

Washington Public Power Supply System

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DOCKET NO. 50-508

January 9, 1986
G03-86-026

Mr. J. B. Martin
Regional Administrator
U. S. Nuclear Regulatory Commission - Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Dear Mr. Martin:

Subject: NUCLEAR PROJECT NO. 3
READINESS REVIEW PROGRAM
CONSTRUCTION ASSURANCE ACTIVITIES

Reference: 1) Letter (GI3-85-442), D. W. Kirsch to A. D. Kohler, subject, "WNP-3 Construction Assurance Program", dated November 20, 1985.
2) Letter (G03-85-563), G. C. Sorensen to J. B. Martin, subject, "Readiness Review Program", dated September 25, 1985.
3) Letter (G01-85-0127/G03-85-0299), G. C. Sorensen to J. B. Martin, subject, "Design Review Program (Engineering Assurance)", dated June 3, 1985.

Enclosed is our response to comments on the subject program activities presented in Reference No. 1. We trust this information will provide sufficient detail for the staff to complete its review and lead to your approval of the Construction Assurance Program.

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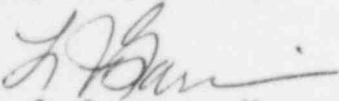
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Three documents were submitted to you by References No. 2 and 3:

- 1) Overview of the WNP-3 Readiness Review Program
- 2) Program Description for the Engineering Assurance Program
- 3) Program Description for the Construction Assurance Program

These documents are being revised to include fundamental changes resulting from commitments established in the enclosure, and are being sent to you under separate cover.

Very truly yours,


for G. C. Sorensen, Manager
Regulatory Programs

Enclosure: Supply System Response to NRC Letter GI3-85-442, NRC Questions on the WNP-3 Construction Assurance Program (18 pages), and Attachments:

- 1: Draft Outline for Module Reports
- 2: Operating Charter for the Oversight Committee

cc: See next page.

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cc: *Mr. J. A. Adams, NESCO
 Mr. G. T. Ankrum, Nuclear Regulatory Commission
*Ms. N. Bell, Nuclear Information & Resource Services
*Mr. T. W. Bishop, O'Brien-Kreitzberg & Associates, Inc.
 Mr. R. M. Boucher, Pacific Power & Light Company
 Mr. E. W. Brach, Nuclear Regulatory Commission
 Mr. W. L. Bryan, Washington Water Power Company
*Mr. S. H. Bush, Ph.D., Review & Synthesis Associates
 Mr. H. R. Denton, Nuclear Regulatory Commission
*Mr. R. T. Dodds, Nuclear Regulatory Commission
 Mr. C. Eschels, EFSEC Chairman
*Mr. R. F. Heishman, Nuclear Regulatory Commission
*Mr. W. M. Hill, Nuclear Regulatory Commission
 Mr. G. W. Knighton, Nuclear Regulatory Commission
*Mr. R. V. Laney, Consultant
*Mr. T. Michaels, Nuclear Regulatory Commission
 Mr. J. Milhoan, Nuclear Regulatory Commission
 Mr. F. J. Miraglia, Nuclear Regulatory Commission
 Mr. R. V. Myers, Puget Sound Power & Light Company
 Mr. E. Revell, Bonneville Power Administration
 Mr. N. S. Reynolds (Bishop, Liberman, Cook, Purcell & Reynolds)
*Mr. E. Rosolie, Director of Coalition for Safe Power
 Mr. B. K. Singh, Nuclear Regulatory Commission
 Mr. D. Smithpeter, Bonneville Power Administration
 Mr. J. M. Taylor, Nuclear Regulatory Commission
 Mr. B. C. Withers, Portland General Electric Company
Document Control Desk - U.S. NRC

*With Enclosure

SUPPLY SYSTEM RESPONSE TO NRC LETTER GI3-85-442
NRC QUESTIONS ON THE
WNP-3 CONSTRUCTION ASSURANCE PROGRAM

January 3, 1986

Question 1

Paragraph 5.0 of the program commits to performing detailed inspection walk-downs of sample hardware and detailed reviews of records for compliance with design, installation and acceptance criteria. Do you plan to include a review of installation and inspection procedures in the verification for compliance with design and installation requirements?

Response

Installation and inspection procedures will be reviewed in the CAP in the following general sense. Team members will use/read key contractors' procedures to establish that they implement the design requirements and would result in satisfactory construction products. This review of the procedures will aid their development of inspection and review checklists, and is covered in the CAP procedure on review team planning.

Question 2

Paragraph 5.0 states that all design related findings, concerns and observations will be communicated to the Manager, Engineering Assurance for consideration in the Engineering Assurance Program. Will this be in the form of a memorandum or nonconformance reports?

Response

All observations made by CAP reviewers which are cause for concern, either for the quality of the component or its design, will be identified on an open items list (OIL) in the CAP Office. The OIL items that are design-related, and copies of all NCR's generated by CAP team members that are design-related, will be transmitted to the Manager, Engineering Assurance, by memorandum.

The normal handling of NCR's generated by the CAP will be through the existing project reporting system, which has no provisions for special-purpose distribution to the Readiness Review Program. Therefore, the PRP procedural mechanism for communicating such information will be the transmittal memo.

Question 3

Paragraph 5.1 provides general guidelines for selection of work areas to be reviewed. Do you plan to consider coordination of the Engineering Assurance Program with the Construction Assurance Program? For example, if system or subsystem X is chosen for Engineering Assurance Review, it would seem appropriate to consider a review of system or subsystem X in the Construction Assurance Program, as much as practicable. This would provide a continuity of the review, enable correlation of findings and support a conclusion of the overall readiness for the sample system or subsystem X.

