level:

Max. A _____ B _____ Max. A _____ B _____

Min. A _____ B _____ Min. A _____ B _____

III. DESCRIPTION OF EVENT:

Initiating cause: _____

_____

Trip Mode: Auto _____ Manual _____
If Auto, which function _____

Core Cooling Mode: Forced Convection _____ Natural Convection _____

HPI _____
Quantity Water in RB if HPI Cooling _____

EXHIBIT 4 - PART I (Contd.)

Immediate operator actions and procedures used: _____

_____

_____

_____

_____

HPI Initiated? Yes ____ No ____

Manual? ____ Auto? ____

Emergency Feedwater Initiated? Yes ____ No ____

Manual? ____ Auto? ____

Was PORV challenged? Yes ____ No ____

Were Code Safeties challenged? Yes ____ No ____

Were Main Steam Safeties lifted? Yes ____ No ____

Was Main Steam or Feedwater isolated? Yes ____ No ____

Pressurizer Level off scale? Yes ____ No ____

High? ____ Low? ____
Duration, if yes _____

OTSG levels off scale? Yes ____ No ____

High? ____ Low? ____
Duration, if yes _____

Max. Radiation/Activity Levels in RB _____

_____

_____

_____

EXHIBIT 4 - PART I (Contd.)

Any anomalies or unusual circumstances observed in the event? _____

_____

_____

_____

_____

_____

_____

_____

_____

Supplemental Operator actions and procedures used: _____

_____

_____

_____

_____

IV. PRESENT PLANT CONDITION

DATE: _____

TIME: _____

RCS Temp: _____ RCS Press. _____

Pressurizer Level: _____ OTSG Level:

A _____ B _____

Core Cooling Mode: _____ Radiation Levels

Inside Containment: _____

Outside Containment: _____

EXHIBIT 4 - PART I (Contd.)

Class Emergency Declared: _____

NRC/Public Notification: Yes ____ No ____

REMARKS: (Include an assessment of present plant condition) _____

V. Intentions: (Include plans concerning changes to plant conditions and immediate corrective actions if known)

EXHIBIT 4 - PART II

OWNERS GROUP TRANSIENT NOTIFICATION (O.C.)

Transient Date: _____ Time: _____

Name of Event: _____

Executive Summary: _____

EXHIBIT 4 - PART II (Contd.)

A. Plant conditions prior to transient:
(Insert Data Sheet #1)

B. Testing in Progress:

C. Abnormal lineups or plant conditions (pertinent to transient):

D. Major equipment out of service (pertinent to transient):

EXHIBIT 4 - PART II (Contd.)

E. Parameter Values During Transient

Thermal Power:	Max. _____	MWT
	Min. _____	MWT
Reactor Level:	Max. _____	in GEMAC
	Min. _____	in GEMAC
Reactor Press:	Max. _____	Psig
	Min. _____	Psig
Recirc Flow:	Max. _____	gpmx10^4
	Min. _____	gpmx10^4
Drywell Temp.:	Max. _____	°F
	Min. _____	°F
Drywell Press:	Max. _____	Psig
	Min. _____	Psig
Torus Press:	Max. _____	Psig
	Min. _____	Psig
Torus Temp.:	Max. _____	°F
	Min. _____	°F

EXHIBIT 4 - PART II (Contd.)

F. Description of Event

Initiating Cause: _____

_____

_____

_____

_____

Scram Mode: Auto/Manual

If Auto, which function? _____

Was Main Steam or Feedwater isolated?

Yes _____ No _____

Isolation Condensers Initiated?

Yes _____ No _____

Core Spray Initiated?

Yes _____ No _____

Containment Spray Initiated?

Yes _____ No _____

Any ERVs Lift?

Yes _____ No _____

Any Safety Reliefs Lift?

Yes _____ No _____

EXHIBIT 4 - PART II (Contd.)

Maximum Radiation/Activity Levels in Drywell and Reactor Building? _____

_____

_____

Maximum Rad/Act. Level at Site Boundary? _____

Immediate operator actions and procedures used: _____

_____

_____

_____

_____

Supplemental operator actions and procedures used: _____

_____

_____

_____

_____

Any Anomalies or unusual circumstances observed during the event? _____

_____

_____

_____

_____

Class Emergency Declared? _____

NRC/Public Notification? Yes ___ No ___

EXHIBIT 4 - PART II (Contd.)

G. Plant Conditions After Transient:
(Insert Data Sheet #2)

Max. Radiation/Activity Levels in Drywell and Reactor Building: _____

_____

_____

Max. Radiation/Activity Levels at Site Boundary:

_____

_____

_____

Assessment of Present Plant Conditions: _____

_____

_____

_____

_____

Intentions (Corrective Actions Planned and/or Changes in Plant Conditions Contemplated):

_____

_____

_____

_____

_____

EXHIBIT 5

TRANSIENT ASSESSMENT REPORT

(SAMPLE FORMAT)

Transient Assessment Report

A Transient Assessment Report will be prepared for all reactor trips. Reports may also be prepared for other significant events. The purpose of the report is to provide transient event information for all Owners' Group Utilities. The operational experience shared in this program will lead to improved plant reliability and a better understanding of the plant's performance by all Owners' Group Utilities.

The format of the report should be as follows:

I. Summary

II. Transient Assessment

- A. Sequence of Events
- B. Plant Performance
  1. Pre-Trip Review
  2. Initiating Event
  3. Plant Post-Trip Response
  4. Operator Actions/Procedural Adequacy
- C. Safety Considerations
- D. Assessment Conclusions
- E. Corrective Actions

The "Summary" section should be a short description of the event, highlighting the major aspects of the transient and the resulting evaluation.

The "Sequence of Events" section should contain those major events or conditions, which delineate the progressive course of the transient.

The "Pre-Trip Review" section should contain a statement of the plant conditions prior to the transient. Examples to be included would be power level, ICS status, maintenance or testing in progress, and equipment deficiencies. Additionally this section should provide the framework for evaluating the initiating event and root cause of the transient.

EXHIBIT 5 - contd.

The "Initiating Event" section should be used when a transient is initiated by a complex series of events such that detailed analysis is required to delineate the occurrences.

The "Plant Post-Trip Response" section should include a discussion of the response of the NSS and BOP from a process point of view; i.e., T_{AVE}, RC Pressure, Pressurizer Level, Feedwater Flow, OTSG Level, and Main Steam Pressure. These parameters should be plotted versus time and annotated to indicate major events, departures, etc. to support the text of this section. Also, this section should include a discussion of performance of components and their departures from the expected. Proposed corrective actions and corrective actions previously completed may be included in the text of this section.

The "Operator Action/Procedural Adequacy" section should include information concerning specific operator actions taken during the transient which have not been included in any previous sections. Additionally, procedures followed during the transient, and any information which would be beneficial to other operators should be included. This section should be considered for input into procedure revisions.

The "Safety Considerations" section should include the bases for which safety, as it relates to the transient, has been considered. Those bases might include plant design requirements, FSAR accident analysis, or other information.

The "Assessment Conclusions" section should be a summary of the significant aspects of the transient, including departures from expected components and plant performance.

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THREE MILE ISLAND NUCLEAR STATION
UNIT NO. 1 ADMINISTRATIVE PROCEDURE 1044
EVENT REVIEW AND REPORTING REQUIREMENTS

E.D. & C.C.

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THREE MILE ISLAND NUCLEAR STATION
UNIT NO. 1 ADMINISTRATIVE PROCEDURE 1044
EVENT REVIEW AND REPORTING REQUIREMENTS

Table of Contents

Table of Contents (Cont'd)

1.0 GENERAL

1.1 Purpose

The purpose of this procedure is to specify the evaluation and reporting requirements when an event has occurred which may require notification of NRC representatives and/or company management.

1.2 Scope

This procedure applies to personnel at the TMI-1 site.

1.3 References

1.3.1 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors

1.3.2 10 CFR 50.73, Licensee Event Report System

1.3.3 10 CFR 20, Standards for Protection Against Radiation

1.3.4 10 CFR 50.36, Technical Specifications

1.3.5 10 CFR 73.71, (Security reports)

1.3.6 Memo from Vice-President, TMI-1, dated June 1, 1981 concerning additional desired notifications

1.3.7 Emergency Plan for TMI-1

1.3.8 10 CFR 21, Reporting of Defects and Noncompliance

1.3.9 NUREG 1022, Licensee Event Report System

1.3.10 LP-007, Management of Preliminary Safety Concerns and Potential Licensee Event Reports

2.0 RESPONSIBILITIES

2.1 All employees are responsible for ensuring that items which could adversely affect nuclear safety are brought to the attention of the Shift Supervisor.

2.2 The Shift Supervisor is responsible for making the initial determination regarding reportability. He shall ensure notification is made to the Operations and Maintenance Director, Outside Agencies, Public Information Representative, Manager-Plant Operations, PRG Chairman and Lead Engineer as appropriate.

2.3 The Lead Engineer or Department head shall ensure that potentially reportable occurrences brought to his attention are submitted to the PRG for evaluation.

2.4 The PRG Chairman shall ensure timely review by the PRG of potentially reportable occurrences and recommend appropriate action to the Operations and Maintenance Director.

2.5 The Operations and Maintenance Director or his designee (in non-emergency situations) shall make the final determination regarding reportability and ensure that appropriate on-site and off-site organizations are notified.

3.0 REQUIREMENTS

3.1 Potentially Reportable Events

3.1.1 10 CFR 50.72, Immediate Notification

a. Evaluate the event under consideration against the criteria specified in Enclosure 1.

b. If the event is considered reportable under 50.72, then make notifications using the ENS (red phone) as described in 3.3.1.

3.1.2 10 CFR 50.73, Licensee Event Reports

a. Evaluate the event under consideration against the criteria specified in Enclosure 2.

b. If the event is considered reportable under 50.73, then make notifications as described in 3.3.2.

3.1.3 10 CFR 20, Radiological

a. Evaluate the event under consideration against the criteria specified in Enclosure 3.

b. If the event is considered reportable under Part 20, then make notifications as described in 3.3.1 and/or 3.3.2, as applicable.

3.1.4 10 CFR 50.36, Technical Specifications, Section 2.0

a. Evaluate the event under consideration against the criteria specified in Enclosure 4.

b. If the event is considered reportable under 50.36, then make notifications as described in 3.3.1 and 3.3.2.

3.1.5 10 CFR 73.71, Security

a. With direction from Security personnel, evaluate the event under consideration against the criteria specified in Enclosure 5.

b. If the event is considered reportable under 73.71, then make notifications as described in 3.3.1. Senior Security personnel should make these notifications.

3.1.6 10 CFR 21, Defects and Noncompliance

a. 10 CFR 21 requires notification of the NRC upon discovery of substantial safety defects. Individuals generating reports in accordance with 10 CFR 21 shall provide a copy to the PRG Chairman and the Operations and Maintenance Director.

3.1.7 Emergency Plan

a. The Emergency Plan requires special NRC notification for specific events. The Emergency Plan shall be used for guidance in making those notifications.

NOTE:	Initiation of the Emergency Plan is in itself reportable within one hour under 10 CFR 50.72.

b. Events reportable under the Emergency Plan may also be reportable under 10 CFR 20 or other requirements.

3.1.8 Events of Potential Public Interest

a. These are events that may not be considered reportable under other sections of this procedure. Refer to Enclosure 6 for a list of these events. It has been committed that notification of such events will be made to the GPUN Public Information Representative, The TMI-1 Duty Superintendent, the Site Duty NRC Representative and the Unit 2 Control Room.

NOTE:	The declaration of an event of potential public interest shall not be made in lieu of the declaration of a formal emergency classification (i.e., Unusual Event).

b. The Shift Supervisor is responsible for notifying the Operations and Maintenance Director, or his designee, and the below listed personnel of significant events:

1. The Public Information Representative (see On-site Duty Roster)
2. Site NRC Duty Representative (see current "Weekly Schedule - NRC on Call Representative" in the Shift Supervisor's office)
3. TMI-1 Duty Superintendent
4. Unit 2 Control Room

NOTE:	The OPX network shall not be used for routine communications with the NRC.

c. Additionally, an entry should be made in the Shift Foreman's Log Book (left-hand section) describing the event.

d. In the event a call is received by Control Room personnel by members of the public concerning plant status or a perceived plant problem, refer to the guidelines provided in Enclosure 8.

e. Upon termination of the event notify the Public Information Representative.

3.2 Initial Review Process

3.2.1 The Duty Shift Supervisor is typically in the best position to become aware, first hand, of a potentially reportable event. Sources of information available to him include:

a. Results of Tech. Spec. surveillance.

b. Operations or maintenance activities that may reveal improper methods or malfunctioning equipment.

3.2.2 For events brought to his attention, the Shift Supervisor shall make the initial determination regarding reportability of an event. He shall review the event for reportability in any of the categories described in section 3.1 of this procedure.

3.2.3 If the Shift Supervisor determines that the event is clearly not reportable, he shall inform the Manager-Plant Operations.

3.2.4 If the Shift Supervisor determines that the event is potentially reportable, additional action is required as specified in Section 3.3.

3.3 Follow-up Review and Reporting

3.3.1 Emergency Notification System (ENS)

a. For events potentially reportable via the ENS, the Shift Supervisor shall immediately notify the Operations and Maintenance Director or Duty Superintendent. The Operations and Maintenance Director or Duty Superintendent will make the final

determination regarding reportability (If unable to contact the Duty Superintendent or Operations and Maintenance Director, the Shift Supervisor will make the determination).

b. If he determines the event is reportable, he or his designee shall notify:

1. The Public Information Representative (see On-site Duty Roster)
2. Site NRC Duty Representative (see current "Weekly Schedule - NRC on Call Representative" in the Shift Supervisor's office)
3. NRC Operations Center via ENS (red phone). Notification to the NRC Operations Center shall be made within the required time frame and the applicable CFR or other reporting requirement shall be identified.

NOTE: A copy of the NRC "Checklist for Licensees Making Notifications of Significant Events in accordance with 10 CFR 50.72" may be found at the red phone. This checklist is descriptive of the type of information the NRC may request and is supplied for your information and aid There is no requirement to use this list.

c. If the ENS is inoperative, then make the required notifications via commercial telephone service, other dedicated telephone system, or any other

method which will ensure that a report is made as soon as practical to the NRC Operations Center.

