

Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (804) 384-5111

May 20, 1980

Recd 5/21/80

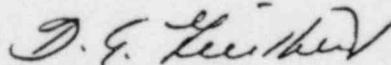
Mr. Victor Stello, Jr.
Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Your letter dated April 10, 1980

Dear Mr. Stello:

In accordance with 10 CFR 2.201, I am enclosing the Babcock and Wilcox Reply to the Notice of Noncompliance which was attached as Appendix A to your letter referenced above, along with a statement of the actions which B&W has taken to address the matters raised in the Notice. B&W denies each of the alleged items of noncompliance contained in the Notice of Noncompliance. Nevertheless, B&W believes that proceedings under 10 CFR 2.205 would be time-consuming, expensive, and needlessly divert critical personnel and resources. Accordingly, I am enclosing a check, in payment for Items 2 and 3 only, for the total amount indicated in the Notice of Proposed Imposition of Civil Penalties.

Very truly yours,



D.E. Guilbert
Vice President and General Manager
Nuclear Power Generation Division

DEG/jck

Enclosures

8006120254

BABCOCK & WILCOX REPLY TO NRC
NOTICE OF NONCOMPLIANCE DATED APRIL 10, 1980

In accordance with 10 CFR 2.201 and the instructions contained in the NRC Notice of Noncompliance dated April 10, 1980, Babcock & Wilcox (B&W) hereby files its written statement or explanation in reply to each of the alleged items of non-compliance. In what follows, B&W will: 1) admit or deny each alleged item of noncompliance, and 2) address actions which have been or will be taken which are appropriate to the matters raised in the Notice.

I. ADMISSION OR DENIAL

B&W denies each of the four alleged items of non-compliance.

II. ACTIONS

The Notice of Noncompliance required that B&W provide (3) the corrective steps which have been taken and the results achieved, (4) the corrective steps which will be taken to avoid further noncompliance, and (5) the date when full compliance will be achieved. As noted previously, B&W does not believe that any noncompliance has occurred. Nevertheless, B&W had previously instituted a series of actions and is continuing to address matters such as those raised by NRC in the Notice of Noncompliance. Actions have been and will be taken which are: 1) generic, and 2) appropriate to the specific matters raised in the Notice of Noncompliance. In what follows the generic actions, as well as the specific actions taken which are appropriate to the matters raised in the Notice will be described.

A. Generic Actions

During the summer of 1979, B&W initiated an intensive review of NPG-1707-01, B&W's internal procedure for the processing of safety concerns (PSC) which implements the requirements of 10 CFR Part 21. This review culminated in the issuance of Revisions 7 and 8 to NPG-1707-01, dated November 20, 1979 and April 1, 1980 respectively, which are designed to improve the over-all effectiveness of this procedure and more sharply define its purpose and applicability. More specifically, these revisions will provide additional assurance that any safety concerns raised by B&W employees will be reported and processed in accordance with B&W's Part 21 procedures, regardless of the form in which these concerns originally arise. These revisions, inter alia, specify the contents of any evaluations pursuant to the PSC procedure and contain action-forcing provisions which ensure that appropriate followup actions will be taken with respect to each safety concern which is reported. Copies of these revisions are enclosed as Attachments 1 and 2.

Further, on April 10, 1980, the Managers of all cognizant departments within the B&W Nuclear Power Generation Division (NPGD) issued Management Directive 205 T4.4 assigning priorities for the processing of safety concerns within NPGD, establishing evaluation time limits, and insuring appropriate notification of customers with respect to safety concerns being processed by B&W. The issuance of this management directive is a further step in the continuing commitment by B&W management to monitor the PSC process and insure that evaluations will be conducted and action taken in a timely manner. A copy of this management directive is enclosed as Attachment 3.

On December 12 and 14, 1979, the Licensing Section also conducted training sessions for all NPGD employees to re-emphasize the purpose and scope of the PSC procedure, to explain the availability of this system for implementing safety concerns and to encourage the use of this procedure by all employees. These formal training sessions, which included presentations by senior B&W management, will be supplemented from time to time by workshops on specific safety subjects. Finally, the PSC system has been, and will continue to be, audited on a regular basis by B&W Quality Assurance and licensing personnel and B&W's utility customers, as well as the NRC, in order to continually monitor the performance of this system, measure compliance with the requirements of Part 21, and make any additional revisions which may be necessary or appropriate.