Response

The principal purposes of coordinating the review of the same system or subsystem in both programs are envisioned to be 1) the potential for verifying the design and construction of that system or subsystem, thus providing a convenient "vertical slice" review; and 2) the correlation of findings.

It is our intention to provide a representative vertical slice through the design and construction work at WNP-3 by review of (the same or) similar components. Since the CAP reviews are commodity and/or discipline oriented, it is neither practical nor desirable to limit the "representativeness" of a sample to a system or subsystem selected for EAP process review. Despite the selection of separate but similar components in each program, the Supply System will add to randomly selected construction samples some specific components which had been selected for design review.

Correlation of findings from the two programs is not precluded by review of separate but similar components. Indeed, this is considered desirable at some point(s) in the Readiness Review Program. We are considering the need for a systematic method/procedure for correlation and trending of CAP/EAP results from similar modules, and will address this whole subject in the final Phase 1 program report.

Question 4

An Engineering Assurance Program (EAP) normally ends with the AE final product, e.g. drawing, specification, etc., which is delivered to the Construction Manager. A CAP normally begins at that point and follows through to completion of the final product. It appears that your CAP program starts at a different point such as the individual construction companies' contracts. If this is correct, how does your program determine those documents are correct and complete with respect to the AE final design product? Explain.

Response

Our case is not different. The EAP will confirm the quality of the final design products, and the CAP uses these drawings and specifications to identify the requirements for construction products, i.e., to establish the acceptable criteria for each component to be inspected and each quality record to be reviewed.

In looking at individual contracts --- remembering that the bases for these contracts are the same drawings and specifications --- the Supply System ensures that every constructor who used the final design products did so correctly and produced or installed hardware of acceptable quality.

The CAP begins with the assumption that the design documents are correct and complete. Assurance that this assumption is valid is provided by the confirmatory reviews of the EAP.

Question 5

Provide additional information on the interface between the Engineering Assurance and Construction Assurance programs. Especially in the areas such as pipe hanger/supports where problems have been identified at other facilities.

Response

The EAP will review samples of design in selected topical areas from conceptual design through to the final products of design (drawings, specifications and calculations). During preparation of checklists, industry concerns are screened for applicability to EAP reviews, as well as NRC concerns (bulletins, circulars, notices and inspection reports) and the project's own NCR and Part 21 and 50.55(e) files. The resulting EAP checklists are made available to the CAP Manager in EAP review plans, including the specific components of interest.

The CAP encompasses all safety-related commodities and construction activities. Once CAP review samples of hardware and quality records are chosen, they will be augmented to ensure inclusion of components that were also assessed by the EAP, but not on a one-to-one basis. In preparing review plans, CAP Team Leaders will also screen various data bases of industry, the NRC, and the project for areas of concern that will aid in developing CAP review checklists (See response to Question 6.)

In addition, EAP Review Team Leaders will notify the CAP manager of specific and/or unique design attributes that should be considered for inclusion in the CAP reviews. For example, to pay particular attention to the QC methods for skewed-weld fillet-size measurement techniques, procedures and documentation. During walkdowns at the plant, these same installation/fabrication attributes may also be observed by EAP teams, but not in as much detail as the CAP inspections.

This same concept is applied if the CAP review of a commodity occurs before the related EAP review of the same commodity. In general, the EAP review is expected to precede the related CAP review, but this is not a program requirement.

Question 6

Paragraph 5.1 provides guidelines for selection of work that represents known or suspected Supply System and/or contractor problem areas. Do you plan to include areas addressed by open NRC items?

Response

Yes. Following is a list of sources from which CAP team members will select known or suspected problem areas that pertain to their respective modules, and will be considered by each team in developing review plans, samples, and attributes for inspection:

- o NRC Inspection Items List (Open Items)
- o List of Project 50.55e's & Part 21's
- o NRC Bulletins, Circulars, and Notices
- o NCR Trends (& other project trend reports)
- o Related EAP Review Plans & Checklists
- o INPO Construction Evaluation Criteria
- o INPO Recurring Findings
- o Allegations, Hot Lines, etc.
- o Nuclear Network, SER's, SOEP's MOER's
- o Lessons Learned - SS, Industry, INPO
- o Quality Verification & Plant Verification Programs, WNP-2
- o Results from Similar Industry Programs

This list is provided in the CAP procedure on review team planning and is to be considered by each Team Leader.

Question 7

Paragraph 5.2 discusses independence of Construction Assurance reviewers. Will the selected reviewers have participated in the design engineering, field engineering, field supervision, installation or inspection of the work being reviewed? Similar financial considerations applied for independence of the Engineering Assurance Program reviewers should also be considered for the Construction Assurance Program reviewers. It may be appropriate to provide additional discussion regarding the structure of the reviewing organization including first level reviewers, first level managers and decision making responsibilities.

Response

It is a programmatic requirement of the CAP that review team personnel be independent of the work to be reviewed and of the contractor organization that produced that work. However, there is no requirement for CAP reviewers to be independent of past design activities, and they may therefore be members of the Supply System or AE organizations. There is a procedural requirement in the personnel selection process for financial independence, similar to that of the EAP.

The structure of the CAP organization and its members' individual responsibilities are established by procedure. Basic decisions concerning review activities are made by review Team Leaders selected for their expertise and experience in the discipline (module) under review, subject to the approval and participatory involvement of the Manager, Construction Assurance.