NOTE:	NRC IE Bulletin No. 80-15 requires TMI to notify the NRC Operations Center by commercial phone or relayed message within one (1) hour of the time that one (1) or more extensions of the ENS (NRC Red Phone) is found to be inoperable for any reason. Refer to EPIP 1004.6, Attachment V for the commercial telephone no.

d. During the course of the event, immediately report:

1. Any worsening of conditions
2. Declaration of an emergency, if not already made
3. Change of emergency class, including termination
4. Results of evaluations of plant conditions
5. Effectiveness of response or protective measures taken
6. Information related to plant behavior that is not understood

e. Maintain an open, continuous communication channel with the NRC Operations Center upon request by the NRC.

f. The Shift Supervisor shall complete and distribute a Potentially Reportable Event Form provided as Enclosure 7 to this procedure.

3.3.2 Other Notification and Reporting

a. The Shift Supervisor shall notify the Operations and Maintenance Director or the Duty Superintendent. The Shift Supervisor will then, as appropriate, make the following notifications:

1. The Public Information Representative (see On-site Duty Roster)
2. Site NRC Duty Representative (see current "Weekly Schedule - NRC on Call Representative" in the Shift Supervisor's office)
3. Manager - Plant Operations
4. PRG Chairman

b. The Shift Supervisor shall complete and distribute a Potentially Reportable Event Form provided as Enclosure 7 to this procedure.

c. PRG will review the potentially reportable event and make a recommendation concerning reportability to the Operations and Maintenance Director. The PRG reportability recommendation will be documented. A PRG recommendation concerning reportability is not required if the event has already been reported. If the item requires further technical evaluation, a Preliminary Safety Concern Evaluation Form may be submitted in accordance with LP-007. Applicable procedures shall be reviewed following a reportable

occurrence such as an accident, an unexpected transient, significant operator error, or equipment malfunction to determine whether procedure changes are required.

d. The Operations and Maintenance Director or his designee will make the final determination regarding reportability. He shall then take the following action as appropriate:

1. If the event is not reportable, the Operations and Maintenance Director shall inform the PRG Chairman.

2. If the event is reportable, the Operations and Maintenance Director or his designee shall:

a. Notify the NRC within the required time frame.

b. Notify Company Management.

c. Notify the Public Information Representative

d. Notify the PRG Chairman.

Enclosure 1

10 CFR 50.72 Notifications

I. One-Hour Notification Requirements

(a)(1)(i) The declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan.

(b)(1)(i) (A) The initiation of any nuclear plant shutdown required by the plant's Technical Specifications.

(B) Any deviation from the plant's Technical Specifications authorized pursuant to subsection 50.54(x) of this part.

NOTE:	50.54(x) - A licensee may take reasonable action that departs from a license condition or a Technical Specification in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and Technical Specifications that can provide adequate or equivalent protection is immediately apparent.

NOTE:	Refer also to 50.73 (a)(2)(i)(A),(B),(C)

(b)(1)(ii) Any event or condition during operation that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or results in the nuclear power plant being:

(A) In an unanalyzed condition that significantly compromises plant safety;

(B) In a condition that is outside the design basis of the plant; or

Enclosure 1 (Cont'd)

(C) In a condition not covered by the plant's operating and emergency procedures.

NOTE: Refer also to 50.73 (a)(2)(ii)

(b)(1)(iii) Any natural phenomenon or other external condition that poses an actual threat to the safety of the nuclear power plant of significantly hampers site personnel in the performance of duties necessary for the safe operation of the plant.

NOTE: Refer also to 50.73 (a)(2)(iii)

(b)(1)(iv) Any event that results or should have resulted in Emergency Core Cooling System (ECCS) discharge into the reactor coolant system as a result of a valid signal.

NOTE: Refer also to 50.73 (a)(2)(iv)

(b)(1)(v) Any event that results in a major loss of emergency assessment capability, offsite response capability, or communications capability (e.g., significant portion of control room indication, Emergency Notification System, or offsite notification system).

Enclosure 1 (Cont'd)

(b)(1)(vi) Any event that poses an actual threat to the safety of the nuclear power plant or significantly hampers site personnel in the performance of duties necessary for the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases.

: NOTE: Refer also to 50.73 (a)(2)(x) :

II. Four-Hour Notification Requirements

(b)(2)(i) Any event, found while the reactor is shutdown, that, had it been found while the reactor was in operation, would have resulted in the nuclear power plant, including its principal safety barriers, being seriously degraded or being in an unanalyzed condition that significantly compromises plant safety.

: NOTE: Refer also to 50.73 (a)(2)(ii) :

(b)(2)(ii) Any event or condition that results in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS). However, actuation of an ESF, including the RPS, that results from and is part of the preplanned sequence during testing or reactor operation need not be reported.

: NOTE: Refer also to 50.73 (a)(2)(iv) :

Enclosure 1 (Cont'd)

(b)(2)(iii) Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to:

(A) Shut down the reactor and maintain it in a safe shutdown condition,

(B) Remove residual heat,

(C) Control the release of radioactive material, or

(D) Mitigate the consequences of an accident.

NOTE: Refer also to 50.73 (a)(2)(v) and (a)(2)(vi)

(b)(2)(iv) (A) Any airborne radioactive release that exceeds 2 times the applicable concentrations of the limits specified in Appendix B, Table II of Part 20 of this chapter in unrestricted areas, when averaged over a time period of one hour.

(B) Any liquid effluent release that exceeds 2 times the limiting combined Maximum Permissable Concentration (MPC)(SEE Note 1 of Appendix B to Part 20 of this chapter) at the point of entry into the receiving water (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases, when averaged over a time period of one hour. (Immediate notifications made

Enclosure 1 (Cont'd)

under this paragraph also satisfy the requirements of paragraphs (a)(2) and (b)(2) of subsection 20.403 of Part 20 of this chapter.)

: NOTE: Refer also to 50.73 (a)(2)(viii)(A)(B) :

(b)(2)(v) Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

(b)(2)(vi) Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

Enclosure 2

10 CFR 50.73 Reports

(a)(2)(i) (A) The completion of any nuclear plant shutdown required by the plant's Technical Specifications; or

(B) Any operation or condition prohibited by the plant's Technical Specifications; or

(C) Any deviation from the plant's Technical Specifications authorized pursuant to subsection 50.54(x) of this part.

NOTE:	50.54(x) - A licensee may take reasonable action that departs from a license condition or a Technical Specification in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and Technical Specifications that can provide adequate or equivalent protection is immediately apparent.

NOTE:	Refer also to 50.72 (b)(1)(i)(A)(B)

(a)(2)(ii) Any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or that resulted in the nuclear power plant being:

(A) In an unanalyzed condition that significantly compromises plant safety;

(B) In a condition that was outside the design basis of the plant; or

Enclosure 2 (Cont'd)

(C) In a condition not covered by the plant's operating and emergency procedures.

: NOTE: Refer also to 50.72 (b)(1)(ii) and (b)(2)(i) :

(a)(2)(iii) Any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant.

: NOTE: Refer also to 50.72 (b)(1)(iii) :

(a)(2)(iv) Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS). However, actuation of an ESF, including the RPS, that resulted from and was part of the preplanned sequence during testing or reactor operation need not be reported.

: NOTE: Refer also to 50.72 (b)(1)(iv) and (B)(2)(ii) :

(a)(2)(v) Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to:

(A) Shut down the reactor and maintain it in a safe shutdown condition;

(B) Remove residual heat;

Enclosure 2 (Cont'd)

(C) Control the release of radioactive material; or

(D) Mitigate the consequences of an accident.

: NOTE: Refer also to 50.72 (b)(2)(iii) :

(a)(2)(vi) Events covered in paragraph (a)(2)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to this paragraph if redundant equipment in the same system was operable and available to perform the required safety function.

(a)(2)(vii) Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to:

(A) Shut down the reactor and maintain it in a safe shutdown condition;

(B) Remove residual heat;

(C) control the release of radioactive material; or

(D) Mitigate the consequences of an accident.

Enclosure 2 (Cont'd)

(a)(2)(viii) (A) Any airborne radioactive release that exceeded 2 times the applicable concentrations of the limits specified in Appendix B, Table II of Part 20 of this chapter in unrestricted areas, when averaged over a time period of one hour.

(B) Any liquid effluent release that exceeded 2 times the limiting combined Maximum Permissable Concentration (MPC)(see Note 1 of Appendix B to Part 20 of this chapter) at the point of entry into the receiving water (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases, when averaged over a time period of one hour.

: NOTE: Refer also to 50.72 (b)(2)(iv) :

(a)(2)(ix) Reports submitted to the Commission in accordance with paragraph (a)(2)(viii) of this section also meet the effluent release reporting requirements of paragraph 20.405 (a)(5) of Part 20 of this chapter.

(a)(2)(x) Any event that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases.

: NOTE: Refer also to 50.72 (b)(1)(vi) :

Enclosure 3

10 CFR 20

20.402(a)(1) Each licensee shall report to the Commission, by telephone, immediately after it determines that a loss or theft of licensed material has occurred in such quantities and under such circumstances that it appears to the licensee that a substantial hazard may result to persons in unrestricted areas.

NOTE:	Telephone notification shall be made via the ENS as in 10 CFR 50.72. Written reports are required within 30 days as in 10 CFR 50.73.

20.403 Notifications of Incidents

(a) Immediate notification

Each licensee shall immediately report any events involving by product, source, or special nuclear material possessed by the licensee that may have caused or threatens to cause:

(1)° Exposure of the whole body of any individual to 25 rems or more of radiation;

° exposure of the skin of the whole body of any individual of 150 rems or more of radiation;

° or exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation; or

(2)° The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 5,000 times the limits specified for such materials in Appendix B, Table II of this part; or

Enclosure 3 (Cont'd)

(3)° A loss of one working week or more of the operation of any facilities affected; or

(4)° Damage to property in excess of $200,000.

(b) Twenty-four Hour Notification

Each licensee shall within 24 hours of discovery of the event, report any ~~event~~ involving licensed material possessed by the licensee ~~that~~ may have caused or threatens to cause:

(1) Exposure of the whole body of any individual to 5 rems or more of radiation; exposure of the skin of the whole body of any individual to 30 rems or more of radiation; or exposure of the feet, ankles, hands, or forearms to 75 rems or more of radiation; or

(2) The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 500 times the limits specified for such materials in Appendix B. Table II of this part; or

(3) A loss of one day or more of the operation of any facilities affected; or

(4) Damage to property in excess of $2,000.

NOTE:	Telephone notification shall be made via the ENS as in 10 CFR 50.72.

Enclosure 3 (Cont'd)

20.405 Reports of overexposures and excessive levels and concentrations.

(a)(1) In addition to any notification required by subsection 20.403 of this part, each licensee shall make a report in writing concerning any one of the following types of incidents within 30 days of its occurrence:

(i) Each exposure of an individual to radiation in excess of the applicable limits in subsection 20.101 or 20.104(a) of this part, or the license;

(ii) Each exposure of an individual to radioactive material in excess of the applicable limits in subsection 20.103(a)(1), 20.103(a)(2), or 20.104(b) of this part, or in the license;

(iii) Levels of radiation or concentrations of radioactive material in a restricted area in excess of any other applicable limit in the license;

(iv) Any incident for which notification is required by subsection 20.403 of this part; or

(v) Levels of radiation or concentrations of radioactive material (whether or not involving excessive exposure of any individual) in an unrestricted area in excess of ten times any applicable limit set forth in this part or in the license.

Enclosure 3 (Cont'd)

(c)(1) In addition to any notification required by subsection 20.403 of this part, each licensee shall make a report in writing of levels of radiation or releases of radioactive material in excess of limits specified by 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations," or in excess of license conditions related to compliance with 40 CFR Part 190.

NOTE:	Written reports are required within 30 days as in 10 CFR 50.73.

Enclosure 4

10 CFR 50.36 Requirements

(c)(1) Safety Limits and Limiting Safety System Settings (Technical Specifications, Section 2.0)

(i)(A) Safety limits for nuclear reactors are limits upon important process variables which are found to be necessary to reasonably protect the integrity of certain of the physical barriers which guard against the uncontrolled release of radioactivity. If any safety limit is exceeded, the reactor shall be shut down. The licensee shall notify the Commission, review the matter and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude reoccurrence. Operation shall not be resumed until authorized by the Commission.

(ii)(A) Limiting Safety System Settings for nuclear reactors are settings for automatic protective devices related to those variables having significant safety functions. Where a Limiting Safety System Setting is specified for a variable on which a safety limit has been placed, the setting shall be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded. If, during operation, the automatic safety system does not function as required, the licensee shall take appropriate action, which may include shutting down the reactor. He shall notify the

Enclosure 4 (Cont'd)

Commission, review the matter and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude reoccurrence.

(c)(2) Limiting Conditions for Operation

(Technical Specifications, Section 3.0)

Limiting Conditions for Operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a Limiting Condition for Operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the Technical Specification until the condition can be met. The licensee shall notify the Commission, review the matter, and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude reoccurrence.

Enclosure 5

10 CFR 73.71, Security

(a) Each licensee who conducts a trace investigation of a lost or unaccounted for shipment pursuant to subsection 73.27(c) shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and in all cases within one hour, of the details and results of its trace investigation. The licensee shall also file within a period of fifteen (15) days a written report to the appropriate NRC Regional Office setting forth the details and results of the trace investigation.

(b) Each licensee shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and in all cases within one hour, of any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of special nuclear material which it is licensed to possess, or to commit an act or radiological sabotage against its plant or transportation system. The initial notification must be followed within a period of fifteen (15) days by a written report, submitted to the appropriate NRC Regional Office shown in Appendix A of this part setting forth the details of the incident.

(c) Each licensee under either a specific or general license shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and all cases within one hour, of any event which significantly threatens or lessens the effectiveness of a physical security system as established by regulations in this chapter, or by the licensee's approved physical security, contingency, and security personnel qualification and

training plans, or by both.

(See below:)

(1) 10 CFR 73.71 requires notification of the NRC within one hour upon occurrence of any of the following events:

(A) Explicit Threat

An explicit threat is information received by security organization that an act of theft or radiological sabotage will be attempted.

(B) Major loss of physical security effectiveness. A major loss of physical security effectiveness occurs when security features breakdown which allow unauthorized or undetected access to Vital Areas.

(2) 10 CFR 73.71 requires notification of the NRC within 24 hours upon occurrence of any of the following events:

(A) Potential Threat

A potential threat is information received by a security organization which supports belief that an act of theft or radiological sabotage will be attempted.

(B) Major loss of physical security effectiveness which has been properly compensated for. Properly compensated means measures as specified in a security or contingency plan or, if the event is not specified in either of these plans, it means measures implemented within 10 minutes of an event occurrence that provide a level of security equivalent to that existing before the event.