B. Specific Actions

Item 1

B&W has undertaken a series of actions designed to improve the capability of operators to manage transients. Additional guidance designed to preclude operators from interrupting high pressure safety injection in the event of a small break LOCA was promulgated by NRC and B&W by April 4, 1979, following the TMI-2 incident. B&W, in cooperation with NRC, then established special training programs for operators dealing with this phenomenon. B&W subsequently embarked on an extensive re-analysis of small break LOCA's with emphasis on scenarios related to the TMI-2 sequence of events. This effort enhanced the understanding within the industry and NRC of small break LOCA performance and resulted in the promulgation of a series of additional operating guidelines for small break LOCA's. The operator response in connection with the Crystal River incident would suggest that these programs have been effective and that the operating guidelines for small break LOCA's have been successfully implemented at operating plants. The ongoing review of the Crystal River incident resulted in NRC Staff recommendations to reassess certain elements of the small break guidelines, an endorsement of B&W efforts to develop abnormal transient operating guidelines (ATOG), and a recommendation of full utility support for the ATOG program. These longer-term efforts should further improve the capability of operators to manage transients.

Item 2

This item is applicable only to Davis-Besse. Analyses for small break LOCA's using an auxiliary feedwater (AFW) level control of 10 feet for the Davis-Besse plant were reviewed in December of 1978. This review led to the conclusion that such a condition would not result in a significant departure in expected performance from the cases previously analyzed with B&W's NRC-approved evaluation model (less than 20°F. peak cladding temperature increase relative to the 32 foot case). Subsequent analysis in B&W's May 7, 1979 submittal to NRC confirmed B&W's initial judgment that the 10 foot control level, combined with the high auxiliary feedwater injection point at Davis-Besse, was consistent with the heat transfer assumption presented in the NRC-approved LOCA evaluation model.

Item 3

An analysis of small break LOCA's on B&W plants with reactor coolant pumps running was performed during January of 1979. These analyses and subsequent analyses confirmed B&W's initial judgment that the pumps running case would not represent a limiting or unacceptable case from the standpoint of peak cladding temperature.

It should be noted that at the time that the alleged item arose, the basic assumption throughout the industry and NRC was that the effects of small break LOCA's would be bounded by the pumps-off case and that the pumps-off case was the appropriate case for analyses of small break LOCA's. In this regard, it had been assumed that the pumps would either continue running or remain off throughout the LOCA. During the spring and summer of 1979, B&W's extended analysis of small break LOCA behavior resulted in the identification of system thermal hydraulic conditions which gave rise to a separate concern over interruption of reactor coolant pump operation in a time frame after initiation of a LOCA. This, in turn, was promptly identified to the NRC and resulted in generic requirements from NRC applicable to all PWR's which are designed to insure that reactor coolant pumps are tripped at the outset of conditions which indicate a small break LOCA.

Item 4

With the completion of the extensive small break LOCA analysis documented in B&W's May 7, 1979 submittal to NRC (see Chapter 6 and the Appendix thereto), B&W has confirmed its initial judgment that there are no outstanding issues raised in the Michelson Report on small break LOCA's.

III. CONCLUSION

B&W realizes that the effectiveness of any procedure designed to identify, evaluate, and resolve safety concerns may be strongly dependent upon management commitments and attitudes regarding such a procedure. During the past year, B&W has taken a number of significant steps designed to further enhance employee awareness of this procedure. B&W is committed to improving the use of its procedure and encouraging individual employees to initiate the procedure whenever they feel it is appropriate to do so. B&W agrees with the Staff that a company cannot ask for unevaluated suspicions that an item is a safety matter. In the context of Part 21, a company must, however, rely upon the judgment, awareness, and expertise of the individual engineer to initially distinguish the undefined safety question from the substantial safety hazard, and also assure that the quality of evaluations conducted by the company is high. The timeliness of evaluations warrants particular effort, and B&W has taken management action to control and expedite the evaluation process. As noted previously, B&W has established goals for continuous measurement of performance in evaluations. Moreover, B&W has increased the frequency of internal audits to reinforce the need for timely evaluation and identify appropriate action.

B&W recognizes the importance of the matters addressed in the Notice of Noncompliance. Needless to say, it has been profoundly influenced by the TMI experience. From senior management to the individual engineer, B&W and its employees continue to be committed to improving the safety of its product and learning the lessons of TMI.

THE BARCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURES

NUMBER
NPG-1707-01 (Rev 7)

SECTION
QUALITY STANDARDS

SUBJECT
PROCESSING OF SAFETY CONCERNS

I. APPLICABILITY

COMPLETE REVISION

ALL NPGD PERSONNEL

II. PURPOSE

To provide an orderly and visible process for identifying, evaluating and initiating the resolution of safety concerns related to or affecting NPGD-supplied components, systems and services.

To assure compliance with NRC regulations (e.g., 10CFR21, 10CFR50, etc.).

III. EFFECTIVITY

All safety concerns identified after the issue date of this procedure. Safety concerns identified prior to the issue date of this procedure may be processed in accordance with this procedure.