As with all documents associated with the Supply System's Readiness Review Program, these procedures will be available for NRC inspection in the Program Manual. The CAP implementation procedures establish the structure and format

for repetitive selection and review activities. Team Leaders may prepare additional instructions or procedures oriented to specific module activities, and will prepare checklists and instructions to identify the important points to be checked by reviewers and inspectors, and the criteria for acceptance of records and hardware.

Question 8

Paragraph 5.3 discusses the management of the results of the Construction Assurance reviews. Do you plan to provide separate reports for all normal NRC reporting requirements (10 CFR 50.55(e) and 10 CFR 21)?

Response

The existing project reporting system satisfies requirements for informing the NPC of 50.55(e) and Part 21 items. This existing system will be input by the CAP through the use of project NCR's, which are reviewed in accordance with project procedures for the need to identify and report 50.55(e) and Part 21 issues to the NRC, as a programmatic requirement. In this way, NRC reporting of these issues are "separate" from CAP reporting, but the NPC will receive notification of 50.55(e) and Part 21 items in the usual way.

However, all information pertaining to findings of the CAP, including the identification and reporting of important issues to the NRC, will also appear in CAP program reports.

Question 9

Paragraph 5.3 discusses the management of the results of the Construction Assurance reviews. Do you plan to perform a self-assessment of the results of the review? Will Supply System senior management be made aware of the review results and participate in the self-assessment? What input will the oversight committee have with regard to results of the review?

Response

Self assessment of the CAP will be performed by our internal QA Audits organization, the independent Oversight Committee, the Readiness Review Program Manager, and the Director of Projects. In addition, the CAP and EAP managers will assess each other's programs on an informal basis. Because this is an important and costly self-initiated program, the Supply System's senior management is acutely interested in its success, and has committed to active assessment of its implementation, as outlined in Paragraph 5.3 of the Program Description.

The CAP and EAP Managers interface with the RPP Manager and with each other on an informal daily basis concerning programmatic issues and details, and report in writing on a monthly basis. The RPP Manager reports program status, progress, and significant issues to the Managing Director of the Supply System through the Director of Licensing and Assurance. In addition, reports of the RPP are filed for Monthly Program Review of WNP-3, where the Director of Projects evaluates implementation of the Readiness Review along with other project issues. The CAP Manager interfaces with WNP-3 Project on a regular weekly basis in the Deputy Program Director's management staff meetings.

The Oversight Committee will evaluate the overall program (including all three elements --- EAP, Preservation, and CAP) and provide recommendations for improvements to Supply System management. They are not required to, but may spot-check technical details, findings, and dispositions. Their approval is not required, but Committee comments must be reconciled for the record.

Periodic meetings are held with the Oversight Committee to discuss details of the review programs and make observations of program implementation. The Committee is required by its charter to provide written assessments of the program and its ongoing implementation.

Question 10

Please provide a description of the format and content of CAP reports to the NPC. How will FSAR and other NPC commitments be identified in the reports? How will the reports confirm/deny conformance with those commitments in the reports? What level of detail will the reports have?

Response

Two types of report will be provided to the NPC covering the activities in the Readiness Review Program, including the following:

Module Reports

Module Reports will be "final reports" of the individual reviews completed in the EAP and CAP. All the details of each module review will be disclosed in them, including how the review was organized, the participants' qualifications, the scope of work reviewed, acceptance criteria, the rationale for selecting samples, how reviews/inspections were accomplished, the details of the results and their analysis, trends identified from the reviews, and recommendations for further action. A tentative outline for the contents of CAP reports is provided in Attachment 1 to illustrate our intention to adequately describe the work of a typical module in this program.

Final Readiness Review Program Report(s)

At the conclusion of the module reviews, a final report will summarize the work of the EAP and CAP and draw conclusions from the collective results. It may be desirable to have separate reports for each program element, a decision not made at this time. Such a final report will record the correlation of results among the various modules, including those between the EAP and CAP.

Question 11

The program assesses the adequacy of completed WNP-3 contractors' work. Will an evaluation of Supply System work, if any, be also performed?

Response

Yes. Specifically, maintenance and preservation work is being accomplished by Supply System personnel in some cases, and components so maintained in accordance with requirements of the Preservation Program will be included in CAP review sampling. The maintenance and preservation aspects of and attributes for these components will be reviewed by the CAP, as described in Paragraph 4.0 of the Program Description.

Question 12

Section 5.0 states that "When deficiencies are identified, recommendations for disposition will not be made by the reviewers and inspectors." How will the review team be involved in reviewing the resolution of deficiencies? If they will have no involvement, please explain why not. It may also be appropriate to discuss what review and approval is needed to confirm or resolve potential findings/observations.

Response

During construction, as quality inspectors or other plant personnel identify discrepancies in the work, MCR's are prepared and processed through the project QA program. In this program, a recommended disposition is provided by the MCR initiator when possible, and that recommendation may further be modified by the Construction Manager's field engineers. Such recommendations are made by personnel engaged in or very close to the work process, and it is appropriate to use their hands-on knowledge and experience. Feasibility and costs of corrective actions are among the considerations in making such recommendations.

In the case of CAP reviews, personnel identifying discrepancies are not close to the work process and are not expected to possess special knowledge regarding expedient corrective action for discrepancies identified on this project. This is especially true because 1) CAP reviewers may not have (probably will not have) worked on the WNP-3 project before, and 2) the unusual circumstances of the project's construction delay. Because of this, it is considered inappropriate for CAP reviewers to make recommendations for engineering disposition of MCR's.