Enclosure 5 (Cont'd)

(C) Moderate loss of physical security effectiveness. A moderate loss of physical security effectiveness occurs when, (1) a major loss of effectiveness occurs but is properly compensated, (2) security features break down which allow unauthorized or undetected access to Protected Areas, (3) a breakdown of security features protecting Vital Areas occurs which leaves these areas under the protection of only one system. (This includes the loss of either alarm station).

(3) Items not reportable to the NRC that require internal Security incident reports: Moderate loss of physical security effectiveness which has been properly compensated for. "Properly Compensated", means measures as specified in a Security or Contingency Plan or, if the event is not specified in either of these plans, it means measures implemented within 10 minutes of an event's occurrence that provide a level of security equivalent to that existing before the event.

There is no requirement for reporting such events to the NRC.

Enclosure 6

Events of Potential Public Interest

1. Any plane crash in the immediate vicinity of TMI.
2. Any near or onsite toxic or flammable gas or liquid release.
3. Any ambulance leaving the site while transporting a patient to a hospital.
4. Any fire on TMI regardless of whether offsite assistance was needed (and which does not require declaration of an Unusual Event, Alert, Site or General Emergency). (A good rule of thumb is if the siren was activated, except for testing, then notifications should be made.)
5. An unanticipated radioactive spill, leak or dropped cask or liner of radioactive material or a plant operational problem which results in an evacuation of a building due to confirmed high radiation or airbourne radioactivity levels.
6. Personnel have received a radiation exposure in excess of the Federal limits for the whole body, skin, extremities and critical organs.
7. Failure of the SPC system and/or the makeup system which results in a loss of RCS pressure and/or level control (as applicable).
8. Environmental samples, directly affected from TMI operations, indicating greater than ten times the background levels of radioactivity.
9. An uncontrolled release which results in a valid liquid or gaseous effluent radiation monitor increase which is greater than ten times the normal radiation levels (other than controlled releases).
10. Loss of a licensed radioactive source.

Enclosure 6 (Cont'd)

11. Other plant conditions (not covered by the four emergency classifications) that are in progress or have occurred which do not indicate a potential degradation of the level of safety of the plant but may be construed by the public to be detrimental to the environment or the health and safety of the public or plant personnel.

12. Planned evolutions that, in the judgement of the Shift Supervisor/Foreman or GPUNC management, may be of public interest.

Enclosure 7

POTENTIALLY REPORTABLE EVENT FORM

1. Reportable per: 10 CFR 50.72, item: _____
   10 CFR 50.73, item: _____
   10 CFR 20, item: _____
   10 CFR 50.36, item: _____
   10 CFR 73.71, item: _____
   10 CFR 21, item: _____
   Emergency Plan item: _____

2. Time _____ and Date _____ of occurrence.

3. Document Tech Spec Section Violated _____

4. Detailed description of event, plant status, and immediate corrective actions. Attach additional sheets if necessary. Especially, include information which may not be available the following normal work day.

SHIFT SUPERVISOR: _____ DATE: _____

cc: Operations and Maintenance Director
Manager, Plant Operations
PRG Chairman
Manager, QA Mod/Ops
Manager, Safety Review
Manager, Plant Analysis
Training Coordinator

Enclosure 8

Public Inquiry Policy

I. Control Room Action

A. Determine the following information:

1. Name of Caller: _____
2. County of Residence: _____
3. Telephone Number: _____
4. Date and Time of Call: _____
5. Brief Description of Problem: _____

_____

_____

_____

_____

_____

_____

B. Inform the caller that someone will get back to him as soon as possible.

C. Refer to the Onsite Duty Roster and notify the Public Information Representative of the above situation.

II. Public Information Action

A. If the problem is siren related: upon receipt of the above information the Public Information Representative should contact the respective County Emergency Management Office to determine the extent of the problem and to confirm that Mark Bitting has been notified and contact the caller.

County Emergency Management Office Phone Numbers

_____	Cumberland	- 238-9676
_____	Dauphin	- 236-7976
_____	Lancaster	- 299-8373
_____	Lebanon	- 272-2296
_____	York	- 843-5111

The next working day the Public Information Department shall notify the following:

W. Gifford	- 8350
S. Levin	- 8326
R. Rogan	- 8048
J. Thomas	- 234-2111
R. Toole	- 8005
Onsite NRC Office	- 948-1155

B. Other Problems

1. Public Information Representative should handle the problems on a case basis.

FOR USE IN UNIT 1 ONLY

Enclosure 7

POTENTIALLY REPORTABLE EVENT FORM

1. Reportable per: 10 CFR 50.72, Item: _____
   10 CFR 50.73, Item: _____
   10 CFR 20, Item: _____
   10 CFR 50.36, Item: _____
   10 CFR 73.71, Item: _____
   10 CFR 21, Item: _____
   Emergency Plan Item: _____

2. Time _____ and Date _____ of occurrence.

3. Document Tech Spec Section Violated _____

4. Detailed description of event, plant status, and immediate corrective actions. Attach additional sheets if necessary. Especially, include information which may not be available the following normal work day.

TRAINING CONCERNS

SHIFT SUPERVISOR: _____ DATE: _____

cc: Operations and Maintenance Director
Manager, Plant Operations
PRG Chairman
Manager, QA Mod/Ops
Manager, Safety Review
Plant Analysis Manager - TMI-1
Manager, Plant Analysis - Parsippany
Manager, Plant Training

IMPORTANT TO SAFETY
NON-ENVIRONMENTAL IMPACT RELATED

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USE IN UNIT I ONLY

THREE MILE ISLAND NUCLEAR STATION
UNIT NO. 1 ADMINISTRATIVE PROCEDURE 1029
CONDUCT OF OPERATIONS

ED & CC

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M. A. Nelson — Signature — 6/1/84 — Date

R. J. Toole — Signature — 6-4-84 — Date

H. D. Hukill — Signature — 6-7-84 — Date

Document ID: 0025B

THREE MILE ISLAND NUCLEAR STATION
UNIT NO. 1 ADMINISTRATIVE PROCEDURE 1029
CONDUCT OF OPERATIONS

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1.0 GENERAL

1.1 Purpose

The purpose of this procedure is to establish guidelines and requirements for the safe, formal and professional conduct of operations in the plant.

1.2 Applicability

This procedure is applicable to all personnel assigned to the Operations and Maintenance Director, TMI-1, and all personnel performing work in the plant. The requirements of this procedure, specifically those regarding distractions to on-shift personnel and control of access to the Control Room, are also applicable to all personnel who enter the plant, no matter what their business.

2.0 SCOPE

This procedure presents methods by which plant personnel, especially shift operating personnel, shall control plant routine matters and evolutions in a formal manner so as to insure attentiveness to assigned responsibilities and to avoid distractions to those operators specifically charged with the safe operation of the plant. This procedure also clearly establishes the authority and responsibility of Licensed Operator on duty to shutdown the plant when conditions so warrant.

3.0 REFERENCES

a. AP 1009 - Unit 1 Organization and Chain of Command

b. AP 1012 - Shift Relief and Log Entries

c. AP 1001J - Technical Specification Surveillance Program

d. AP 1016 - Operations Surveillance Program

e. AP 1037 - Control of Caution and DNO Tags

f. AP 1031 - Nuclear Plant Staff Working Hours

g. AP 1013 - Bypass of Safety Functions and Jumper Control

h. AP 1036 - Instrument Out of Service Control

i. AP 1002 - Rules for the Protection of Employees Working on Electrical and Mechanical Apparatus

j. AP 1011 - Controlled Key Locker Control

k. AP 1033 - Operating Memos and Standing Orders

l. AP 1044 - Event Review and Reporting Requirements

m. AP 1032 - Dissemination of Information

n. AP 1008 - Good Housekeeping

4.0 RESPONSIBILITES

a. It is the responsibility of all members of the plant staff to carry out the requirements of this procedure.

b. It is the responsibility of the Operations and Maintenance Director, TMI-1 to insure Unit 1 operations are conducted in accordance with this procedure.

5.0 PROCEDURES

5.1 The primary responsibility of all personnel on the plant staff is to carry out their assigned duties in a safe and responsible manner using approved procedures in order to ensure safe operation of the Unit and compliance with the License, technical specifications and rules, regulations and orders of the NRC and other regulatory agencies. The safe operation of the Unit is the highest priority of the plant staff and shall be uppermost in their thinking and actions at all times.

5.2 Conduct of All Personnel

a. All on-duty personnel and supervisors must be aware of and responsible for the plant status, especially in their immediate area of responsibility at all times. This includes Shift Supervisors/Foreman being responsible for the performance of all personnel assigned to their shift who could affect plant safety, regardless of specialty affiliation. Knowledge of the plant's status must be assured at shift changes by a formal shift turnover and relief in accordance with AP 1012.

b. All operations must be carried out in the highest professional manner with close attention to detail.

c. All on-duty personnel shall be physically fit and mentally alert. The Shift Supervisor/Foreman is responsible to ensure that all personnel, both licensed and non-licensed, meet this criteria and that person who does not exhibit physical fitness and mental alertness is immediately relieved of all duties associated with the operation of the plant.

d. Operators shall remain within their immediate areas of responsibility until properly relieved, and be particularly attentive to the instrumentation and controls located within these areas at all times. Operators shall believe their instrumentation and be alert for and properly identify any instrumentation which is out of commission or out of calibration.

e. Operators shall also be alert for any unusual trends in plant parameters, early signs of abnormal situations, and report same to the Shift Supervisor/Foreman.

f. A professional and formal atmosphere will be maintained in the plant, especially in the Control Room, at all times.

g. Potentially distracting activities in the Control Room or at other plant areas shall be prohibited at all times. Any such distractions must be brought to the immediate attention of the Shift Supervisor/Foreman for resolution. In this regards, the following rules apply:

1. No reading material of any kind except that directly related to the operation and maintenance of the plant shall be permitted in the plant except as indicated below.

   a. Appropriate reading material such as daily newspapers and text books may be located in designated lunch rooms when these rooms are not used as work areas or watch stations. This material may be read before starting shift when arriving early; during lunch breaks (if not on shift) and during Company allowed breaks with the Foreman's or Supervisor's specific permission.

   b. No unappropriate readiny material such as scandal newspapers, puzzles, or other distasteful literature will be permitted in the plant at any time.

   c. The O and M director shall be the sole judge as to what is and what is not appropriate readiny material.

2. No radios except those specifically designed for control of plant operations and communciations and except for

those indicated below shall be permitted in the plant at any time.

a. Radios may be located in designated lunch rooms when these rooms are not used as work areas or watch stations and played before starting shift when arriving early; during lunch breaks; and during Company allowed breaks with the Foreman's or Supervisor's specific permission.

3. Commerical televisions are not permitted in the plant.

4. No games, horseplay, or other distracting activities shall be permitted in the plant at any time.

5. Access to the enclosed area of the Control Room shall be limited to those persons on official business only and loitering in this area is prohibited. All personnel except Operations personnel and on duty Shift Technical Advisor must obtain permission from the Shift Supervisor/Foreman or their designee prior to entering the enclosed area of the Control Room. It is the responsibility of the Shift Supervisor/Foreman to limit the number of people in the Control Room at any time to insure that operators are not distracted from their primary responsibility for the safe operation of the plant and to insure that a professional atmosphere is maintained.

6. Meals shall not be eaten at the Control Console Areas of the Control Room. Operators on duty at that area shall be properly relieved for meals and eat their meals away from the Control Consoles. This restriction does not apply to eating or drinking a single item.

7. All necessary plant-related technical/administrative business must be conducted at a location and in such a manner that neither Control Room Operator attentiveness nor the professional atmosphere in the Control Room will be compromised.

h. Only licensed operators or trainees under their direct control are permitted to manipulate the controls that directly affect the reactivity or power level of the reactor.

i. Trainees shall be permitted to operate equipment/systems, to manipulate controls, or to take log readings only under the direct supervision and control of a qualified operator. The qualified operator is responsible for the actions taken by a trainee under his supervision.

j. Licensed operators are required to be present at the controls at all times during the operation of the plant, either in an operating or shutdown condition. Specific shift manning responsibilities are contained in Section 5.7 of this procedure.

k. Operation of equipment or systems shall only be accomplished with the knowledge and consent of the Shift Supervisor or Shift Foreman. In this regards, operations of systems and

equipment in the plant by Auxiliary Operators shall be conducted only on the direct orders of the Shift Supervisor, Shift Foreman, or CRO on duty at the panel, except in cases of emergency, or if necessary to prevent personnel injury or equipment damage. Direction to Auxiliary Operators by the CRO on duty at the panel in no way relieves the Shift Supervisor/Foreman of his responsibility for the safe conduct of operations and the direction of plant activities.

l. No operators of other crews (not presently assigned on shift) will take operating actions unless specifically authorized and directed by the on-shift operating crew. Should conditions exist that require non-duty personnel to act without direction from the duty crew, the individual involved shall be fully accountable for such action. The intent of this guidance is not intended to restrict qualified operators from taking appropriate actions in an emergency situation when such action is clearly required for the health and safety of the public, safety of personnel, or to prevent major equipment damage.

m. All surveillance evolutions shall be conducted in accordance with either AP 1016 or AP 1001J as applicable.

n. All switching and tagging operations will be performed in accordance with AP 1002.

o. Independent verification of operational activities affecting safety will be accomplished as follows, when the affected systems are required to be operable:

1. At each shift relief, ESAS and EFW Readiness Checklists and log sheets will be reviewed by both the on-coming and off-going operator in accordance with AP 1012.
2. Alternate safety trains shall be verified operable prior to removing one from service, and upon restoration of a safety component/system to service, it shall be verified operable in accordance with AP 1002 or the applicable testing document.
3. Following surveillance tests or special operations on ESAS and EFW Systems, two independent valve and breaker lineups will be conducted within the boundary of the system affected by the tests or special operations to provide assurance that the system is returned to full operational status.

p. The Shift Supervisor, Shift Foreman, and CRO on duty at the panel have the authority, and in fact the responsibility, to order or affect the plant to be shutdown and placed in a safe condition or to take whatever timely and proper action necessary whenever in his judgement such action(s) is necessary for the health and safety of the public or to prevent serious injury, serious equipment damage, a major incident such as the uncontrolled release of radioactive material, or to prevent exceeding technical specification limits.

q. The Shift Supervisor has the primary management responsibility until properly relieved, for the safe operation of the plant under all conditions occurring on shift. The unique responsibilites and authority of the Shift Supervisor are clearly delineated in the attached letter from the Director, TMI-1 and the President GPU Nuclear Corporation to all TMI-1 Shift Supervisors (Attachment III).

r. The Shift Supervisor on duty shall not be assigned administrative or other functions which detract from or are subordinate to his primary responsibility for assuring safe operation of the plant. The administrative duties assigned to the Shift Supervisor shall be reviewed annually by the Manager, of Plant Operations and a report thereof submitted to the Operations and Maintenance Director, TMI-1 and to the Vice President, TMI-1 for their review and approval.

s. Operators on duty should not normally be assigned other responsibilites or work which interferes with their primary responsibility for the safe operation of the plant.

t. Shift Supervisors, Shift Foremen and CROs shall wear the special clothing provided by the Company while on duty. Other members of the plant staff shall wear neat and clean clothing as appropriate for their assigned responsibilities. No open toed shoes, sandals, or excessively worn or tattered clothing will be permitted. Personnel shall be well groomed and neat in appearance as befitting their position of responsibility for the proper and safe operation of a nuclear power plant.

u. Before acknowledging or resetting an alarming annunciator, the operator shall have read or have knowledge of the annunciator's window nomenclature and verified no other alarm came in coincident with the alarm being acknowledged.

