

# Babcock & Wilcox

a McDermott company

Nuclear Power Generation Division

3315 Old Forest Road  
P.O. Box 1260  
Lynchburg, Virginia 24505-1260  
(804) 385-2000

Mr. Uldis Potapovs, Chief  
Vendor Inspection Branch  
U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011

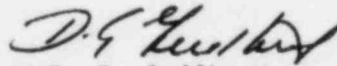
Dear Mr. Potapovs:

The attached report contains our responses to the Notice of Nonconformance identified in NRC Inspection Report 99900400/82-02.

We have reviewed both the NRC Inspection Report, and our responses, and find that neither includes information that is considered proprietary.

Should you have any questions concerning our reply, we will be pleased to discuss them with you.

Sincerely,



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

DEG:ar

cc: NPGD Staff  
DV Ferree  
JB Andrews  
GF Gleib  
CA Armontrout  
JH Taylor

RECEIVED

AUG 1 6 1982

8211060448 821102  
PDR QA999 EMVBW  
99900400 PDR

1. Nonconformance A

Section VI.A and Exhibit A of Nuclear Power Generation Division (NPGD) procedure NPG-0310-42, "Preparing and Processing Fuel Cycle Design Requirements" states in part, "The Fuel Cycle Design Requirements (FCDR) list contractual requirements. . . which relate to design, capability, and description of the reload core . . . (the) Nuclear Steam Core (NSC) Project Manager . . . originate(s) Fuel Cycle Design Requirements Form, BWNP-20512. Enter(s) on form . . . information, as applicable . . . Sign(s) form . . ."

Contrary to the above, the NSC Project Manager for the Sacramento Municipal Utility District (SMUD) Rancho Seco Project did not originate FCDR 89-1127000-01, enter applicable information on the FCDR, nor sign the FCDR for fuel reload cycle 6.

Corrective action and preventive measures were completed or committed before the end of this inspection and no further written response to this item is necessary.

With respect to Nonconformance A, B&W revised and reissued Fuel Cycle Design Requirement 89-112700-01 to include the required signatures, determined that this was an isolated case, and committed to revise procedure NPG-0310-42 to clarify the preparation and signature requirements and to revise the format and content of the form on which the design requirements are listed, by August 1, 1982

B&W-NPGD RESPONSE

Procedure NPG-0310-42 and the FCDR Form were revised and released to the Administrative Manuals on July 1, 1982. (Refer to Exhibit I).

2. NONCONFORMANCE B

Section VII.A.1 of NPGD procedure NPG-0412-66, "Release of Product Documentation" and related form 20032A-7 state in part, "The Document Release Notice (DRN) is a form designed to release NPGD approved documents . . . . For preparation of the DRN, see Forms Section Manual." Form 20032A-7 states in part, "The Originator shall enter . . . Product Upgrade List (PUL) Status - Enter Y (yes) if PUL is necessary - Enter N (no) if PUL is not necessary . . . in the appropriate place on the form."

Contrary to the above, the originator of DRN's for released NPGD approved documents (86-1123301-00, 86-113252-00 and 86-112788-00) did not enter either "Y" or "N" in the appropriate place on the DRN's, thereby making the status of the product indeterminate.

DESIGNATED ORIGINAL  
Certified By Rheanne Clark

B&W-NPGD RESPONSE TO NRC INSPECTION REPORT NO. 99900400/82-02

2. NONCONFORMANCE B (Cont'd)

Corrective action and preventive measures were completed or committed before the end of this inspection and no further written response to this item is necessary.

With respect to Nonconformance B, B&W determined that the lack of identification of PUL status on DRN's appeared to be limited to certain documents generated by one individual during the period January 1981 through March 1981. B&W committed to revise all affected DRN's, and to instruct all analysts of the importance of adhering to procedural requirements, by August 1, 1982.

B&W-NPGD RESPONSE

Sampling of DRNs revealed that the above was an isolated case and sampling of other DRNs prepared by the one individual mentioned above revealed no further discrepancies. (Refer to Exhibit II). The three DRNs in question were revised to indicate the proper PUL status. (Refer to Exhibit III). As this is an isolated incident, training of all analysts is not necessary and contrary to the above statement, no commitment was made to do so.

3. NONCONFORMANCE C

Section VIII and Appendix I of NPGD procedure NPG-0310-38, "Historical Document List (HDL)" state in part, "The HDL . . . serve(s) as an index to the safety-related records in the Records Center . . . (to) identify applicable, approved documents used in the design, procurement and construction of safety-related services or items at any level of assembly. . . The following NPGD prepared documents are considered safety-related if they are released for use on safety-related systems, equipment, parts or services: . . . Procurement Authorizations (PA) . . . ."