IV. REFERENCES

- NPG-1703-01 - Preparation and Processing of Internal Deficiency Report/ Restraint Order/Corrective Action Request
- 1716-A1 - Policy for Reporting of Defects and Noncompliance as Required by 10CFR21

V. FORMS PROCESSED (See Forms Section Manual)

BWNP-20208 - Preliminary Report of Safety Concerns (PSC)

VI. GENERAL

- A. If guidance in interpretation of the following definition or other aspects of the procedure is needed, consult with Licensing.
- B. The general definition of a safety concern as used in this procedure is:
Any item which has been discovered during design, analysis, fabrication, installation, testing, inspection, training, and operations activities of a nuclear power plant and which has or may have safety implications.
- C. Reporting of safety concerns to the customer or the NRC is not required if NPGD Licensing has documented evidence that the concern is adequately known to the affected NPGD customers in the case of potential significant deficiencies, or is adequately known to the NRC in the case of potential substantial safety hazards.
- D. Recurrence of a previously reported safety concern shall be reported as a new safety concern.

REV STATUS	REV	7	7	7	7	7														
OF PAGES	PAGE	1	2	3	4	5	6													

THE BABCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURESNUMBER
NPG-1707-01VI. GENERAL (cont'd)

E. Once a PSC is issued, the originator may rescind it by documenting the basis in a memo to the Manager, Licensing, and attaching supporting documentation as necessary. The originator's manager shall indicate concurrence on the memo. Appropriate action shall be taken by the Manager, Licensing.

VII. RESPONSIBILITIES FOR REPORTING

All NPGD personnel are responsible for originating form BWNP-20208 when they discover potential safety concerns that are suspected of falling within the definition given in Section VI.B. above.

VIII. PROCEDURE

Refer to flowchart, Exhibit A, for the procedure to process safety concerns.