5.3 Communication on Shift

a. Communications to operating personnel must be clear and concise. Directions should be given only when you have the complete attention of the individual to whom they are given. These directions shall be given in such a manner that they are explicit and understandable. This shall be verified by having the operator acknowledge the direction so the director is satisfied that the orders are understood. Upon completion of the directed evolution, the operator shall report back to the controlling station the exact action that he has taken. Whenever possible, the individual ordering an action shall verify that it has been carried out correctly by observing expected indication (indication lights, meters, gauges, etc.) and plant/system reaction. Proper communications both face to face and by page, radio, phone or other means are essential for all operational functions.

b. Whenever possible, communications for major plant evolutions should be controlled by the use of the Maintenance and Instrumentation telephone system vice the gray page telephone.

c. The page announcing system shall normally be used by operating personnel to announce emergencies, unexpected events, to relay information regarding plant status and, where not possible by direct phone communications, to direct actions in the plant.

d. Routine communications to personnel in the Control Room shall be conducted by the regular dial telephone system, when available.

e. When answering a telephone, the location, name of the individual and position, i.e. Shift Foreman, CRO, should always be given.

f. Critical steps in an evolution shall be announced in the Control Room and if applicable over the plant paging and/or the Maintenance and Instrumentation telephone system.

g. Horseplay or unofficial use of the plant paging system is a serious breech of discipline and good order and offenders will be dealt with accordingly.

5.4 Relief Procedures and Briefings

a. At shift change a formal shift relief shall be accomplished and the oncoming Shift Supervisor/Foreman shall brief his shift on plant status and upcoming evolutions or work in accordance with AP 1012.

b. Other briefings shall be conducted when deemed necessary by the Manager, Plant Operations, Shift Supervisor, Shift Foreman, or CRO prior to conducting critical, complicated, unusual or infrequent operations.

5.5 Component Labeling and Signs

a. Personnel shall not independently label plant components or systems or post signs. Labeling of components or systems and signs shall be in accordance with an approved procedure, ECM, Work Authorization Notice or by the explicit authorization of

the Manager, Plant Operations. Emergency posting of areas for safety purposes or operational limitations with temporary labels may be approved by the Shift Supervisor as long as his signature and date appears on the sign.

b. Labeling of components and installation of signs shall be accomplished with neat and legible labels such as metal, acceptable mylar or "bakelite". Labels and signs shall be appropriately fastened so they do not become unattached. Handwritten lables and signs are not permitted in the plant except where specifically authorized by procedure, the Manager, Plant Operations or his designee.

c. When a permanent change is needed, submit a Technical Functions Work Request or Task Request. Technical Functions will send the WR or TR to Systems Analysis for action. This will ensure a proper Technical Functions review, and revision of affected controlled drawings. Technical Functions will also obtain the revised label and provide the installation package to the field.

5.6 Working hours and overtime regulations for personnel performing safety related functions shall be in accordance with AP 1031.

5.7 Shift Manning Requirements

a. Listed below are the minimum shift operations manning requirements. Specific permission must be obtained from the Opera-

tions and Maintenance, Director, TMI-1 and the Vice President, TMI-1 to deviate from these requirements.

Plant > 200°F RCS Temperature	Plant <200°F RCS Temperature
1 Shift Supervisor (SRO)	1 Shift Supervisor*(SRO)
1 Shift Foreman (SRO)	1 Shift Foreman*
3 Control Room Operators (at least 2 RO)	2 Control Room Operators (at least 1 RO)
5 Auxiliary Operators	4 Auxiliary Operators
1 Shift Technical Advisor	NA

*May be waived by the Manager, Plant Operations TMI-1. Either a qualified SRO, Shift Supervisor, or Shift Foreman must be on shift at all times when below 200°F.

NOTE: SRO - Senior Reactor Operator qualified
RO - Reactor Operator qualified

b. A minimum of 1 SRO and 1 RO must be in the Control Room at all times when the RCS is greater than 200°F.

c. At least 1 SRO or 1 RO must be in the Control Room at all times when the RCS is less than 200°F.

d. When the RCS is >200°F and a minimum of 2 SRO's and 2 RO's on shift cannot be adhered to on a six shift rotation utilizing qualified licensed personnel within the organization the Manager of Plant Operations shall immediately inform and discuss the situation with the Director TMI-1, the O and M Director TMI-1, and the Supervisor of Licensing. The supervisor of Licensing shall inform the Commonwealth and the NRC if 2 SRO's and 2 RO's have not been adhered to on a five shift rotation for ten consecutive days.

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e. All irradiated fuel handling shall be supervised by an SRO who has no other concurrent responsibilities or duties during this evolution.

f. A Fire Brigade of at least 5 members shall be maintained on-site at all times. The Fire Brigade shall not include those personnel required in the Control Room as noted in b. and c. above nor those personnel necessary for the safe shutdown of the Unit as specified in the Technical Specifications. Only personnel who have satisfactorily completed the required fire fighting training shall be assigned as Fire Brigade members. The members of the Fire Brigade shall be documented on the Control Room Operator's Log Sheet.

g. The fact that the minimum shift manning requirements have been met will be documented on the Control Room Operator's Log Sheet for each shift.

5.8 Log Sheets/Log Books

a. Logkeeping shall be done in a timely, accurate and complete manner.

b. The following Log Books will be maintained:

1. Control Room Operators Log Book (requirements are specified in AP 1012).

2. Shift Foreman's Log Book (Requirements are specified in AP 1012).

3. Jumper and Lifted Lead Log Book (Requirements are specified in AP 1013).

4. Instrument Out of Service Log Book (Requirments specified in AP 1036).

5. Do No Operate and Caution Tag Log Book (Requirements specified in AP 1037).

6. Application for Equipment Out of Service Log Book (Requirements specified in AP 1002).

7. Controlled Key Log Book (Requirements in AP 1011).

c. The following Log Sheets shall be maintained:

1. Control Room Log Sheet

2. Primary Operators Log Sheet

3. Secondary Operators Log Sheet

4. Out Building Operators Log Sheet

d. The specified Logs shall be reviewed each shift in accordance with AP 1012 by the Shift Foreman/Supervisor.

e. The readings on Log Sheets must be completed unless an exception is granted by the Shift Foreman. The Shift Foreman will list the reason for this exception on the Log Sheet or attach an explanation sheet.

5.9 Operating Memos and Standing Orders

a. An Operation Memo and Standing Order Book will be maintained in the Control Room in accordance with AP 1033.

b. This book will be reviewed by duty shift personnel in accordance with AP 1012.

5.10 Incidents Occurring on Shift

The following steps should be taken when an event occurs or finding is identified that places the plant or personnel in an unsafe condition.

1. Place the situation in a safe condition as soon as possible based on the surrounding circumstances.
2. Notify the Shift Foreman/Shift Supervisor of the incident/finding as soon as practical.
3. The Shift Foreman/Shift Supervisor should consider the overall scope and potential effects of the situation and ensure steps are being taken to:
   a. mitigate the consequences of the event/finding
   b. prevent the present situation from degrading
4. The Shift Supervisor should contact the cognizant Department Head/Manager and the Unit 1 Operations and Maintenance Director or his designee if conditions warrent.
5. The Shift Supervisor or the Unit 1 Operations and Maintenance Director or his designee, if consulted, should determine whether corrective action is appropriate and the following followup action is required.

NOTE:	See guidelines contained in EPIP-1001.1 through 1001.4 and AP 1044.

a. Implement Emergency Plan

NOTE:	In the event the Emergency Plan is initiated, the Shift Supervisor is the Emergency Director until properly relieved.

b. Notify personnel/outside agencies as specified by AP 1044 or the Emergency Plan.

c. Submit Reports:

- AP 1044 Form (Potential Reportability)
- AP 1029 Form (Plant Incident Report)

5.11 Incident Review for Shift Personnel.

a. The Manager, Plant Operations shall determine if and to what extent an incident should be reviewed by on shift personnel. He shall be responsible for investigations of operational incidents. Incidents deemed necessary for review shall have a report issued following the format of Attachment I.

b. The incident will be reviewed with all shift personnel by the Manager, Plant Operations or his designee. An attendance will be taken and documented using Attachment II. Anyone missing the review will be rescheduled or be required to review the written report of the incident.

c. Copies of all incident reports will be sent to the Vice President, TMI-1 and to the Operations and Maintenance, Director, TMI-1. Copies will also be sent to the PRG and to Licensing for review as to reportability.

d. A copy of each incident report will be sent to the Training Department for inclusion in the Operator Training Program as applicable.

e. A copy of each incident report will be sent to the Independent Onsite Safety Review Group (ISORG) for an independent review.

5.12 Procedural Compliance

a. Compliance with approved procedures is absolutely essential for the safe operation of the plant.

b. TMI-1 shall be operated and maintained in accordance with written, approved procedures which have been formally issued and distributed for use.

c. Personnel shall not give directions, guidance, recommendations or clarifications which conflict with approved procedures.

d. The responsibility for following approved procedures rests with the supervisor directing the work or evolution and with the individual performing the work or evolution.

e. Many procedures have in them "symptoms" which may indicate a problem, possibly a need to go promptly into emergency actions. However, a symptom is only an indication which must be evaluated. It may indicate a situation which has no safety relationship. The important consideration is that, while most parts of a procedure are to be followed literally, the inclusion of symptoms in procedures gives the operator guidance on which he must exercise judgement. When an operator identifies a symptom, he will first attempt to verify the symptom by checking other available instrumentation. Upon the verification, the operator shall follow the steps of the procedure and notify his supervisor immediately. If he is unable to do so, he will immediately notify his supervisor to request guidance and further direction.

f. If an individual cannot or believes he should not follow a procedure as written, he shall place the system/component into a stable and safe condition and advise his supervisor immediately. In such cases, the work or evolution should not be continued until the supervisor resolves the question and the Supervisor determines that the procedure can be followed as written or the procedure has been revised, approved, and/or reissued in accordance with current administrative controls. AP 1001G gives specific guidance on procedure usage and latitude allowed for procedure compliance.

g. Supervisory personnel are responsible for:

1. Indoctrination of subordinates in procedural requirements and the requirements for compliance therewith.
2. Ensuring that personnel understand procedures being used including the objectives and desired results to be achieved by following the procedure.
3. Encouraging and promoting positive feedback from personnel on the adequacy of procedures and for promptly initiating and processing required changes in accordance with current administrative controls. In this regard, procedure users often identify but feel inhibited to suggest changes to procedures based on:
    (1) Problems identified during use
    (2) inconsistancies between procedures
    (3) better ways to perform an evolution
    (4) a good practice that would increase the effectiveness of efficiency of an evolution.

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Each supervisor should be sensitive to, and encourage, this type of feedback so that procedures can be improved as a "user" document.

4. Preventing unauthorized oral approval of changes in procedures either on the part of themselves or others. Requirements regarding telecon approvals are described in other procedures.

5. Enforcing compliance with procedures as written in accordance with AP 1001G.

h. Nothing in the above guidance is intended to restrict personnel from taking immediate actions to prevent or correct an unsafe or casualty situation which could adversely effect the health and safety of the public, personnel safety, or lead to serious equipment/system damage, even when such actions are outside the requirements and guidelines of approved procedures. Under such circumstances, the individual involved shall take such actions as necessary to place the equipment/-system into a safe and stable condition and immediately notify his supervisor and the Shift Supervisor/Foreman. The Shift Supervisor/Foreman shall exercise his best judgement to ensure continued safety of operation and if warranted notify the Manager, Plant Operations, or if he is not available, the Duty Superintendent.

5.13 Housekeeping and Cleanliness

a. A clean and orderly environment is a prerequisite and an essential ingredient for safe, proper and professional operation of the unit.

b. Cleanliness is the responsibility of all personnel and no program to establish and maintain a clean operating and work environment can be effective without the active participation and support of all personnel.

c. Supervisors/Foremen are responsible to insure that job sites are appropriately cleaned up/picked up and that tools and equipment are neatly arranged at the end of the working day or on completion of a specific job/evolution.

d. Supervisory personnel are also responsible to frequently tour their responsible job sites and areas in the plant to insure that high standards of cleanliness and order are maintained.

e. Specific housekeeping responsibilities are contained in procedure AP 1008.

5.14 Radiological Controls

a. The implementation of sound, practical, and effective radiological practices and procedures is essential to the safe operation and maintenance of the plant.

b. The use of proper radiological controls, practices and procedures is the responsibility of all members of the plant staff. All personnel must, as a matter of habit, be continuously alert to the radiological aspects of the work/evolution they are involved in and take appropriate actions to minimize man-rem exposure and to control the generation and spread of radioactive contamination.

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c. Operations and Maintenace supervisors are responsible for frequently inspecting their job sites and areas of responsibilities in the plant to insure that appropriate and effective radiological procedures and controls are being utilized, and that radiological deficiencies are identified and corrected.

5.15 Control of Plant Set Points

Set Points for alarms, control devices, protective devices, breakers, etc. shall be established by original design, approved procedures or approved plant modifications. Set Points shall not be changed except in accordance with approved procedures or approved plant modifications. Any deviation to this policy must be approved in writing by the Manager of Plant Operations and the Operations and Maintenance Director.

5.16 Independent Verification of Components

When called for in plant procedures, components shall be independently verified to be in their proper alignment by the following guidelines:

a. Switches, breakers must be independently checked by two (2) separate personnel visually sighting these components in the proper position. Remote light indicators are acceptable where supplied for verification use. If this verification is being performed after the completion of a Surveillance Test, the person doing the independent verification must be different from the person who signed the first position check as part of the conduct of the surveillance procedure.

b. Verification of valve positions will be as follows:

1. If the valve has remote indication, two (2) independent personnel may use that remote indication for their verification.