Contrary to the above, the HDL did not serve as an index to safety-related PA records in the records center as evidenced by the fact that PA's 83-768661-00 through 83-768661-09, related to the design and procurement of MK-B5 fuel assemblies and axial blanket fuel assemblies for the SMUD Rancho Seco Cycle 6 fuel reload, were not identified on the HDL.

B&W-NPGD RESPONSE

Corrective Action

This deficiency was previously detected by the NPGD QA internal audit program. An audit of the HDL was completed on April 30, 1982, but at the time of this inspection, the audit report had not been issued. However, a draft of the audit report was shown to the inspector.

B&W-NPGD RESPONSE TO NRC INSPECTION REPORT NO. 99900400/82-02

3. NONCONFORMANCE C (Cont'd)

B&W-NPGD RESPONSE

Corrective Action

As revealed by the internal audit, this deficiency not only applied to the above PAs, but applied to all safety related Fuel PAs. The problem here was not that the PAs had not been entered into the data base but rather that the HDL Computer Program was not programmed to extract the safety related Fuel PAs from the data base. This problem now has been corrected. Refer to Exhibit IV for a listing of safety related PAs applicable to SMUD Rancho Seco Cycle 6 fuel reload (B&W-NPGD Contract 660-087F). Note that PA 768661-09 is not listed as it is a Release for Shipment PA and as such is not considered to be a safety related PA. Also, note that PA 768661-00 is not listed as it was replaced by PA 768661-01.

Preventative Measures

B&W-NPGD QA will continue to monitor the HDL through periodic audits.

4. NONCONFORMANCE D

Section VII.A.1 of NPGD procedure NPG-0402-01, "Preparing and Processing NPGD Calculations" states in part, "The first page of the calculation package shall be a calculation data/transmittal sheet (CDS - BWNP-20210)." Section 1.0 of Appendix 1 requires that the calculational data/transmittal sheet (CDS), (B&W form CDS-BWNP-2010) be completely filled out. The CDS form contains a section titled "Summary of Results (Include DOC ID's of Previous Transmittals & Source Calculation Packages for this transmittal)." Instruction 7.0 for completing this section of the CDS form states "Summary of Results - Self-explanatory."

Contrary to the above, the first page of calculations 32-1119748-00, and 32-1122317-00 did not have a completely filled out CDS form. The section of the form titled "Summary of Results" did not contain a summary of the results of the calculations.

B&W-NPGD RESPONSE

Corrective Action

Section VII-A-9 of B&W-NPGD Calculation Procedure NPG-0402-01 states:

"Summaries of calculation package results may be transmitted to users using a CDS form with an identification number consisting of a Document Identifier (86), serial number and revision number."

Review of the first page of calculation 32-1122317-00 indicated that four "86" documents were referenced under "Summary of Results" (Refer to Exhibit V). Since 86 documents may be used to transmit summaries of calculation results to the various users, it is appropriate to reference the 86 documents under "Summary of Results" rather than duplicate the content of the 86 documents.

4. NONCONFORMANCE D (Cont'd)

B&W-NPGD RESPONSE

Corrective Action

Review of the first page of calculation 32-1119748-00 indicated that "See Attachments" was written under "Summary of Results". Since what was attached was the calculation package, it is conceded that this was not an appropriate way to summarize the calculation results. This calculation has been revised to reference under "Summary of Results" the "86" document that transmitted the calculation result summary to the various users. (Refer to Exhibit VI).

A review of other calculation packages was made to determine if the above problems with calculation 32-1119748-00 was generic or isolated. This review indicated that this was an isolated problem. (Refer to Exhibit VII).

Preventative Measures

Based on the above, no preventative measures are required.

5. NONCONFORMANCE E

Section VII.A.9 of NPGD procedure NPG-0402-01 states in part, "Summaries of calculation package results may be transmitted to users using a CDS form . . . and be reviewed and released in accordance with the procedure . . . ." Further, section VII.C of NPGD procedure NPG-0412-66 states in part, "The Product Upgrade List (PUL) is used to indicate needed changes/additions known at the time of release, or to indicate input requirements unavailable at the time of release . . . ."