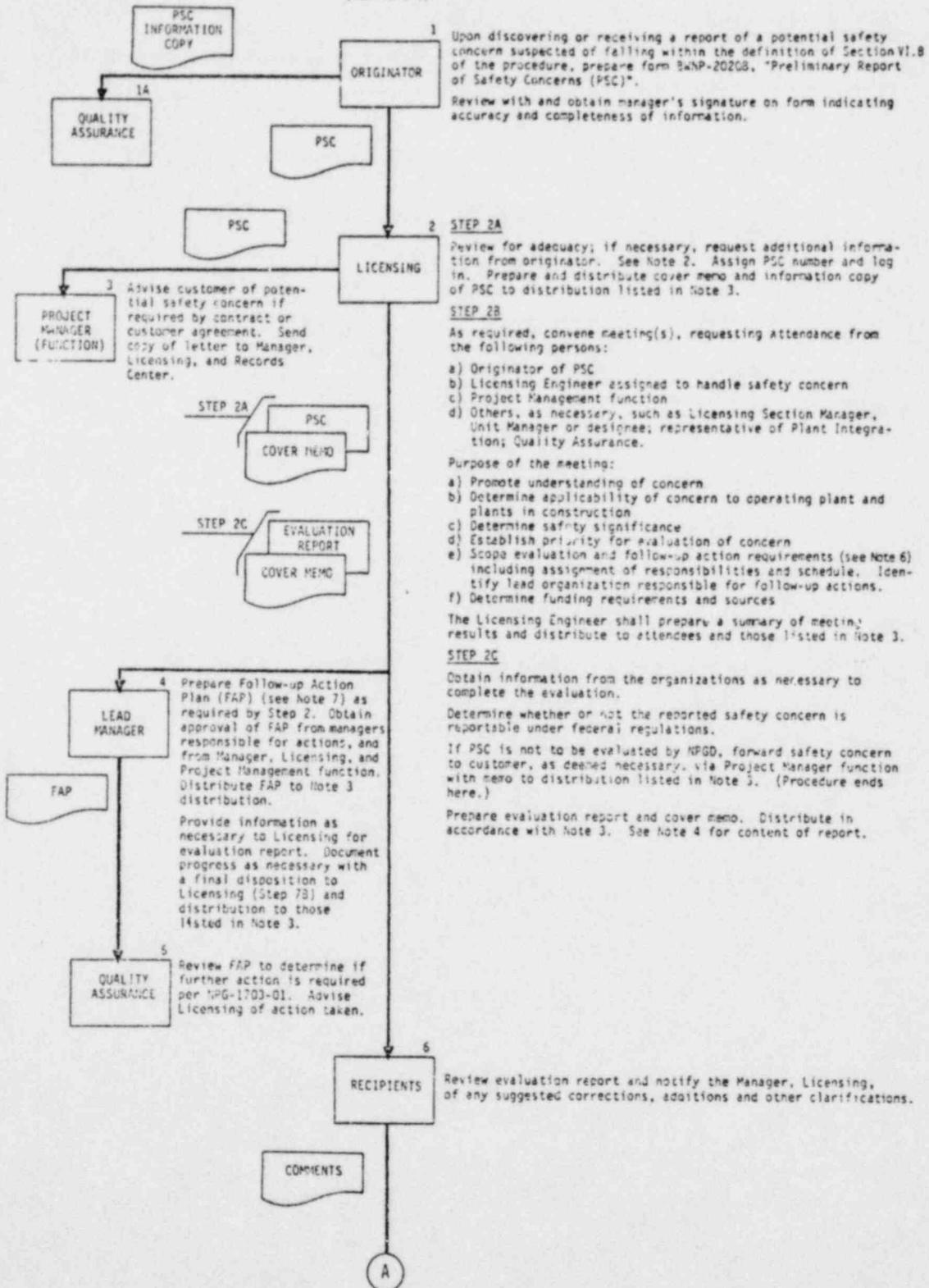
- E N D -

THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01

EXHIBIT "A"

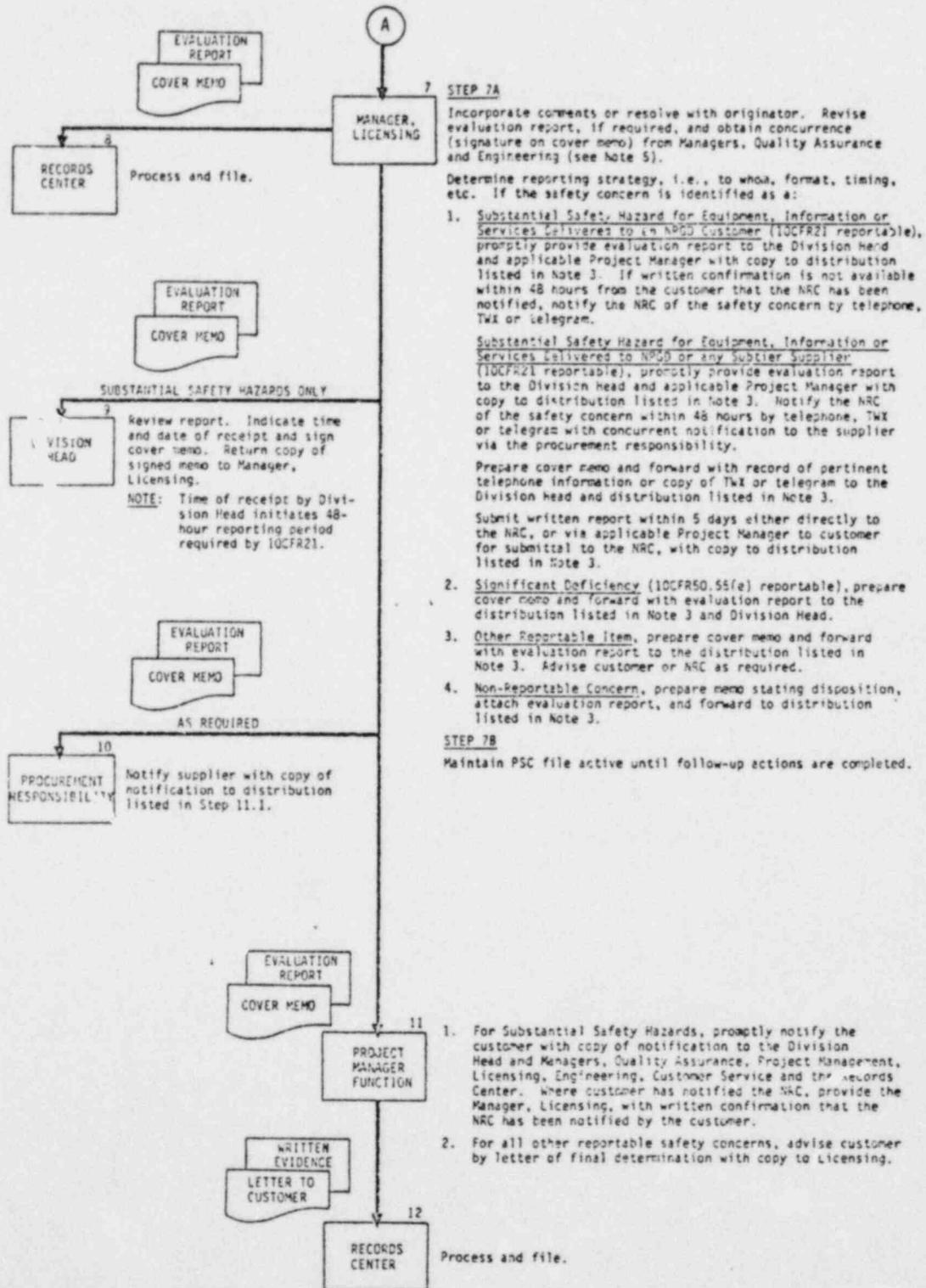
PROCESSING OF SAFETY CONCERNS
 (SEE NOTE 1)



THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01

EXHIBIT "A" (cont'd)



NOTES ARE ON CONTINUATION PAGE.

THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01

EXHIBIT "A" (cont'd.)

NOTES:

1. All correspondence related to safety concerns shall reference file point 205/T4.4 plus the PSC number.
2. A safety concern that is found to duplicate the subject material of a previously submitted concern shall be returned to the originator with explanation and copy of the previously submitted safety concern.

3. DISTRIBUTION:

- Originator
- Records Center
- Manager, Quality Assurance
- Manager, Licensing
- Manager, Field Engineering and Services
- Manager, Generic Projects
- Manager, Integration
- Manager, Engineering
- Manager, Plant Design
- Manager, Safety Analysis
- Affected Project Manager(s)
- Other Affected Personnel, as applicable

4. Evaluation Report shall contain, as a minimum, the following:
 - a. Description of concern
 - b. How concern was discovered
 - c. Analysis of safety considerations
 - d. Equipment and plants affected
 - e. Reportability under 10CFR50.55(e) and/or 10CFR21
 - f. Corrective actions, as applicable, taken or to be taken
5. QA Manager's concurrence indicates that the applicable NPGD organizations have participated in the evaluation and that an assessment has been made to determine if changes are needed to the QA Program requirements (e.g., increased number of QC Surveillance inspections, increased number of vendor audits, etc.).

Engineering Manager's concurrence indicates that the evaluation report has been reviewed for accuracy with respect to:

- a. Components, systems, services and plants affected
- b. Nature of the defect or failure to comply and evaluation of the safety concern
- c. Corrective action

THE DABCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURES

NUMBER

NPG-1707-01

EXHIBIT "A" (cont)

NOTES: (cont'd.)

6. Follow-up action is defined, for purposes of this procedure, as follows:
 - a. To bring deficient items into conformity with requirements
 - b. To identify causes for deficiency
 - c. To prevent recurrences of deficiency
 - d. To make such other investigations or analyses or take such other follow-up actions as are deemed necessary because of the repeated concern.
7. The follow-up action plan shall include as applicable:
 - a. Actions to be taken
 - b. Individuals or organizations responsible
 - c. Schedule for completion including milestones
 - d. Decision points and alternate actions
 - e. Funding source

THE BABCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURES

NUMBER
NPG-1707-01 (Rev 8)

SECTION	SUBJECT
QUALITY STANDARDS	PROCESSING OF SAFETY CONCERNS

I. APPLICABILITY

ALL NPGD PERSONNEL

II. PURPOSE

To provide an orderly and visible process for identifying, evaluating and initiating the resolution of safety concerns related to or affecting NPGD-supplied components, systems and services.

To assure compliance with NRC regulations (e.g., 10CFR21, 10CFR50, etc.).

III. EFFECTIVITY

All safety concerns identified after the issue date of this procedure. Safety concerns identified prior to the issue date of this procedure may be processed in accordance with this procedure.

IV. REFERENCES

NPG-1703-01 - Preparation and Processing of Internal Deficiency Report/ Restraint Order/Corrective Action Request

V. FORMS PROCESSED (See Forms Section Manual)

BWNP-20208 - Preliminary Report of Safety Concerns (PSC)

VI. GENERAL

A. If guidance in interpretation of the following definition or other aspects of the procedure is needed, consult with Licensing.

B. The general definition of a safety concern as used in this procedure is:

Any item which has been discovered during design, analysis, fabrication, installation, testing, inspection, training, and operations activities of a nuclear power plant and which has or may have safety implications.

C. Reporting of safety concerns to the customer or the NRC is not required if NPGD Licensing has documented evidence that the concern is adequately known to the affected NPGD customers in the case of potential significant deficiencies, or is adequately known to the NRC in the case of potential substantial safety hazards.

D. Recurrence of a previously reported safety concern shall be reported as a new safety concern.

REV STATUS	REV	8	7	8	8	8	8												
OF PAGES	PAGE	1	2	3	4	5	6												

THE BABCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURESNUMBER
NPG-1707-01VI. GENERAL (cont'd)

- E. Once a PSC is issued, the originator may rescind it by documenting the basis in a memo to the Manager, Licensing, and attaching supporting documentation as necessary. The originator's manager shall indicate concurrence on the memo. Appropriate action shall be taken by the Manager, Licensing.

VII. RESPONSIBILITIES FOR REPORTING

All NPGD personnel are responsible for originating form BWNP-20208 when they discover potential safety concerns that are suspected of falling within the definition given in Section VI.B. above.