2. For manual valves, two (2) independent checks of position must be performed. Each party will verify its proper position by physically turning the valve in the closed direction. If a valve is found to be in an unexpected position, inform the Shift Foreman or Shift Supervisor and obtain further guidance before changing the valve position. For valves that are difficult to get to (i.e., need ladders to reach or other physical difficulties) it is permissable for one person to operate the valve and a second person to perform the second verification visually. This option will only be accepted as the second check when the second party can by his proximity certify operation was sufficient to determine proper valve position.

5.17 Components Found Out of Desired Position

Any time a plant component is found out of its proper plant required position, the following procedure will be followed:

a. Personnel finding a component out of position will notify the Shift Supervisor/Shift Foreman immediately.

FOR USE IN UNIT I ONLY

b. The Shift Supervisor/Shift Foreman shall evaluate plant/system conditions to determine the appropriate position of the component in question. If it is actually out of position, the Shift Supervisor/Shift Foreman shall have the component returned to its required position and the system checked for operability.

c. The Shift Supervisor/Shift Foreman will investigate the reason the component was out of position. A log entry will be made including component, person finding problem and corrective action taken.

d. For critical components, the Shift Supervisor/Shift Foreman will fill out a Plant Incident Report with pertinent information including the investigation into the possibility of deliberate acts to cause a problem in the plant and forward copies to the Operations and Maintenance Director and the Manager of Plant Operations.

e. The Operations and Maintenance Director and the Manager of Plant Operations will determine if any further action is required.

ATTACHMENT I

TITLE _____

PLANT INCIDENT REPORT NO. _____

DATE _____ TIME OF INCIDENT _____

Plant Conditions

Sequence of Events

Environmental Impact

Personnel Safety Impact

Discussion

Conclusion

Items Incorrect/Lessons Learned

Corrective Actions

SUBMITTED _____

APPROVED _____
Manager - Plant Operations

cc: Vice President, TMI-1
Operations and Maintenance Director, TMI-1
PRG Chairman, TMI-1
Operator Training Manager
Licensing Department
Manager, Safety Review, TMI-1
Training Coordinator, TMI-1

ATTACHMENT II

PLANT INCIDENT REVIEW ATTENDANCE REPORT

PLANT INCIDENT REPORT NO._____

Crew Briefed _____ Briefed by _____

Date/Time_____ _____

Personnel in Attendance

Personnel from Crew needing Briefing

NAME	DATE COMPLETED	SIGNATURE

GPU Nuclear

GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

File: Procedures/ Policies

3000-84-096

March 2, 1984

TO: TMI-I SHIFT SUPERVISORS

SUBJECT: COMMAND RESPONSIBILITIES

Nuclear generating facilities have the potential to significantly impact the health and safety of the public. This potential impact places a special burden and responsibility on those who manage and command operations at the Three Mile Island Nuclear Station.

The first line of defense in protecting and assuring the health and safety of the public and the safety of personnel within the plant is the safe operation of all plant systems and components. You, as the Shift Supervisor, have the primary management responsibility until properly relieved, for the safe operation of the plant under all conditions occurring on your shift. Accordingly, you are directly charged with both the responsibility and the command authority over all shift operations, and maintenance activities, and implementation of radiological controls under normal and abnormal conditions. Both the supervisor coming on shift and the supervisor being relieved shall make certain they review, convey and understand plant status and on-going activities and that the activities are deemed to be in accordance with safety requirements.

Your responsibilities require you to constantly maintain the broadest perspective of operational conditions potentially affecting the general public, TMI personnel, and the safety of the plant. Maintenance of this broad perspective shall be your highest priority at all times when you are on duty. In this regard, in times of emergency, you should be sure never to become so involved in any single operation that you are preoccupied to the extent that you might not provide adequate direction when multiple operations are required in the Control Room. During accident situations while functioning as Emergency Director you shall remain in the Control Room to manage and direct the activities of the Shift Foreman, Control Room Operators, Shift Technical Advisor, Radiological Controls Personnel, other plant operators and required support personnel in accordance with the approved Emergency Plan until properly relieved.

An essential element of protection of public health and safety is timely notification of State, local, NRC and Company officials in the event of an accident. There should be no reluctance on your part to initiate the notifications called for by the Emergency Plan if conditions indicate a potential threat to public health or safety even if more evaluation is necessary to confirm the existence of such a threat. Further, it is imperative that you provide the opportunity for guidance and direction from the line management to which you report by prompt notification to them of the existence of abnormal conditions. In making these reports both to the State, local, NRC and Company officials the following principles must be observed:

- Promptly report all facts and other information concerning plant conditions and the potential threat to the public.
- Be thoroughly and totally candid in your reports and do not withhold any information.
- Answer any questions asked to the best of your ability, whether or not they appear to you to be pertinent to the situation at hand.
- Make every reasonable effort to convey information so that the recipients have an understanding of the significance of the report including the degree of uncertainty that may exist as to plant conditions and the prospect for further degradation in the situation.

In any abnormal event or unusual occurrence, whether or not it falls into one of the emergency event classifications, it is also of the utmost importance that the Communications Division's Duty Representative be informed as soon as possible. It is essential that the Communications Division receive early notification so they may be prepared to respond to public and press inquiries.

Constant, vigilant recognition of your management role to maintain a command overview of the situation, to make decisions and to direct operations is the most important element in executing your responsibility to protect under all conditions, the health and safety of the public, the personnel on your shift, and the safe operation of plant systems and components under normal, off normal, and accident conditions.

This letter replaces and supersedes our letter to you, same subject, dated May 25, 1983.

H. D. Hukill
Vice President & Director, TMI-I

P. R. Clark
President

PRC/HDH/MJR/dds

cc: M. J. Ross, Manager, Plant Operations TMI-I
R. J. Toole, Operations and Maintenance Director TMI-I
CARIRS - TMI

GPU Nuclear

TR

ATTACHMENT 5

-2682.10

Title	Revision No
Trainee Evaluation Once Back On-The-Job	0-00
Applicability Scope	**Responsible Office**
All Training and Education Department Personnel	Educational Development
This document is important to safety ☐ Yes ☒ No	**Effective Date** 04/15/85

List of Effective Pages

Page	Revision
1.0	C-00
2.0	0-00
3.0	0-00
4.0	0-00
5.0	0-00
E1-1	0-00
E1-2	0-00
E1-3	0-00
E2-1	0-00
E2-2	0-00
E2-3	0-00

	Signature	Concurring Organizational Element	Date
Originator	Diane B. Suter	Educational Dev. Coordinator, TMI	3/12/85
Concurred by	[signature]	Manager, Corporate Training	3-12-85
	Roland D. Denton	Manager, Plant Training - OC	3/12/85
	[signature]	Manager, Plant Training - TMI	3/12/85
Approved by	[signature]	Manager, Educational Development	3-12-85
	[signature]	Director, Training & Education	3-15-85

A0001051 3-8

GPU Nuclear	TRAINING AND EDUCATION DEPARTMENT PROGRAM DEVELOPMENT MANUAL	Number 6200-ADM-2682.10
Title	Trainee Evaluation Once Back On-The-Job	Revision No. 1

1.0 PURPOSE:

The purpose of this procedure is to establish a process to evaluate training program effectiveness by collecting feedback data from trainees and their supervisors when training is completed and they are back on-the-job.

2.0 APPLICABILITY AND SCOPE:

2.1 This procedure has GPUNC wide applicability.

2.2 This procedure will become effective upon the date of publication.

3.0 DEFINITIONS:

3.1 Survey - a detailed study or inspection, as by gathering information through observations, questionnaires, etc. and analyzing it.

4.0 PROCEDURE:

4.1 In order to evaluate the effectiveness of training, data shall be collected from trainees and their supervisors when the training is completed and the trainees are back on the job.

4.1.1 The Manager of Training shall determine which specialty training courses and/or training programs' trainees are to be evaluated in accordance with this procedure.

4.1.2 The Manager of Training shall appoint a person to act as evaluator to collect this data for the training programs conducted at the site.

4.1.3 The evaluator should conduct the surveys from 4 months to 10 months after training is completed for trainees coming out of initial programs using one of the methods outlined in 4.3.

4.1.4 For requalification/cyclic/refresher training the evaluator shall take a periodic sampling of qualified job incumbents using one of the methods outlined in 4.3.

4.1.5 Required reviews will be added to appropriate program descriptions.

4.2 There are 5 questions that the evaluator should address:

- How do employees rate the effectiveness of training?
- How job-relevant do employees find training?
- How well is training timed to meet actual job demands?
- What specific tasks require more emphasis during training?
- What topics require less emphasis?

4.2.1 The questions that are asked of trainees and supervisors should support these five areas.

4.3 The evaluator shall accomplish data gathering using any one of the four methods listed below.

4.3.1 In Person Interviews are the most reliable of the survey methods, because the evaluator, acting as interviewer, can pursue particular responses. There is less chance of misinterpreting a response.

4.3.1.1 The questions found on the interview forms, Exhibits 1 and 2 are appropriate for in person interviews.

4.3.1.2 Explain to the trainee or supervisor the purpose of the interview.

4.3.1.3 All responses shall be summarized on the inverview form.

4.3.1.4 All interviews shall be conducted in a quiet and private area.

4.3.2 Telephone Interviews are also a reliable means of gathering data.

4.3.2.1 The questions found on the interview forms, Exhibits 1 and 2, are appropriate for telephone interviews.

4.3.2.2 Explain to the trainee or supervisor the purpose of the interview.

4.3.2.3 All responses shall be summarized on the interview form.

4.3.3 Mailed questionnaires are the least desirable method of data gathering because the interviewer does not have the ability to question the trainee or supervisor concerning vague or ambiguous responses. However, a mailed questionnaire can be followed up with an interview. Mailed questionnaires are a good means of gathering data when time or other job commitments are a consideration.

4.3.3.1 When using a mailed questionnaire, a cover letter from the Training and Education Department should be included. This letter should:

- explain the purpose of the questionnaire
- give clear directions including where the questionnaire should be sent upon completion
- solicit the individuals help
- thank the respondent for his time.

4.3.3.2 The questions found on the interview forms, Exhibit 1 and 2, are appropriate for mailed questionnaires.

4.3.4 Required reviews completed by the supervisors of trainees once back on the job is another method. If a required review is selected then the frequency of administration shall be determined by user group management and Training and Education Department.

4.3.4.1 A list of specific duties designed for a specific job classification may be developed and used with Exhibit 2. This list can serve as an aid to the person performing the evaluation. This list should be incorporated as an attachment in the particular training program's Program Description.

4.4.5 Trainees in the same training session should be surveyed in the same manner.

4.4.1 The following information shall be included on all types of surveys:

Name (optional for trainee)
Title
Date of Survey
Dates of Training
Name of Training Program
Evaluator
Type of Survey

4.5 All data should be reviewed and analyzed and a summary report prepared which summarizes the significant findings and recommendations for improvement.

4.5.1 Supervisor and Trainee information should be compared to discover inconsistencies.

4.5.2 Trainee information should be compared to the individual's course or program performance.

4.5.3 Requests for modifications to training based on these surveys shall be forwarded to the appropriate training management for consideration by the Technical Content Review and Interface Process. (See 6.2)

4.6 The individual evaluations will be kept in the Training Department for a period of 3 years. The purpose of the retention will be to review the evaluations for trends in recorded training recommendations. Emerging trends will be used as input to revise and/or update training. A review of remedial help will be made for those individuals exhibiting isolated training needs.

5.0 RESPONSIBILITIES:

5.1 Director, Training and Education is responsible for developing and updating this procedure and for assisting GPUNC Divisions in its implementation.

5.2 Manager of Site Training:

5.2.1 Determines which specialty training courses' and/or training programs'trainees are to be evaluated.

5.2.2 Appoints a person to act as evaluator for this procedure.

5.3 This program supervisor or manager shall effect liaison with the user group supervisors to:

5.3.1 Allow and encourage the employees who have recently completed training programs to cooperate with the evaluator in collecting the data outlined in this procedure.

5.3.2 Complete surveys on their employees who have recently completed a specialty training course and/or training program.

5.3.3 Assure that required reviews are completed, forwarded to Training, a summary report prepared, and recommendations for revisions completed.

6.0 REFERENCES:

6.1 Training and Education Department Training System Development Process, 6200-ADM-2682.01

6.2 Technical Content Review and Interface Process, 6200-ADM-2682.03.

6.3 Evaluating Training Programs, Donald L. Kirkpatrick, Madison, Wisconsin: American Society of Training and Development, 1975.

7.0 ATTACHMENTS:

7.1 Exhibit 1 - Trainee Survey

7.2 Exhibit 2 - Supervisor Survey

Exhibit 1
Rev. 1
05/16/85

GPUN TRAINING AND EDUCATION

TRAINEE SURVEY

Name: Title:

Todays Date: Dates of Training:

Instructor: Name of Training Program:

Method of survey:

Mailed questionnaire |__|

In person interview |__|

Telephone interview |__|

	Yes	No
1. Have you received additional training since being assigned to your job?	|__|	|__|

If yes, please explain: _____

_____

_____

	Yes	No
2. Have you experienced unexpected difficulties or problems in job performance?	|__|	|__|

If yes, please explain: _____

_____

_____

Exhibit 1
Rev. 1
05/16/85

	Yes	No
3. Has your supervisor given you instructions different from those you learned during training?	☐	☐

If yes, please explain: _____

_____

_____

	Yes	No
4. Have you noticed other differences between the training you received and what is expected of you now?	☐	☐

If yes, what are they: _____

_____

_____

	Yes	No
5. Have changes occurred in your job since you were assigned?	☐	☐

If yes, what were they: _____

_____

_____

If yes, how were you prepared to handle these changes?: _____

_____

_____

6. What tasks do you find the easiest? _____

7. Which tasks do you find especially challenging? _____

8. What specific training benefited you the most? _____

	Yes	No
9. Have errors been committed on the job?	☐	☐

If yes, what were they? _____

10. How could training better have prepared you for your job? _____

11. What suggestions would you make to improve training? _____

12. What additional training do you need for your job? _____

GPUN TRAINING AND EDUCATION

SUPERVISOR'S SURVEY

Exhibit 2

Employees Name: Title:

Today's Date Dates of Training or Training Cycle

Supervisor: Name of Training Program:
(Requal or Initial)

Method of Survey

1. Mailed Questionnaire ☐
2. In-person Interview ☐
3. Telephone Interview ☐
4. Required Review ☐
(Requires signature of supervisor and employee)

---

1. What tasks is this employee best prepared to perform?

2. What additional training has the employee received since he/she was assigned job responsibilities?

3. Is this employee able to diagnose conditions and identify alternate solutions for accomplishing a task?

4. Have you observed unexpected results from Training? If yes, describe those results.

5. Has this employee been commended or warned for unusually good or poor job performance? If yes, describe circumstances.