Following investigation and disposition of identified discrepancies by the AE, the nature of each discrepancy will be known, including its design significance (ability to perform its safety-related design function under design conditions & loads). At this point CAP reviewers, along with the engineers, can assess the collection of information from discrepancies to establish possible generic significance, the need for further inspection, or future corrective actions. Such evaluations will be the subject of post-review meetings of the review team, and the results will be included in module reports which are subject to the review and approval of the CAP Manager, PRP Manager, and Director of Projects. The post-review meetings are required by procedure and will also cover team-member response/agreement that dispositions resolved the problems identified.

Question 13

Section 5.4 discusses an "oversight committee". Please provide a more comprehensive description of the structure, resources and charter/functions of the oversight committee. How will their comments/recommendations be handled?

Response

This question is addressed in the response to Question 9. The details of Oversight Committee involvement are established in an operating charter, a copy of which is provided in Attachment 2.

Question 14

Section 6.0 discusses program implementation and selection of review areas. Please describe how the program ensures that all safety-related areas will be reviewed. Also, please define the specific areas to be reviewed. How will NSSS, I&C, radwaste, fire protection and emergency power subject areas be addressed?

Response

The scope of the CAP includes all safety-related work and certain other work completed at the project prior to the review, on a sampling basis. The overall population of hardware from which samples will be drawn can be envisioned as consisting of sub-populations, grouped according to the Supply System's graded quality designations. All safety-related components are designated OC-I, and include NSSS, I&C, and emergency power systems. Another designation, OC-IIA, identifies those items subject to special quality assurance provisions, although they are not themselves safety-related, and include radwaste and fire protection systems. Both of these sub-populations are reviewed by sampling in the CAP, as described in Paragraph 2.0 of the program description.

Further, selected components from a third sub-population, OC-II, will also be reviewed. These are components important because of a high degree of reliability to support continued power generation or their high monetary value and long-lead time for replacement.

Question 15

The list of module topics included in the program description seems tentative and the exact contents of each module has not been determined. How does your program ensure each aspect of the construction activities will be included in your review? Explain. A diagram may be helpful.

Response

Following is the list of module topics planned for the CAP. This list differs from the tentative list only insofar as the last module has been divided into three smaller separate topics. If changes to the list become necessary, they will be made only after notifying the NRC, as with any other program change.

<u>Module No.</u>	<u>Subject</u>
C3-01	Earthwork/Soil Compaction
C3-02	Concrete, Re-steel & Embedments
C3-03	Containment Structure
C3-04	Structure Steel
C3-05	Equipment Installation
C3-06	Piping and Valves
C3-07	Pipe Supports
C3-08	Electrical Raceways & Supports
C3-09	Cables & Cable Terminations
C3-10	HVAC Ductwork, Supports, Controls
C3-11	Instrumentation, Tubing & Supports
C3-12	Cathodic Protection & Grounding
C3-13	Coatings
C3-14	Nondestructive Examination
C3-15	Miscellaneous Support

To illustrate that these modules will contain all the safety-related work at the project, a matrix is presented in Figure 1, identifying all contractors who performed safety-related work and the modules in which each contractor's work will be reviewed.

Question 16

Please more clearly define licensee senior management conclusions regarding the CAP review modules, the input of the oversight committee to these conclusions, and the licensee's recommendations to the NPC regarding acceptability of the work reviewed including a statement of conformance to requirements and NPC commitments.

Response

The Readiness Review Program is expected to confirm the quality of plant design and construction. Senior management will review each module report as it is issued, and will have available the Oversight Committee's assessment of the report. A statement about the acceptability of the work will be included in a senior management request to the NPC for acceptance of the review and its results. Trends that become evident during the progress of the reviews will be identified in the module reports, but a final overall conclusion of the work's

WNP-3 CONTRACT NUMBER		MODULE														
		1. EARTHWORK/SOIL COMPACTION	2. CONCRETE/REINFORCEMENT/EMBEDMENTS	3. CONTAINMENT STRUCTURE	4. STRUCTURAL STEEL	5. EQUIPMENT INSTALLATION	6. PIPING AND VALVES	7. PIPE SUPPORTS	8. ELECTRICAL RACEWAY/SUPPORT	9. CABLE AND CABLE TERMINATION	10. HVAC DUCTWORK/SUPPORTS/CONTROLS	11. INSTRUMENTATION/TUBING/SUPPORTS	12. CATHODIC PROTECTION/GROUNDING	13. COATINGS	14. NONDESTRUCTIVE TESTING	15. MISCELLANEOUS SUPPORT ACTIVITY
002	CE				X						X			X	X	
204	PTL	X	X											X	X	
209	ASSG		X											X	X	
213	CB&I			X	X									X	X	
216	ATKINSON	X	X		X		X					X		X	X	
218	PDM				X									X	X	
219	BOC/FEG		X											X	X	
221	LAMPSON				X	X								X	X	
224	M-K/ESI/LORD		X	X	X	X	X	X	X	X	X	X	X	X	X	X
225/253	FSM		X		X		X	X	X		X	X		X	X	
231	McMULLEN													X	X	X
232	WALLACE/SUPERIOR				X					X				X	X	
233	GRINNEL		X	X	X	X	X		X		X	X		X	X	
235	CB&I				X									X	X	X
251/226	PKS	X	X		X	X	X				X			X	X	
256	McMULLEN			X										X	X	X
263	MK	X	X		X	X	X					X		X	X	
265	JA JONES		X	X	X	X	X	X		X		X		X	X	

FIGURE 1

SAFETY-RELATED WORK PERFORMED BY WNP-3 CONTRACTORS

adequacy cannot be reached until Phase I of the program is completed. At that time the program managers will present their findings and recommendations to Supply System senior management in a final program report. Management will also have on hand the NPC Inspection Reports produced during the course of the program. An assessment will be made of program findings, and senior management will prepare a request for NRC approval that includes a statement of conformance to requirements and NRC commitments. We cannot predict the exact content of that request at this time.