VIII. PROCEDURE

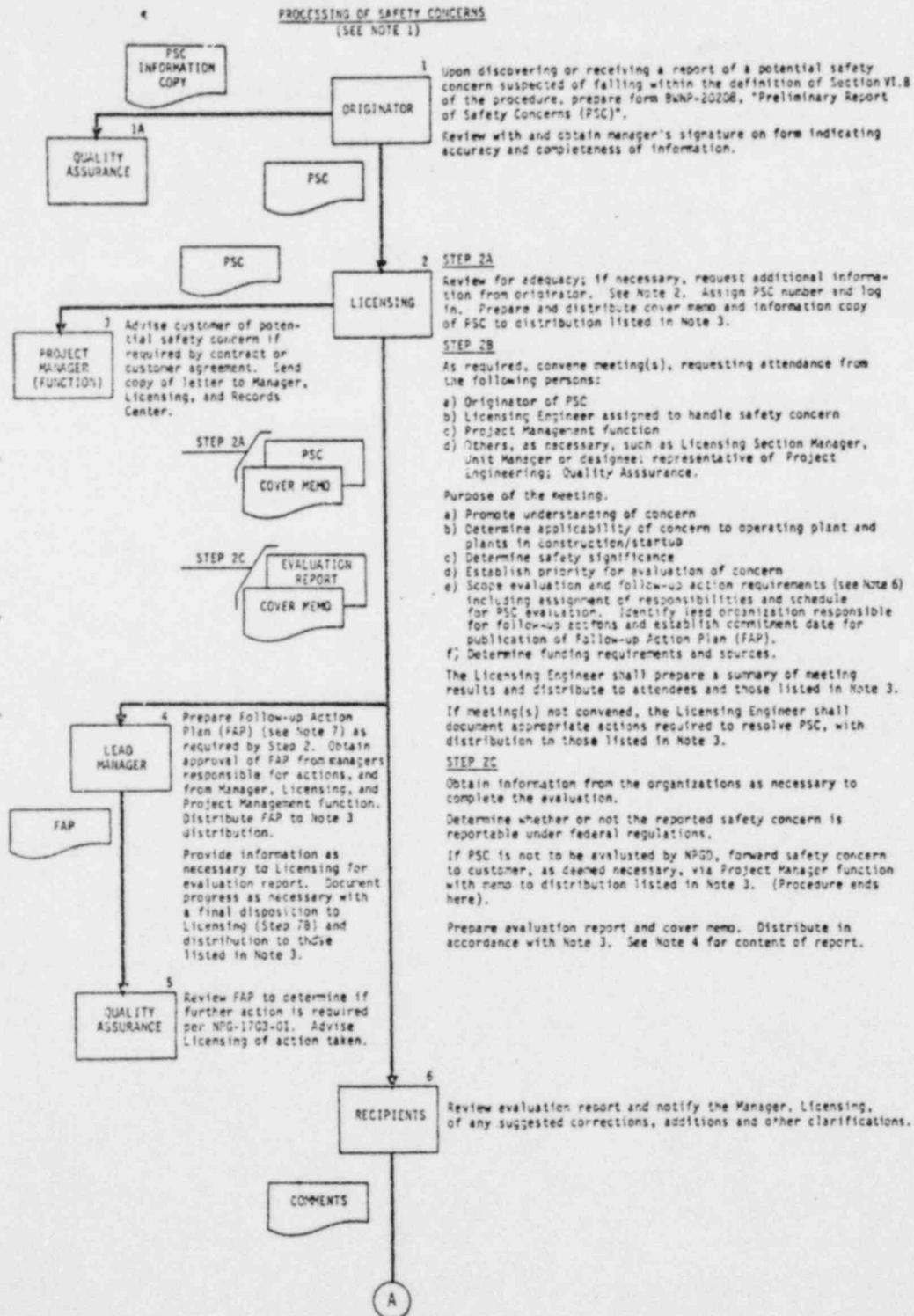
Refer to flowchart, Exhibit A, for the procedure to process safety concerns.