6. Has extra effort by others been required due to personnel errors or lack of adequate training. If yes, describe in detail.

7. Has this employee's training prepared him/her to interface with and/or direct the activities of others, both within and external to their organization. If not, describe deficiencies.

8. Has this employee's training prepared him/her to locate, use and properly applicable procedures (Operating, Administrative, Maintenance, Surveillance, etc.)? If not, describe circumstances.

9. Has this employee's training prepared him/her to properly maintain the records and documentation associated with his/her position.? If not, describe his/her deficiencies.

10. Has this employee's training prepared him/her to properly operate and/or maintain systems and equipment under his/her cognizant. If not, describe deficiency.

11. Has this employee's training prepared him/her to be able to comply with government and company regulations applicable to his/her position? If not, describe circumstances.

12. Which tasks require excessive time for this employee to complete?

13. What kinds of errors has this employee committed indicating a lack of and/or improper training.

14. Has this employee committed errors indicative of improper training which caused equipment damage or failure? If yes, describe errors in detail.

15. For what tasks was he/she inadequately prepared?

16. Has training for this individual created the need to identify additional training? If yes, describe those needs.

17. Based on your observations, what suggestions would you make to improve initial or requalification training.

_____

Supervisor's Signature Date

_____

Employee's Signature Date

Proposed Attachment to Initial and
Requalification RO Training Program Descriptions

Areas for Evaluation

Reactor Operator: Normal Plant System/Component Operations

- Perform technical Specification Surveillances IAW approved procedures.
- Perform Operations Surveillances IAW approved procedures.
- Take log readings; sensitive to trends and out of spec readings.
- Perform switching and tagging.
- Shift turnover communications.
- Communication/Direction of Auxillary Operators.
- Power Operations; plant manuevering.
- Overall plant control (e.g., Heatup, Rod position manipulations etc.).
- Adherence to Government and Company regulations.
- Routine equipment operation and monitoring.
- Proper response to control room alarms.
- Effective utilization of reference material (I.e., prints and elec. diagrams).
- Adherence and knowledge of Quality Control and Radiological Control procedures.
- Use of plant computer and CRT system.
- Identification of equipment problems requiring operator response.
- Communication and knowledge of system (Met-Ed) dispatching.
- Knowledge and adherence to NPDES permit.
- Maintenance of Control Room Operator Log book.
- Knowledge and use of plant procedures.
- Knowledge/Adherence/Use of Administrative procedures.
- Maintenance of shift records.
- Use of communications equipment.

Proposed Attachment to Initial and
Requalification SRO Training Program Descriptions

Areas for Evaluation

Senior Reactor Operator: Normal Plant System/Component Operation

- Proper control of ESAS and EFW systems (e.g., Redundancy, Removing from service, Returning to service and Testing).
- Adherence to Technical Specification including actions when LOO exceeded.
- Adherence to Government and Company regulation.
- Directions of trends and out of spec readings during log review.
- Crew turnover briefings.
- Coordination of support personnel/groups.
- Prioritization of work/evolutions
- Implementation of the Switching and Tagging procedures.
- Power Operations plant maneuvering
- Overall plant control (e.g., Heatup, rod position manipulation, load change coordination etc.).
- Supervision of equipment operation.
- Proper response to control room alarms.
- Effective Utilization of reference material.
- Implementation, adherence and knowledge of Quality Control and Radiological Control Procedures.
- Use of plant computer and CRT system.
- Identification of equipment problems and determination of required response or maintenance.
- Maintenance of knowledge and qualification of system (Met-Ed) switching and tagging.
- Communication, knowledge and implementation of system dispatching requirements.
- Knowledge and adherence to NPDES permits.
- Maintenance of shift foremen log book.
- Knowledge, use and coordination of plant procedures.

- Knowledge/Adherence/Use of Administrative procedures.
- Use of communication equipment.
- Control of plant chemistry.
- Conduct of audits to insure compliance with company administrative procedures.
- Overall knowledge of plant status and integrated system operation.
- Determination of the requirement and content of pre-evolution briefings.
- Insurance that proper shift manning is maintained.
- Recommend Operations policy/procedural changes.

Proposed Change to TMI-1 Replacement Operator Training Program Description (RO)

Change paragraph 7.8.1 as follows:

f. Regularly scheduled participant critiques (including once on-the-job per 6200-ADM-2682.10). The completed evaluations shall be forwarded to the Manager of Plant Operations TMI-1 for review and comment. Upon completion of this phase of the review, the documents will be transmitted to the Operator Training Manager who will also review and comment as appropriate.

The documents will then be transmitted to the Supervisor of Licensed Operator Training who will prepare a summary report of all of the observations and recommendations made by the supervisory personnel. When the report is complete the Supervisor Licensed Operator Training, Operator Training Manager, and Manager of Plant Operations TMI-1 will meet to review the scope of the summary report and determine an appropriate course of action for each of the recommendations. The meeting shall be conducted consistent with the TSD Procedure, 6200-ADM-2682.03, "Technical Content Review & Interface Process".

g. Supervisory performance evaluation once on-the-job.

The supervisory performance evaluation once on-the-job shall be conducted approximately six months after the candidates have received their licenses utilizing Exhibit 2 of 6200-ADM-2682.10 to evaluate training-related performance in these areas listed in Appendix C of 6211-ADM-2611.01. Other performance evaluations conducted on-the-job shall be conducted as part of the requalification training program (section 7.3.5).

Change paragraph 7.7.1 to read:

At the conclusion of each phase of training and once on-the-job for approximately six months....

Proposed Change to TMI-1 Senior Reactor Operator Training Program Description (SRO)

Change 7.9.1. to read:

At the conclusion of each phase of training and once on-the-job for approximately six months.....

Change 7.6.1 to read as follows:

f. Regularly scheduled participants critiques (including once on-the-job per 6200-ADM-2682.10) The completed evaluations shall be forwarded to the Manager of Plant Operations TMI-1 for review and comment. Upon completion of this phase of the review, the documents will be transmitted to the Operator Training Manager who will also review and comment as appropriate.

The documents will then be transmitted to the Supervisor of Licensed Operator Training who will prepare a summary report of all of the observations and recommendations made by the supervisory personnel. When the report is complete the Supervisor Licensed Operator Training, Operator Training Manager, and Manager of Plant Operations TMI-1 will meet to review the scope of the summary report and determine an appropriate course of action for each of the recommendations. The meeting shall be conducted consistent with the TSD Procedure, 6200-ADM-2682.03, "Technical Content Review & Interface Process".

h. Supervisory performance evaluation once on-the-job.

The supervisory performance evaluation once on-the-job shall be conducted approximately six months after the candidates have received their licenses utilizing Exhibit 2 of 6200-ADM-2682.10 to evaluate training-related performance in areas listed in Appendix C of 6211-ADM-2611.01. Other performance evaluations conducted on-the-job shall be conducted as part of the requalification training program (section 7.3.5)

Proposed Change to Licensed Operator Requalification Training Program Description

Change second paragraph of section 7.3.5, Skills Evaluation System, to read:

Evaluation of licensed personnel job performance shall be utilized to relate job performance to requalification training. It may also indicate that changes to the respective initial training programs are necessary. The Manager, Plant Operations shall provide the Supervisor, Licensed Operator Training or the Operator Training Manager with periodic observations identifying job performance results related to requalification. The completed evaluations shall be forwarded to the Manager of Plant Operations TMI-1 for review and comment. Upon completion of this phase of the review, the documents will be transmitted to the Operator Training Manager who will also review and comment as appropriate.

The documents will then be transmitted to the Supervisor of Licensed Operator Training who will prepare a summary report of all of the observations and recommendations made by the supervisory personnel. When the report is complete the Supervisor Licensed Operator Training, Operator Training Manager, and Manager of Plant Operations TMI-1 will meet to review the scope of the summary report and determine an appropriate course of action for each of the recommendations. The meeting shall be conducted consistent with the TSD Procedure, 6200-ADM-2682.03, "Technical Content Review & Interface Process".

Each licensed individual's performance shall be evaluated during the following situations:

1) Annually during Nuclear Plant simulator exercises (including applicable Basic Principles Trainer Simulator (BPTS) exercises)

2) Plant Drills

3) Annually, on-the-job

4) During actual abnormal/emergency conditions

Performance evaluations during simulator exercises and plant drills shall be conducted by the Manager, Plant Operations or his designee utilizing the format of Appendix B. The on-the-job evaluation shall be conducted by supervisory personnel utilizing Exhibit 2 of 6200-ADM-2682.10 to evaluate training-related performance in these areas listed in Appendix C. The evaluations related to performance during actual abnormal or emergency conditions shall be conducted on a case by case basis, utilizing AP 1044 as guidance.

GPU Nuclear | Training and Educatic Program Development Manual | 6200-ADM-2682.03

Title
GPU Nuclear - Technical Content Review & Interface Process

Revision No.
0-00

Applicability/Scope
All Training & Education Department Personnel

Responsible Office
Educational Development

This document is important to safety ☒ Yes ☐ No

Effective Date
April 15, 1985

List of Effective Pages

PAGE	REVISION
1.0	0-00
2.0	0-00
3.0	0-00
4.0	0-00

	Signature	Concurring Organizational Element	Date
Originator	Diane B. Sutter	Educational Development Coord.	3/11/85
Concurred by	Harold R. Ross	Manager Corporate Training	3.11.85
	Roland D. Fenter	Manager Plant Training - OC	3/12/85
	[illegible]	Manager Plant Training - TMI	3/11/85
Approved by	[illegible]	Manager Educational Development	3-11-85
	[illegible]	Director Training & Education	3-12-85

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1.0 Purpose

1.1 The purpose of this procedure is to establish a process for the technical content review of training materials and assure an ongoing interface between the Training Department and the user groups.

2.0 Applicability and Scope:

2.1 This procedure has GPUNC wide applicability.

3.0 Definitions:

3.1 User Department - That department responsible for the personnel being trained.

4.0 Procedure:

4.1 Each site training section shall establish a technical content review mechanism for each functional organization on site that is supports.

4.1.1 The interface group shall be made up of key personnel in the Training Department and the user group.

4.1.2 The Training Department and functional organizations shall provide qualified personnel to serve in the group; including Technical Functions, Rad Con/Environmental Control, and Emergency Planning as appropriate in the review and approval process.

4.1.3 Other interested personnel may be invited to participate in or observe the process.

4.2 Purpose of content review process

4.2.1 <u>Verify the need for instruction by</u>:

- Reviewing task analysis
- Assessing training needs resulting from job performance of programs' graduates.
- Identifying current and emerging needs (technology, job scope, etc.)

- Reviewing needs analysis
- Interpreting new developments in the field
- Supporting, when required, Training Department budget request

4.2.2 Verify content of the course by:

- Selecting tasks for training
- Determining where in the program the task should be taught, (Classroom, OJT, simulator, etc.)
- Reviewing training and performance standards.

4.2.3 Provide Service to the Training Department and User Groups by:

- Assisting with long-range planning
- Serving as speakers to management if needed.
- Developing/reviewing and recommending to management the screening standards for trainees applying for admission into the training program.
- Assisting with the development of the on-the-job related instruction.
- Advising on programs to meet the needs of special trainees.
- Evaluating the instructional programs. Refer to procedure - Program Evaluation For Process, 6200-ADM-2682.11; and Course Evaluation, 6200-ADM-2682.12.

4.3 Each group shall determine the frequency of its meetings. Nothing in this procedure is meant to discourage the frequent individual activities and interfaces between training and the user organizations. The company recognizes that these are vital to the proper development and implementation of high quality training programs.

4.4 When appropriate, a written agenda should be prepared prior to the meeting.

4.5 Minutes shall be kept and distributed to appropriate personnel to include the Manager of Site Training.

5.0 Responsibilities

5.1 Director, Training and Education is responsible for maintaining this procedure and for assuring adherence to its requirments.

5.2 Manager, Educational Development is responsible for developing and updating this procedure and for assisting the Plant and Corporate Training Department in its implementation.

5.3 Division Directors are responsible for implementing this procedure and for complying with its requirements.

6.0 References

6.1 Training and Education Department Training System Development Process, 6200-ADM-2682.01.

6.2 Program Evaluation For Process, 6200-ADM-2682.11.

6.3 Course Evaluation, 6200-ADM-2682.12.

7.0 Attachments

NONE

GPU Nuclear

TRAINING & EDUC... PROGRAM DEVELOPMENT MANUAL

Number: 6200-ADM-2682.01

Title: Training & Education Department Training System Development Process

Revision No: 0-00

Applicability/Scope: All Training & Education Department Personnel

Responsible Office: Educational Development

This document is important to safety ☐ Yes ☒ No

Effective Date: 04/15/85

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Pages	Revision	Pages	Revision
1.0	0-00	E4-1	0-00
2.0	0-00	E4-2	0-00
3.0	0-00		
4.0	0-00		
5.0	0-00		
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12.0	0-00		
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18.0	0-00		
19.0	0-00		
E1-1	0-00		
E2-1	0-00		
E3-1	0-00		

	Signature	Concurring Organizational Element	Date
Originator	[signature]	Manager, Educational Development	3-25-85
Concurred by	[signature]	Manager, Corporate Training	3 25 85
	[signature]	Manager, Plant Training - OC	3.25.85
	[signature]	Manager, Plant Training - TMI	3/25/85
Approved by	[signature]	Director, Training & Education	3-26-85

FORM 1000-POL 1218.01 (12-82)

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1.0 PURPOSE

The purpose of this procedure is to establish and describe the process used for developing training programs by the GPU Nuclear Corporation's Training and Education Department and for specified programs developed for the department by vendors.

2.0 APPLICABILITY/SCOPE

2.1 This procedure applies to all persons assigned to the GPU Nuclear Training and Education Department. It is recommended that training programs developed by other GPU Nuclear divisions follow this process.

2.2 Documents published prior to the effective date of this procedure shall be brought into compliance with the TSD process at such time as the program is required to be submitted to INPO for accreditation.

2.3 The Director of Training and Education may exempt a particular program, or course(s) within a given program, from being developed in accordance with the TSD process.

3.0 DEFINITIONS

3.1 Training System Development (TSD) process is the systematic approach to program development. It is a step-by-step approach to training program development which incorporates the specialized techniques of modern instuctional technology. See Exhibit 1, TSD Process. Exhibit 2 shows GPU Nuclear's TSD Model. Exhibit 3 shows the full program development process which makes up TSD. Exhibit 4 shows the organization of the procedures and guidelines of the TSD process.