The Oversight Committee's role in evaluating reports generated by the Readiness Review Program is identified in our response to NPC Question 13.

Question 17

Provide additional detail relative to your actions/criteria when the original sample yields deficiencies. Additional discussion may be appropriate regarding the approach for deciding size of expanded sample. Please include criteria for determining generic conditions.

Response

It is anticipated that, in cases where reviews yield no deficiencies, information concerning the quality verification of the sample and a recommendation for acceptance of the represented population of hardware will be included in the module report.

In cases where reviews yield inconclusive results (few design-significant deficiencies or many less-serious discrepancies), further analysis or inspection is necessary to determine acceptability of the represented population. The threshold amounts of reject hardware components may not always be consistent because of the type and number of attributes per unit or the nature of the discrepancies identified. The Supply System is engaging a consultant for guidance in this area, and details are not yet available. However, it is intended to provide such evaluative criteria in each review plan. These criteria may vary from module to module according to the number and nature of accept/reject attributes for specific hardware components. Samples expanded in size to resolve inconclusive results will be inspected only for the presence of previously identified deficient conditions or attributes.

Nevertheless, if results are not conclusive after a reasonable analysis, the details of the condition will be fully disclosed and a recommendation will be included in the report for thorough investigation of that hardware population at construction restart.

In cases where reviews yield negative results, those that are clearly indicative of design-significant quality deficiencies, the details will be fully disclosed and a recommendation will be included in the report calling for the thorough investigation of that hardware population at restart of construction, at which time adequate resources will be available to address this magnitude of review and corrective action. Where possible, review teams will include recommendations for corrective action, based on their evaluation, analysis, and understanding of the problems identified.

This evaluative process is part of the overall review process covered by CAP procedures.

Question 18

Address those areas where the acceptance criteria will differ from the original criteria described in the SAP.

Response

In general, acceptance criteria established in the WNP-3 design documents is the same criteria used in CAP reviews. In one specific area, welding, somewhat newer criteria is anticipated to be applied to the CAP reviews. This is the visual weld acceptance criteria developed by the Nuclear Construction Issue Group and accepted by the NRC. Use of these criteria necessitates revision of the WNP-3 FSAR, which will be initiated prior to actual use of the criteria.

If other changes to acceptance criteria are called for in the future, they would likewise be identified in an appropriate FSAR revision.

Question 19

Describe how 10CFR50 Appendix B (18 criteria) applies to the Construction Assurance program. A matrix may be helpful.

Response

Not all the criteria of 10CFR50, Appendix B apply to Readiness Review Program activities. Figure 2, Matrix of Appendix B Criteria, describes how each criterion applies to the Engineering and Construction Assurance elements of the program.

FIGURE 2

MATRIX OF 10CFR50, APPENDIX B CRITERIA APPLIED TO
READINESS REVIEW PROGRAM

<u>CRITERION</u>	<u>ENGINEERING ASSURANCE PROGRAM</u>	<u>CONSTRUCTION ASSURANCE PROGRAM</u>
I. Organization	Applies to the organizational freedom of participants, including review teams, management, and oversight committee. Organization and independence are delineated in the program description and procedures.	Applies to the organizational freedom of participants, including review teams, management, and oversight committee. Organization and independence are delineated in the program description and procedures.
II. Quality Assurance	Applies to verification of quality by review of design activity, to indoctrination and training of personnel, and to management review of program adequacy. This criterion is met by conformance with requirements established by implementation procedures.	Applies to verification of quality by inspection and review, to indoctrination and training of personnel, and to management review of program adequacy. This criterion is met by conformance with requirements established by implementation procedures.
III. Design Control	Does not apply. EAP performs no design or design control. However, for design and design control verification performed by the EAP, the basic philosophy of this criterion is applied, insofar as practicable. Procedures and instructions govern the performance of verifications by independent qualified personnel.	Does not apply. No designs or design documents will be produced by the CAP.
IV. Procurement Document Control	Applies if services are procured from outside sources. Such procurements are governed by corporate and project requirements already in place.	Applies if services are procured from outside sources. Such procurements are governed by corporate and project requirements and controls already in place.