- E N D -

THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01

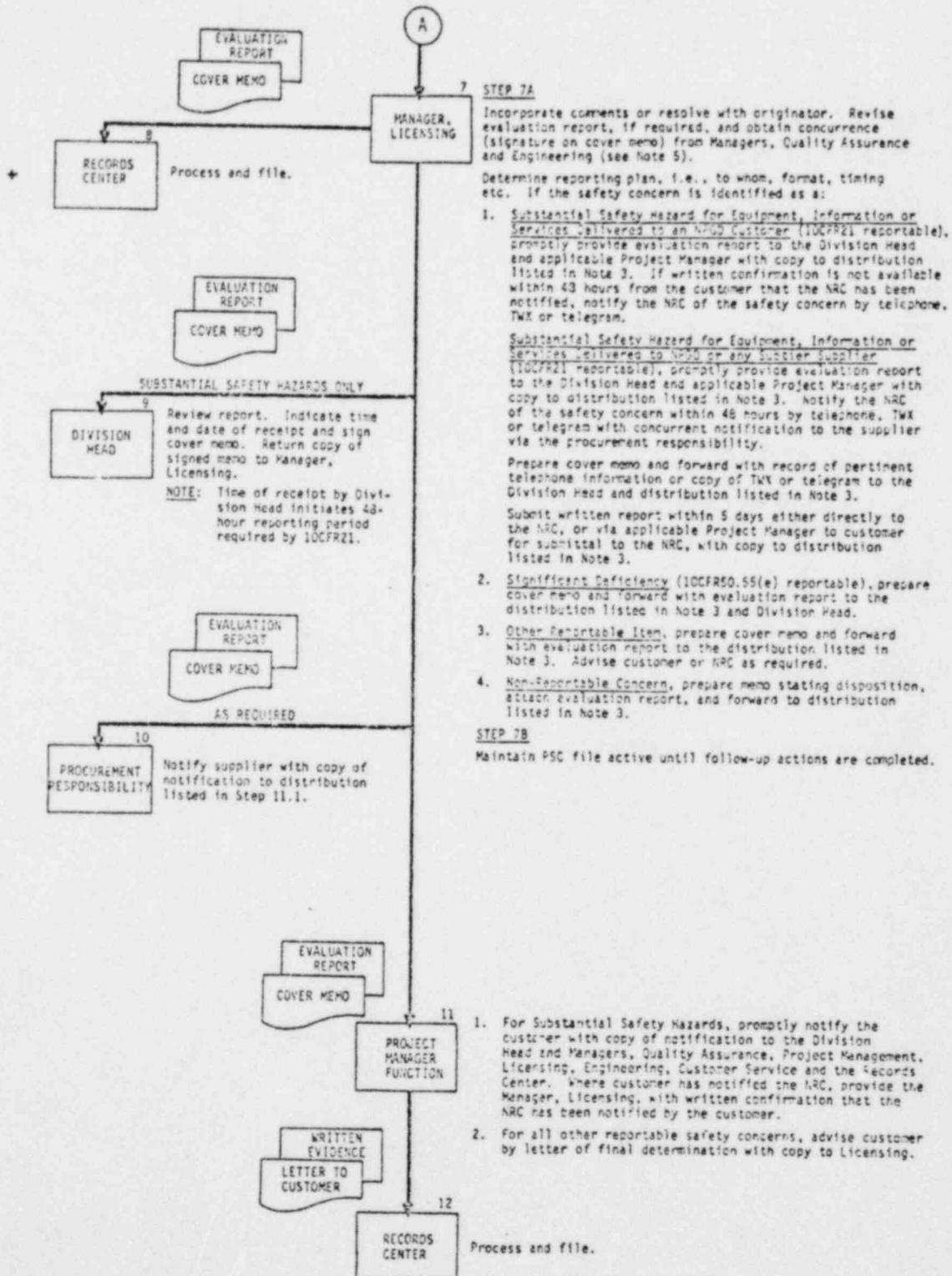
EXHIBIT A



THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01

EXHIBIT A (cont'd)



NOTES ARE ON CONTINUATION PAGE.

THE BABCOCK & WILCOX COMPANY
 ADMINISTRATIVE MANUAL
 POLICIES AND PROCEDURES

NUMBER
 NPG-1707-01
 EXHIBIT "A" (cont'd)

NOTES:

1. Correspondence related to safety concerns shall reference file point 205/T4.4 plus the PSC number.
2. A safety concern that is found to duplicate the subject material of a previously submitted concern shall be returned to the originator with explanation and copy of the previously submitted safety concern.

3. DISTRIBUTION:

Originator
 Records Center
 Manager, Quality Assurance
 Manager, Licensing
 Manager, Field Engineering and Services
 Manager, Generic Projects
 Manager, Project Engineering
 Manager, Engineering
 Manager, Plant Engineering
 Manager, Safety Analysis
 Affected Project Manager(s)
 Other Affected Personnel, as applicable

4. Content of the evaluation report shall be in accordance with the following:
 - (a) The requirements of paragraph 21.21(b)(3) of 10CFR21 shall be followed if concern is reportable under Part 21; this format may also be followed, as applicable, for concerns reportable under 10CFR50.55(e).
 - (b) For concerns that are not reportable under Part 21 or 50.55(e), the report shall contain the same type of information as under (a), as applicable, and shall also include a discussion of the basis for determining non-reportability to NRC.
 - (c) For all reports, include how the concern was discovered.
5. QA Manager's concurrence indicates that the applicable NPGD organizations have participated in the evaluation and that an assessment has been made to determine if changes are needed to the QA Program requirements (e.g., increased number of QC Surveillance inspections, increased number of vendor audits, etc.).