The steps in this overall process and their locations in the procedure are:

		Paragraph
4. 1	Training advisory council	4.1
4. 2	Technical content review and interface	4.2
4. 3	Request for Training (needs analysis)	4.3
4. 4	Job and task analysis[1]	4.4
4. 5	Training analysis[2]	4.5
4. 6	Training standards	4.6
4. 7	Program description	4.7
4. 8	Instructional process[1]	4.8
4. 9	Lesson Plans	4.9
4.10	Trainee text materials[1]	4.10
4.11	Trainee examinations[1]	4.11
4.11-4.16	Evaluation	4.11-4.16

3.2 User department/group - that department which utilizes the services of the Training and Education Department to train its personnel.

1 These steps are covered by separate guidelines which can be found in the Program Development Manual. The other steps are covered by separate procedures.

2 Training analysis is treated broadly in the Task Analysis and Training Standard Guidelines.

3.3 Needs analysis - The needs analysis is a process which reviews job performance problems and/or commitments to assess the relative urgency of developing or revising training programs. It also assigns program development priorities. The development of a comprehensive curriculum for all jobs cannot be undertaken simultaneously within reasonable resource limits. Therefore, it is necessary to make a comparative assessment of the needs for new and revised programs.

3.2.1 The GPUN Training Policy and Training Plan both address the needs analysis process in relationship to the issues of personnel performance.

3.2.2 Needs analysis is generally initiated through completing a Request for Training Form.

3.4 Job analysis is the process of evaluating data regarding the tasks and conditions of a job. It provides an objective-data base of job-related information from which training programs are developed, based upon how the job is actually performed.

3.5 Task analysis is the process which examines individual tasks to determine the required steps (generally called action steps), cues, and skills. It also involves evaluating tasks on the basis of task importance factors such as: task performance and task knowledge levels, mental and physical difficulty, operational and safety related importance, frequency of performance, and the relative number of job incumbents who perform the task. Task analysis data are then evaluated to decide which tasks must be included in the initial and/or ongoing training programs. This last step is generally considered to be a part of task analysis.

3.6 Training analysis is the process that takes the results of task analysis and determines which tasks, skills, and knowledge require actual training. It is also the process where each task and its action steps are analyzed to determine what knowledge is required by the trainee in order to safely and effectively perform that task. Many tasks in a job are so simple or routine that formal training is not needed. Other tasks are so complex, or the importance of proper performance is so high, that formal training is needed.

3.7 A training standard is a document which lists all the training requirements as behavioral objectives for each job position or specialty course. The training standard is approved by the user group in conjunction with the Manager of Site Training. The collection of all the individual training standards for each program forms the complete Corporate Training Standard document. The training standard may be either a generic document or a generic with site-specific appendices.

3.8 Program descriptions provide important need-to-know information to the instructor as well as anyone else with a special interest in the course. It is divided into several sections and typically includes the following: Table of Contents, Introduction, Program Structure, Instructor Training Qualification Information, Program Prerequisites, Trainee Attendance And Evaluation Requirements, Training Documentation, Training Schedule, Program Maintenance, and Program/Course Preparation Checklists or Procedures.

3.9 Lesson Plans are teaching guides which are composed of the terminal and major enabling objectives, a semi-narrative or outline format, and the instructor's activities. Lesson Plans should contain a concise summary of the essential information to be presented to the trainee.

3.10 Trainee text materials include: trainee texts, trainee workbooks or laboratory manuals, and reference materials. In a broader sense it may be necessary in the course of developing texts to also develop slides, transparencies, audio or video tapes.

3.11 Evaluation is the process of analyzing information about the program/course, instructor, and trainee which enables the Training Department to make decisions to improve the quality and effectiveness of the training. There are several levels of evaluation:

3.11.1 Evaluation during development - The first phase of program evaluation is conducted during the development of a new training program. This phase provides a quality control function to ensure that each program document or component is at an adequate level of quality to assure the success of the overall development process. Two illustrations of this type of evaluation are: review committee assessments and completion of Lesson Plan checklists.

3.11.2 Pilot evaluation - The second phase evaluates a "pilot" session of a newly developed training program given to a sample of typical trainees. This trial run determines the ability of the program to bring trainees to mastery of the objectives and identifies any adjustments needed in content, structure, or sequence. In those cases where a tradition pilot cannot be run, a careful evaluation should be made of the first offering.

3.11.3 Trainee evaluation (while in training). The third phase of evaluation focuses on the trainee's performance while in training. This evaluation ensures that periodic reviews are made and reported. Feedback is provided to all critically involved training personnel to include the trainee and the line supervisor.

3.11.4 Instructor evaluation is the fourth phase of evaluation. It focuses on the instructor's performance as it affects instruction. This evaluation identifies the strengths and weaknesses of the instructing staff.

3.11.5 Trainee on the job evaluation is the fifth phase of evaluation. It focuses on the capability of the former trainee to perform on the job. The evaluation determines whether the training is relevant to the actual job and whether the trainee is capable of required performance after training.

3.11.6 Program evaluation is the sixth phase of the evaluation. It is the responsibility of both the Training and Education Department and User Group Management to assure that the programs remain in step with the latest procedures, technology, and regulations. The results of these job performance-oriented evaluations are fed back to the responsible personnel for planning of program revisions.

3.11.7 Course evaluation is another phase of evaluation. There are situations where small courses such as GET or First Aid training will need to be evaluated. The formal program evaluation instrument is designed for the evaluation of large training programs and is not appropriate for the evaluation of these small independent courses. Need may also exist to evaluate only a course within a larger training program. The course evaluation process is a simplified version of the formal program evaluation process. Course evaluation has been designed to increase the evaluation options available to the Training and Education Department.

3.12 Training Advisory Council is a select group of individuals primarily from outside of the Training and Education Department. They are selected from segments of the GPU Nuclear Corporation collectively to advise the Director of Training and Education. This advice centers on broad matters pertaining to the improvement of training programs.

3.13 Technical content review process is a quality control function set up within each site training organization to ensure the validity of the technical content of a course or program. All major technical training programs shall be reviewed by a technical content review process. The review process will involve key personnel from the Training Department, the plant, and/or support divisions as appropriate.

3.14 On-the-Job Training (OJT) - OJT is an integral part of the overall training process. OJT is a formalized process of training which is systematically derived from Job/Task and training needs analysis utilizing the Training Systems Development (TSD) approach to training. This process also utilizes the approved job description/specification that is developed by the Human Resources Department and the applicable user department(s). OJT is that training which is best learned (from an instructional standpoint) by the trainee on the job and focuses on application, integration, and motor skills. It provides a smooth transition for the trainee from the classroom environment into the workplace by providing an opportunity to apply previously learned skills and knowledges and to acquire new job skills and knowledge while actually working under controlled conditions. It provides an opportunity for the trainee to benefit from the extensive background and experience which is held by the job supervisors in a formal, structured manner.

3.15 Guideline - a document which provides information for general consideration in performing a task. It is <u>not</u> intended to establish requirements.

4.0 PROCEDURE

4.1 A Training Advisory Council shall be established in accordance with 6200-ADM-2682.02, Training Advisory Council Procedure.

4.2 Within each site training organization or each major training program, a technical content review and interface process shall be established in accordance with 6200-ADM-2682.03, Technical Content Review And Interface Process Procedure.

4.3 Periodically, individuals from the field, as well as within the training organization, recognize performance problems for which training may be a possible solution. Or, corporate commitments, outside regulatory requirements, etc., might be initiated that may have an impact on new or existing training programs. These observations/commitments can be brought to the attention of those individuals within the training or Human Resource functions who have the responsibility to evaluate their significance and respond accordingly.

4.3.1 If it is determined that there is a performance problem, commitment, etc., then training needs analysis shall be performed in accordance with 6200-ADM-2682.04, Request for Training.

4.3.2 If the Manager of Site Training determines that the problem/commitment is found to be a major training need, requiring either a new course/program or significant modification to an existing one, then a program development team is formed in cooperation with the Educational Development section. He should appoint a member of his staff to become Project Coordinator. Under certain circumstances the Project Coordinator may be appointed from the Educational Department section. (The term project coordinator is used in this

procedure as a descriptive title since this individual's actual title may vary according to that person's position within the organization).

4.3.3 If no training program or course exists to address this problem and training has been identified as the root cause for the problem, then a new training program or course should be developed in accordance with the TSD Process outlined in this procedure.

4.3.4 If a program or course currently exists but is found not to be effective, then modification(s) shall be made to the appropriate documents (task analysis, training standard, lesson plans, trainee text materials and examinations) to correct the concern.

4.4 The Project Coordinator shall ensure that the first step in the development process is to conduct an analysis of what is required. Most programs that will be developed will fall into two categories: programs for training an individual for a job position or a specialty course or program like GET. The Project Coordinator in conjunction with the Manager, Educational Development or the Educational Development Coordinator shall decide in which category the program belongs and choose one of the following options:

4.4.1 If the needed program is for qualifying an individual a job position then a JOB and TASK ANALYSIS shall be performed. The job and task analysis shall be done in accordance with the Task Analysis Guideline found in the TSD Program Development Manual.

4.4.2 If it is a specialty training course, then reference documents governing the skills or functions shall be identified. These shall be researched to enable the program developers to locate potential training requirements.

4.4.3 The Project Coordinator should ensure that a time line/action plan is completed at the start of the development work. This time line/action plan will: identify the critical program development steps that must be accomplished to develop the course or program, the estimated time for each step to be completed and identify the person(s) who is (are) responsible for completing each step. This planning shall include which materials must be reviewed by the technical content review process described in 6200-ADM-2682.03, Technical Content Review And Interface Process Procedure.

4.4.4 The Project Coordinator shall create a development file for keeping all important documents pertaining to the development of this program.

4.5 The Project Coordinator shall ensure that identified training requirements are included in a training standard for the course or program in accordance with 6200-ADM-2682.05, Training Standard procedure. Further guidance can be found in the Training Standard Format and Guideline found in the TSD Program Development Manual.

4.5.1 The Project Coordinator shall submit the completed training standard to the appropriate individual(s) for review and/or approval.

4.5.2 A training program may be submitted for INPO Accreditation before and separate training standard document is developed, if Training Control Record forms (TCR) exist for all lessons that are taught. A training standard shall be developed prior to the second submittal of the program for accreditation.

4.6 The Project Coordinator shall ensure that Program Descriptions are developed in accordance with 6200-ADM-2682.06, Program Description Procedure.

4.7 Instructors should be familiar with the best instructional processes to prepare for the wide variety of learner attributes, styles, and training situations. Before Lesson Plans and trainee text materials are developed, the program development team should review the materials in the Instructional Process Guideline found in the TSD Program Development Manual (the material in this guideline is taught in both the Basic Instructor Course and in appropriate Advanced Instructor Training Modules).

4.8 Lesson plans shall be written for all lessons and/or training modules that are taught. These lesson plans shall be written in accordance with the preferred format described in 6200-ADM-2682.07, Lesson Plan Procedure. The two column lesson plan is the preferred format for the Training and Education Department's lesson plans.

4.8.1 Any use of other lesson plan formats shall first be approved by the Manager of Site Training.

4.8.2 For more guidance in writing lesson plans, instructors should refer to the Lesson Plan Format and Guideline found in the TSD Program Development Manual.

4.9 Trainee materials and training materials shall be developed to match the course objectives and lesson plans.

4.9.1 As a part of program review and evaluations, existing materials or lesson plans should be reviewed to ensure that they do indeed match the objectives.

4.9.2 If it is found that the existing materials do not adequately meet the course and lesson objectives, then these materials shall be modified to bring them into conformance.

4.9.3 Trainee text materials shall be developed in accordance with the Guidelines for the Preparation of Trainee Texts in the TSD Program Development Manual.

4.10 Trainee examinations may be either written, oral or performance or any combination thereof. The construction of these evaluation instruments, processes, or test question bank items shall be developed in accordance with the Guideline For Examination Construction found in the TSD Program Development Manual.

4.11 Newly developed programs or courses should be evaluated via a pilot session or at the very least when the program or course is offered to trainees for the first time. This evaluation will be done in accordance with 6200-ADM-2682.08, Pilot Session [or First-Time Offering] Implementation - Evaluation Process.

4.12 Student evaluation shall be done for the student on his/her training performance while he/she is in training accordance with 6200-ADM-2682.09, Student Performance Evaluation Procedure. The frequency of these evaluations is determined by the Manager of Site Training for particular programs/courses.

4.13 Evaluation of the trainee after he or she has returned to the job after completing training shall be done in accordance with 6200-ADM-2682.10, Evaluation of the Trainee Back on the Job Procedure.

4.14 Instructor evaluations shall be conducted in accordance with 6200-ADM-2607.01, Instructor Evaluation Procedure.

4.15 Formal program evaluation shall be accomplished using the Technical Review Process and the GPU Nuclear Program Evaluation Instrument. This shall be done in accordance with procedures 6200-ADM-2682.03, Technical Content Review and Interface Process; 6200-ADM-2682.11, GPU Nuclear Program Evaluation For Process.

4.16 Small courses that require periodic evaluation should be evaluated in accordance with 6200-ADM-2682.12, Course Evaluation.

4.17 The development and implementation of On-The-Job Training shall be done in accordance with 6200-ADM-2605.02, On-the-Job Training.

5.0 RESPONSIBILITIES

5.1 Director, Training and Education is responsible for approving this procedure and for assuring adherence to its requirements.

5.2 Manager, Educational Development is responsible for developing and updating this procedure and for assisting the Plant and Corporate Training Departments in its implementation.

5.3 Managers, Plant and Corporate Training, are responsible for implementing this procedure and for complying with its requirements.

5.4 User groups are responsible for providing manpower and other appropriate resources for conducting task analysis and training analysis. They are also responsible for reviewing and approving appropriate training documents as specified in each program's Program Description.