<u>CRITERION</u>	<u>ENGINEERING ASSURANCE PROGRAM</u>	<u>CONSTRUCTION ASSURANCE PROGRAM</u>
V. Instructions, Procedures, and Drawings	Applies to most program activities. Implementation procedures and instructions are provided where appropriate.	Applies to most program activities. Implementation procedures and instructions are provided where appropriate.
VI. Document Control	Applies to program description, procedures and instructions which comprise the Program Manual, controlled in accordance with the corporate program.	Applies to program description, procedures and instructions which comprise the Program Manual, controlled in accordance with the corporate program.
VII. Control of Purchased Material, Equipment, and Services	Applies if services are procured from outside sources. Appropriate monitoring of the quality of these services will be performed by EAP management.	Applies if services are procured from outside sources. Appropriate monitoring of the quality of these services will be performed by CAP management.
VIII. Identification and Control of Material, Parts and Components	Does not apply. No materials, parts, or components for the plant will be provided by the EAP.	Does not apply. No materials, parts, or components for the plant will be provided by the CAP.
IX. Control of Special Processes	Does not apply. Special construction processes will not be employed in reviewing design work.	Applies if services, such as NDE, are used. Appropriate procedures of the performing organization will govern activities, subject to concurrence of CAP management.
X. Inspection	Does not apply. EAP walkdowns are not inspections in this context. Hardware questions that arise from walkdowns by EAP review team members will be referred to the CAP for disposition.	Does not apply. Timely inspection of construction processes and products was part of the work in place and not a part of the CAP. However, for the inspections performed by the CAP, the basic philosophy of this criterion is applied, insofar as practicable. Procedures and instructions govern the performance of reviews and inspections by independent qualified personnel.

<u>CRITERION</u>	<u>ENGINEERING ASSURANCE PROGRAM</u>	<u>CONSTRUCTION ASSURANCE PROGRAM</u>
XI. Test Control	Does not apply. Testing will not be employed in reviewing design work.	Does not apply. Testing (except NDE, covered elsewhere) will not be employed in reviewing construction work.
XII. Control of Measurement and Testing Equipment	Does not apply. Measurement and testing equipment will not be used in reviewing design work.	Applies to use of special devices in hardware inspections. Devices used in CAP inspections will be furnished by existing project organizations whose approved measures govern control of M&IE.
XIII. Handling, Storage, and Shipping	Does not apply. No material or equipment for the plant will be handled, stored, or shipped by the EAP.	Does not apply. No material or equipment for the plant will be handled, stored, or shipped by the CAP.
XIV. Inspection, Test, and Operating Status	Does not apply. The EAP will not tag or alter existing tags that indicate status of items in the plant.	Does not apply. The CAP will not tag or alter existing tags that indicate status of items in the plant. Nonconformance tags that may result from CAP inspections will be provided through existing project controls promulgated by the generation of NCR's.
XV. Nonconformance Materials, Parts, or Components	Does not apply. Deficiencies in the design or design process are addressed in Criterion XVI, Corrective Action.	Applies to the identification of non-conforming items by CAP inspections and reviews. This criterion is met by use of existing project controls for reporting deficiencies in hardware and documentation.
XVI. Corrective Action	Applies to identification of errors or deficiencies in the design or design process. Corrective action is processed under existing project controls.	Applies to the identification of non-conforming items by CAP inspections and reviews. This criterion is met by use of existing project controls for reporting deficiencies in hardware and documentation.

CRITERION

ENGINEERING ASSURANCE PROGRAM

CONSTRUCTION ASSURANCE PROGRAM

XVII. Quality Assurance
Records

This criterion applies to records generated by the EAP and is met by conformance with requirements established by implementation procedures.

This criterion applies to records generated by the CAP and is met by conformance with requirements established by implementation procedures.

XVIII. Audits

Applies to most program activities. Corporate QA Audit Program will provide at least annual audits.

Applies to most program activities. Corporate QA Audit Program will provide at least annual audits.

Question 20

Include "Flow Diagram" presented as viewgraph in public meeting on October 29, 1985, with program description.

Response

The CAP review process illustrated by the flow diagram shown in Figure 3 will be added to the program description.

Question 21

It may be appropriate to expand the discussion on Phase I and Phase II to more clearly delineate what will be accomplished in each phase and how the total effort of both phases will provide results that support the final objective of the CAP.

Response

Phase I of CAP reviews will assess the adequacy of construction completed at the time the reviews occur. Construction work defined as "complete" is that which is determined by the Project's PRIDE program, which was designed to status the work accurately and is being carried on at this time.

Phase II of the CAP will assess the resumption of construction (e.g., adequacy of restarting work stopped in-progress, including methods and programs for dealing with previously identified deficiencies), and the adequacy of new work performed after restart of construction.

The first thrust of Phase II needs to ensure that deficiencies recorded during Phase I are corrected to preclude their recurrence. The second purpose of Phase II will be to ensure that the construction process is adequate, and third, to sample on-going design and construction activities in much the same manner as Phase I.

The precise output format of Phase II has not yet been established, but it is probable that each review activity will result in a similar series of reports to the NRC. It is anticipated that Phase II may also result in a summary report that consolidates Phase I and Phase II into a document that supports the application for an operating license. This report can "roll up" previous program activity and acknowledge and address related NRC inspection reports. Note that an additional element of Phase II may include (perhaps as a separate subject) the readiness of the plant for operation. This aspect, however, is very tentative at this time.