Engineering Manager's concurrence indicates that the evaluation report has been reviewed for accuracy with respect to:

- a. Components, systems, services and plants affected.
- b. Nature of the defect or failure to comply and evaluation of the safety concern.
- c. Corrective action.

THE BABCOCK & WILCOX COMPANY
ADMINISTRATIVE MANUAL
POLICIES AND PROCEDURESNUMBER
NPG-1707-01

EXHIBIT "A" (cont)

NOTES: (cont'd.)

6. Follow-up action is defined, for purposes of this procedure, as follows:

- a. To bring deficient items into conformity with requirements
- b. To identify causes for deficiency
- c. To prevent recurrences of deficiency
- d. To make such other investigations or analyses or take such other follow-up actions as are deemed necessary because of the reported concern.

7. The follow-up action plan shall include as applicable:

- a. Actions to be taken
- b. Individuals or organizations responsible
- c. Schedule for completion including milestones
- d. Decision points and alternate actions
- e. Funding source
- f. Specific description of actions or documentation that define closure of follow-up action.
- g. The corrective actions recommended by the PSC evaluation report.

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

Engineering, Customer Service, Project Management and Quality Assurance Personnel	
From	Manager, Departments of Engineering, Customer Service, Project Management and Quality Assurance
Cust.	All
Subj.	Management Directive - Assignment of PSC Priorities, Evaluation Span Times, and Customer Notification
	File No. 205 T4.4 or Ref.
	Date April 10, 1980

BDS 663.5

This letter to cover one customer and one subject only.

Approved by: Manager, Engineering Department
Manager, Customer Service Department
Manager, Project Management Department
Manager, Quality Assurance Department

J. H. Roy 4/7/80
R. E. Kosich 4/7/80
J. J. ... 4/8/80
Carol ... 4/10/80

Assignment of PSC Priority and Evaluation Times

I. Applicability

This directive applies to the Engineering, Customer Service, Project Management and Quality Assurance Departments.

II. Purpose

To provide guidance regarding (1) priority of PSC work, (2) evaluation time limits, (3) reports to management, and (4) customer notification requirements for PSC evaluation reports.

III. Effectivity

This instruction shall apply to all PSC's originated subsequent to the issue date of this directive. Additionally, follow-up to ensure customer action as described in V-4 shall be effective for all PSC's being evaluated at the time this directive takes effect.

IV. Instructions

A. Priorities

All PSC's will be assigned a priority by Licensing following the front end meeting; the priority will be indicated in the front end meeting minutes and will be reflected in the evaluation schedule agreed upon. Many factors can affect priorities for PSC work, but, as a general guide, PSC's affecting operating plants should be given the highest priority of any work within NPGD.* Where conflicts develop between PSC's, the following order of precedence will govern:

* In the event a Priority 1 SPR generates a Priority 1 PSC (or vice versa), the responsible manager shall assign the necessary resources to complete both activities within the prescribed schedule.

Priority 1 - Operating Plant - High Probability Event

Priority 2 - Operating Plant - Low Probability Event

Priority 3 - Plants Under Construction

B. Evaluation Time Limits

An evaluation completion date will be established in the front end meetings consistent with safety significance. These dates will be shown on the status reports. A performance measurement target has been established to complete 90% of the evaluation reports within the established dates. Performance will be reported against this target for PSC's filed after the effective date of this directive.

C. Reports to Management

The Licensing Section will maintain status records on all PSC's and will provide a monthly status report to the above Department Managers.

V. Customer Notification

The following actions will be taken to appropriately inform and involve our customers in the PSC process.

1. Project Management* will transmit preliminary PSC evaluation reports of PSC's affecting their plants where it is indicated that the PSC is likely to be reportable.
2. As appropriate, Project Management* will transmit for information final evaluation reports for PSC's affecting their plants, including those that are determined to be not reportable under federal regulations.
3. Licensing will recommend to Project Management* other communications with customers regarding selected PSC's prior to completing the preliminary evaluation. This will involve cases where it is clear the issue is potentially quite significant in terms of evaluation effort, safety implications, or possible significant hardware changes.
4. For PSC's where (a) operating plants are affected, (b) a very significant safety issue is involved, and (c) customer action is required, a date will be established, as agreed to between Licensing, Project/Service Managers, and cognizant technical personnel, for receipt of a customer commitment to take the required action. If such commitment is not received, the matter will be escalated to NPGD management for follow-up.
5. Notifications to customers of significant safety issues on operating plants shall be addressed to the utility upper management.

* Service Manager for Operating Plants