6.0 REFERENCES

6.1 GPU Nuclear Corporation's Training Policy

6.2 GPU Nuclear Corporation's Training Plan

6.3 Training & Education Department's TSD Program Development Manual

6.4 Training Advisory Council, 6200-ADM-2682.02

6.5 Technical Content Review Process, 6200-ADM-2682.03

6.6 Request for Training, 6200-ADM-2682.04

6.7 Training Standard, 6200-ADM-2682.05

6.8 Program Description, 6200-ADM-2682.06

6.9 Lesson Plans, 6200-ADM-2682.07

6.10 Pilot Evaluation, 6200-ADM-2682.08

6.11 Instructor Evaluation, 6200-ADM-2607.01

6.12 Student Performance Evaluation, 6200-ADM-2682.09

6.13 Evaluation of the Trainee Back on the Job, 6200-ADM-2682.10

6.14 Program Evaluation for Process, 6200-ADM-2682.11

6.15 Course Evaluation, 6200-ADM-2682.12

6.16 On-the-Job Training, 6200-ADM-2605.02

7.0 Attachments

7.1 Exhibit 1, Training Systems Development.

7.2 Exhibit 2, GPUN Training Systems Development Model.

7.3 Exhibit 3, Program Development Process.

7.4 Exhibit 4, Guideline and Procedure Organization.

EXHIBIT

Training Systems Development

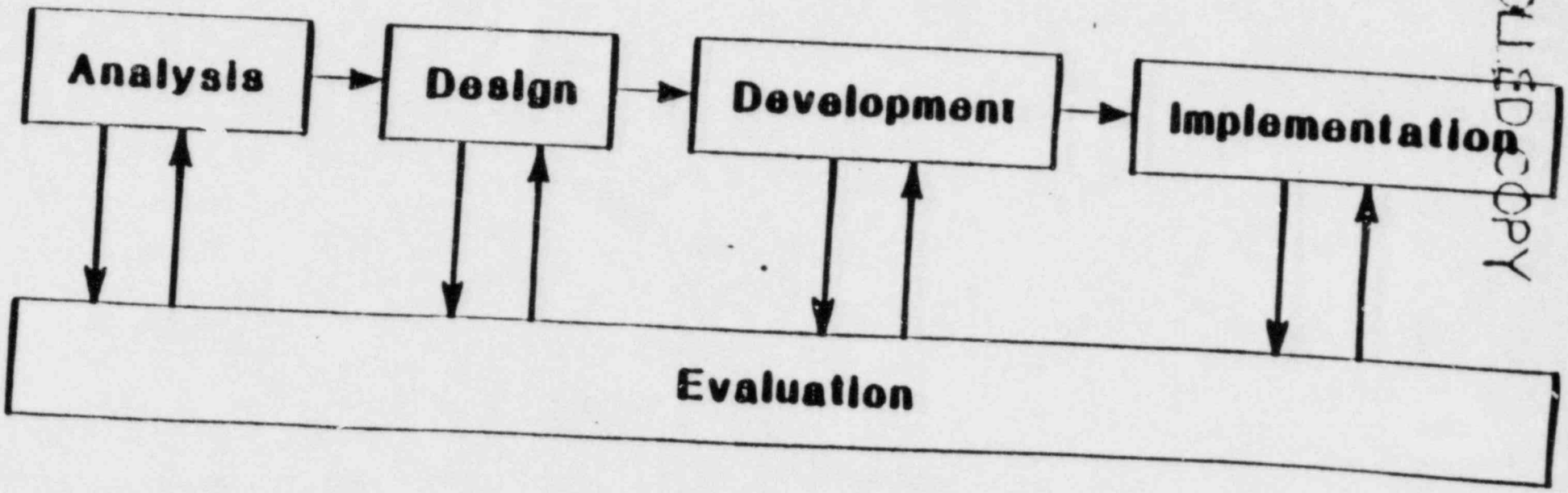


EXHIBIT 2

GPUN
TRAINING SYSTEMS DEVELOPMENT MODEL

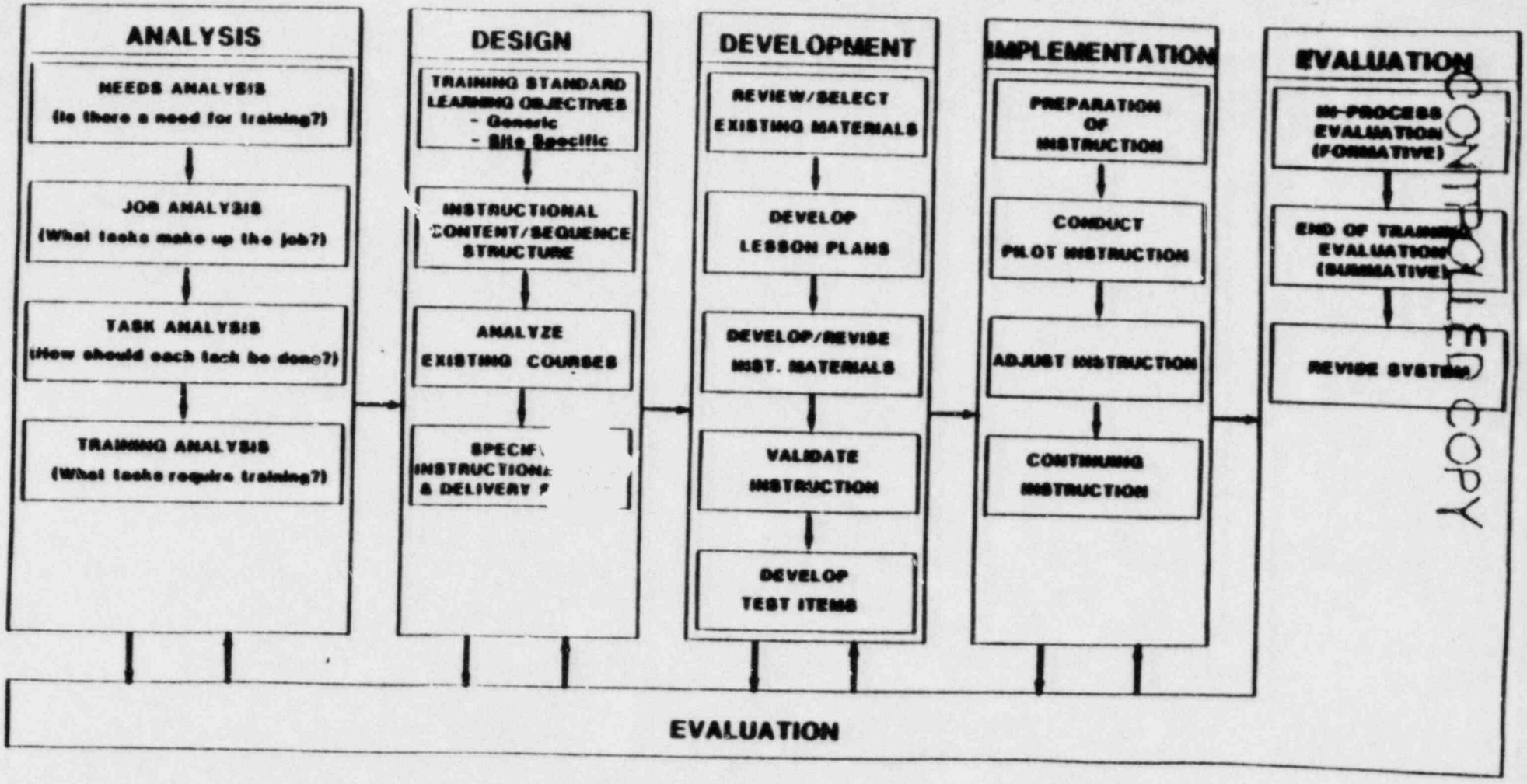
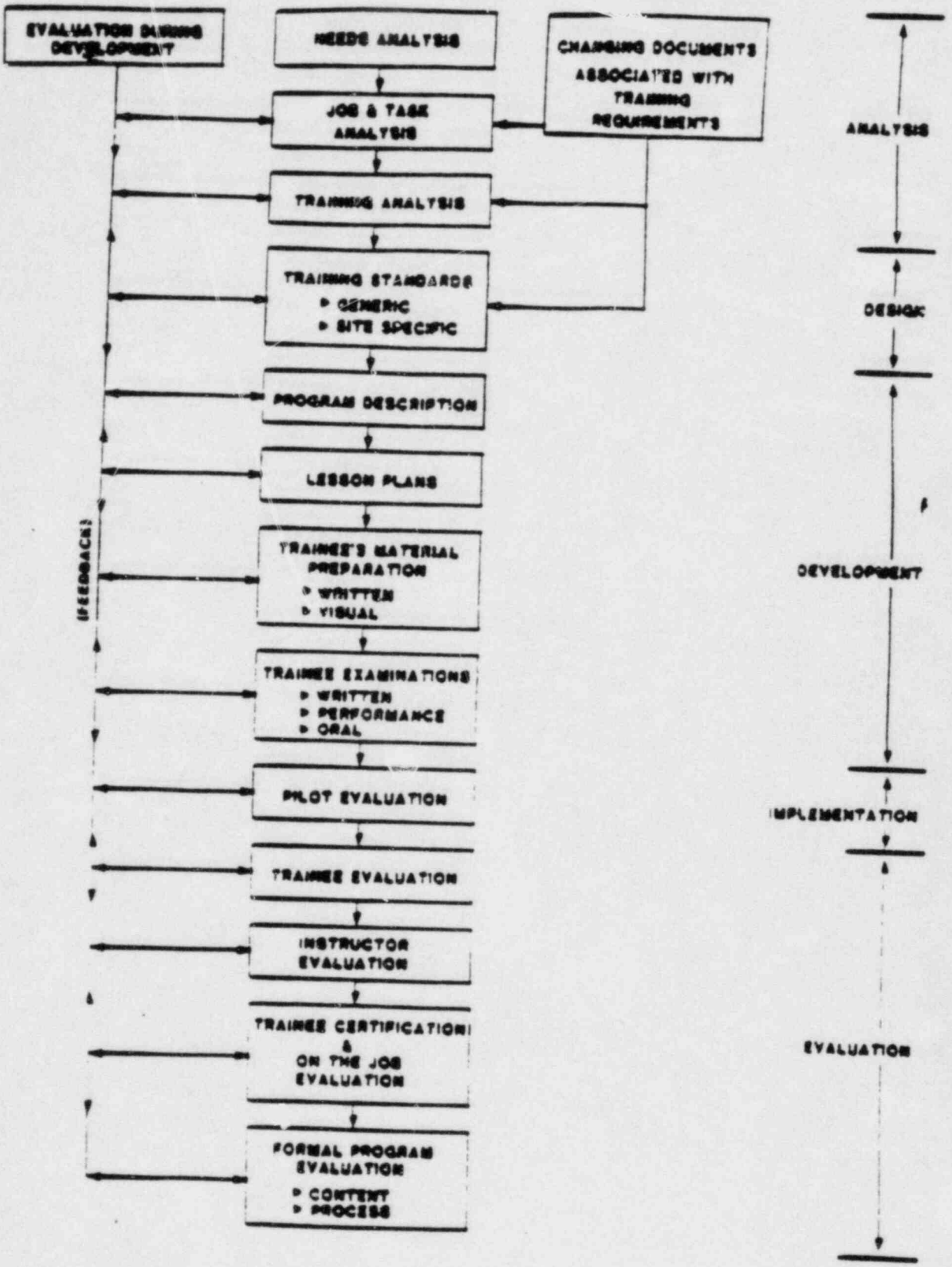


EXHIBIT 3

CONTROLLED COPY

REVISION 0
DECEMBER 18

PROGRAM DEVELOPMENT PROCESS



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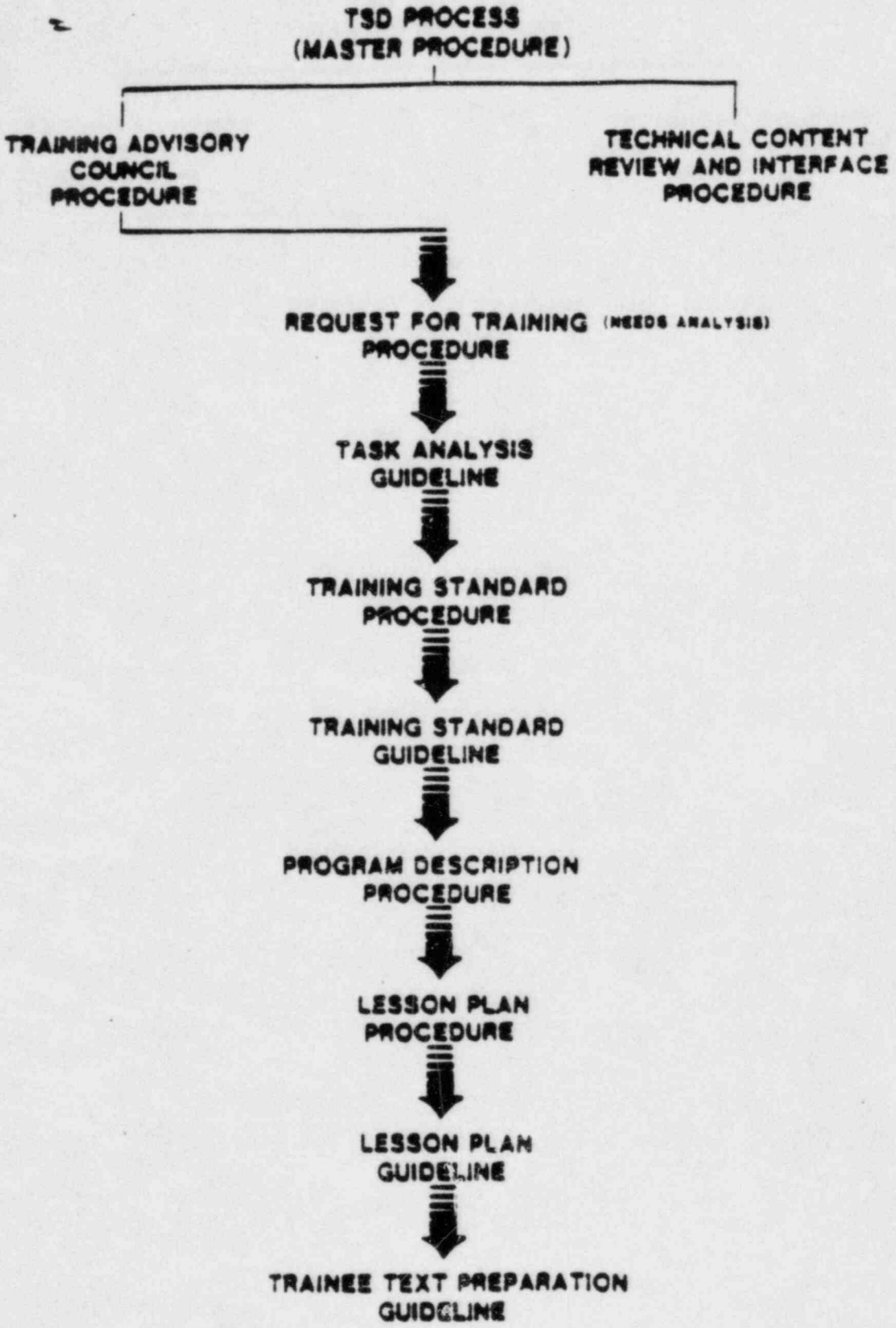
PRACTICAL TSD



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PRACTICAL TSD (CONTINUED)