CONSTRUCTION ASSURANCE PROGRAM

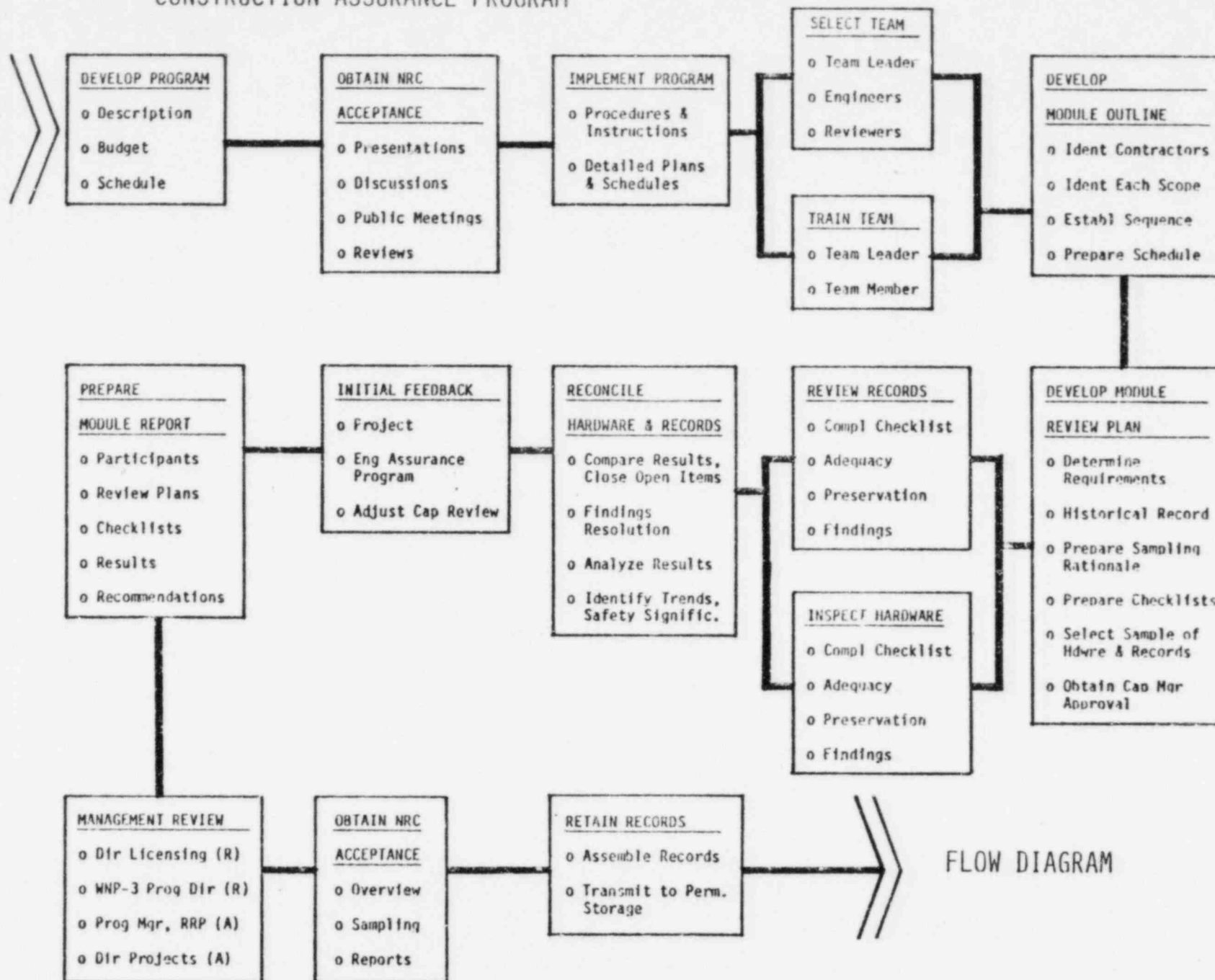


FIGURE 3

ATTACHMENT 1
TO
SUPPLY SYSTEM RESPONSE TO NRC QUESTIONS ON THE CAP

DRAFT OUTLINE FOR CAP MODULE REPORTS
(RESPONSE TO QUESTION 10)

1.0 INTRODUCTION

Describes the overall purpose and scope of the (Discipline/Commodity) review; how, when, and by whom it was initiated and implemented; and how it is reported.

1.1 Purpose and Scope

1.2 Implementation

1.3 Arrangement of the Report

2.0 EXECUTIVE SUMMARY

An abstract of the report and its results, this section briefly summarizes the salient points of the program that deal with the discipline/commodity.

3.0 REVIEW PROGRAM DESCRIPTION

The basic program to accomplish the module review and inspection is described in this section. This description includes module review plans and checklists, and the procedures and instructions used by the participants. It identifies the contracts covered by the reviews and compares the reviews accomplished with the requirements established by the design drawings and specifications, the FSAR, and the QA program.

3.1 Scope

3.2 Contract Applicability

3.3 Program Content

3.4 Evaluation of Related Programs

3.5 Procedures and Instructions

3.6 Review Plans and Checklists

4.0 METHODOLOGY

This section addresses the rationale applied to sampling, and the techniques used to select hardware items for inspection. It covers the philosophy applied to reviews and inspections in this program and the methods used to perform them. It also addresses the rationale used to evaluate results so that conclusions may be drawn and appropriate corrective actions initiated.

ATTACHMENT 1
(Continued)

- 4.1 Sampling Rationale
- 4.2 Review and Inspection Philosophy
- 4.3 Results Evaluation

5.0 PROGRAM MANAGEMENT

This section describes the organization and management activities that control the CAP, and the methods by which coordination and control are achieved.

- 5.1 Organization
- 5.2 Internal Controls
- 5.3 Management Involvement
- 5.4 NRC Involvement
- 5.5 Reporting
- 5.6 Audits

6.0 PROGRAM RESULTS

This section presents, by contract, the quantitative results of the CAP reviews and inspections, and identifies those instances where further investigation may be necessary.

- 6.1 Contract XXX
 - 6.1.1 Concrete
 - 6.1.2 Reinforcing Steel
 - 6.1.3 Embedded Items
- 6.2 Contract YYY
 - 6.2.1 Concrete
 - etc.

7.0 CONCLUSIONS AND RECOMMENDATIONS

In this section, summary results are accumulated and conclusions are presented. Recommendations for future action are made by the review team to Supply System management and to the project.

ATTACHMENT 2
TO
SUPPLY SYSTEM RESPONSE TO NRC QUESTIONS ON THE CAP

OPERATING CHARTER
FOR THE
WNP-3 READINESS REVIEW OVERSIGHT COMMITTEE

1.0 INTRODUCTION

The Washington Public Power Supply System (Supply System), a municipal corporation of the State of Washington, has contracted with three experienced and qualified individuals to be members of the WNP-3 Readiness Review Oversight Committee. Members of the committee shall be engaged to collectively provide periodic independent executive assessment of the adequacy, fidelity of implementation, candidness, appropriateness and results of the subject program. The work under consideration is more fully described hereinafter.

2.0 GENERAL

2.1 The Consultant/Committee shall:

- 2.1.1 Review the program plans and procedures and make a written assessment of the adequacy of the plans to satisfy the stated intent, and include any recommendations for improvement. Committee approval of procedures is not required. Any written material and/or minutes of subsequent meetings will be subject to public disclosure. Program plan review shall occur in August or September 1985.
- 2.1.2 Review the on-going implementation of the program on a periodic basis, and provide written reports of the assessments. These reviews are to be performed as requested by the Supply System, or as recommended by the Committee with Supply System approval.
- 2.1.3 Attend periodic meetings of the Committee and senior Supply System participants at the Supply System offices in Richland, Washington, on a schedule to be mutually established.
- 2.1.4 Make any recommendations that the Committee collectively considers necessary in order for the Committee to unequivocally certify Readiness Review Program adequacy.
- 2.1.5 Be available and able to participate with the Supply System at one or more meetings with the Nuclear Regulatory Commission and express verbally and in writing, the Committee's collective assessment of the fidelity and effectiveness of the Supply System's Readiness Review Program.

3.0 COMMUNICATION PROTOCOL

- 3.1 The Committee is to interface with the Supply System through the Chairman, and with the NRC through the Supply System except under extraordinary circumstances.
- 3.2 The Committee shall contact the Supply System upper management prior to contacting the NRC if normal Supply System contacts are not adequately responsive to Committee concerns.

OPERATING CHARTER
WNP-3 READINESS REVIEW
OVERSIGHT COMMITTEE
PAGE 2

- 3.3 The Committee is to send correspondence to the Supply System and not to the NRC directly. The Supply System will file original correspondence, and review all correspondence issued by the Committee. If the Supply System has substantive comments on the correspondence, the Committee will be asked to respond to the Supply System comments. The Committee shall acknowledge receipt of the comments and may revise the initial correspondence at the Committee's prerogative. The Supply System will retain all originals and revisions of the correspondence. The Supply System may attach, or include in the file, any remaining Supply System comments (which will also be transmitted to Committee members) or any related Committee correspondence that could enhance the cohesiveness of the "package." Copies of all material will be retained for inspection by the NRC or the public, upon request.
- 3.4 The Supply System will mail material directly to the Committee members, but members should respond to the Committee Chairman unless requested otherwise. The Chairman shall summarize and consolidate input from members and transmit a "consensus" document to the Supply System with minority views reconciled.
- 3.5 Minority dissenting opinions should be resolved within the Committee, but may be included in any report at the Chairman's prerogative.
- 3.6 The Committee is expected to review all transmittals from the Supply System and to make whatever observations are necessary, or to recommend any changes they see fit, to be able to endorse the program and its implementation, both during the course of the program and at its completion. If the Supply System requires comments on a transmittal to the Committee, the transmittal letter will so state. Unless specifically requested by the Supply System, transmittals to the Committee do not require response or acknowledgement, but the Committee may respond at their initiative if desired.
- 4.0 FORMAL ASSESSMENTS BY COMMITTEE
 - 4.1 The Committee is required to provide written assessments of the program and its on-going implementation on approximately quarterly intervals, beginning approximately January, 1986. A final assessment of the entire Phase I program will also be required.
 - 4.2 The Committee is also required to provide written summaries of Committee meetings and activities if these are not covered in the formal reports required above.
- 5.0 MATERIAL TO BE REVIEWED
 - 5.1 Committee members shall review all material transmitted to the Committee by the Supply System, and may review any other related material from any other source the Committee members deem appropriate that could contribute to RRP enhancement.

5.2 Committee members will receive:

1. Copies of all related NRC correspondence, to and from.
2. All related program documents including plans, schedules, procedures, etc., except financial.
3. Final drafts and final issue of each Review Plan, including scope, subtopics and review checklists.
4. Copies of Review Reports.
5. Copies of related NRC Inspection Reports and Supply System answers.
6. Summaries of Project responses to findings and summaries of Corporate assessment of findings, screened and compiled to focus on controversial issues.
7. Copies of each final draft and the final issue of each Final Review Report with disposition.
8. Any other related material the Committee may request.

6.0 ACCESS TO PARTICIPANTS

- 6.1 Committee members have unrestricted access to any of the participants in this program, but are expected to coordinate such access through the Program Manager, Readiness Review.

7.0 CONFLICT OF INTEREST

- 7.1 Committee members have signed a Certification of Non-Conflict of Interest (Exhibit 1, attached) and are expected to avoid any activity that would nullify that certification.
- 7.2 If a Committee member plans to engage in activities that may jeopardize his certification of independence, he shall so notify the Program Manager, Readiness Review in order to resolve the potential conflict.