Contrary to the above, PUL's were not used to indicate needed changes/additions known at the time of release, or to indicate input requirements were unavailable at the time of release, for safety-related calculation summary packages (e.g., 86-1123144-00). These documents were various types of calculation summaries (e.g., 32-1122317-00), which were known at the time to have a PUL relating to the need for verification of source data/references outstanding against it. Further, these design documents were reviewed, released, and transmitted to users without any indication that changes may be required as a result of clearing the PUL's that were outstanding.

B&W-NPGD RESPONSE

As discussed in the B&W-NPGD meeting on June 3, 1982, and in the D. E. Guilbert to Uldis Potapovs Letter, dated June 23, 1982, the fact that input source references were not reviewed for proper identification of their source references had no bearing on the technical adequacy of the calculation results. Therefore, it is of no consequence that the calculation summaries (i.e. "86" documents) did not identify that their base calculations had PULs issued against them. In any event, issuance of PULs against the "86" documents was not required because the PULs were not issued against the calculation because the calculation input sources had not been reviewed for proper identification of their input sources.



5. NONCONFORMANCE E (Cont'd)

B&W-NPGD RESPONSE (Cont'd)

As stated in the above letter, B&W-NPGD does not believe that the review of calculation input sources for proper identification of their input sources is necessary or of any benefit.

6. NONCONFORMANCE F

Section B of NPGD procedure NPG-0310-38 states in part, "The following are the only documents listed on the HDL: . . . Safety-related NPGD design and supplier technical documents which have been approved and released after June 15, 1975 . . . ." Section VII.C of NPGD procedure NPG-0412-66 states in part, "The PUL . . . is used to indicate needed changes/additions known at the time of release, or to indicate input requirements unavailable at the time of release . . . . Release administration shall distribute the PUL in accordance with distribution shown on the PUL form. A copy of the PUL (including revisions) is associated with the document to be revised and retained in the Records Center until all items listed on the PUL have been resolved."

Contrary to the above, certain PUL's issued from January 1981, to March 1981, which are NPGD safety-related design documents indicating that the review/verification of all source documents for the affected safety-related calculations has not been completed at the time the calculation was approved and released, were:

1. Not listed on the HDL against the affected calculations;
2. Not distributed by Release Administration; or
3. Not associated with the document to be revised and retained in the Records Center.

B&W-NPGD RESPONSE

From January, 1981 to March, 1981, B&W-NPGD Calculation Procedure NPG-0402-01 required PULs to be issued against new or revised calculations if the calculation input sources had not been reviewed for proper identification of their input sources. This was done to assure that the calculation input sources would be reviewed at a later date when the Calculation Package Source Reference Program (CPSR) was undertaken (Refer to D. E. Guilbert to Uldis Potapovs Letter dated August 6, 1980). Concurrently with the requirement that PULs be issued, a CPSR tracking system was being developed so that the new or revised calculations and their input sources could be entered into a computerized data base. The computerized data base would be used to produce a CPSR Tracking Report which would identify all calculations to be reviewed in the CPSR Program. Since this tracking report was being developed, a conscious decision was made by the CPSR Program Task Force not to process the PULs issued for calculation source references but rather to have the CPSR Project Engineer collect all such PULs and enter the calculations represented by them into the CPSR Tracking Report at a later date.

B&W-NPGD RESPONSE TO NRC INSPECTION REPORT NO. 99900400/82-02

6. NONCONFORMANCE F (Cont'd)

B&W-NPGD RESPONSE (Cont'd)

The CPSR Tracking Report came into being on March 1, 1981, and NPG-0402-01 was revised to eliminate the need for a PUL if the calculation input sources were listed on the CPSR Tracking Report. All PULs issued for calculation source references have been closed since the calculations represented by them were entered into the CPSR Tracking Report.

EXHIBIT I

B&W-NPGD PROCEDURE NPG-0310-42

B&W-NPGD FCDR FORM BWNP-20512



BABCOCK & WILCOX

ADMINISTRATIVE MANUAL  
PROCEDURES

NUMBER  
NPG-0310-42 (Rev 2)

SECTION  CONTRACT ADMINISTRATION	SUBJECT  PREPARING AND PROCESSING FUEL CYCLE DESIGN REQUIREMENTS
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I. APPLICABILITY

ENGINEERING SERVICES  
NUCLEAR FUEL SERVICES  
QUALITY & ADMINISTRATION

II. PROCEDURE RESPONSIBILITY

Manager, Fuel Project Operations

III. PURPOSE

To define the format, content, and other information necessary to prepare, process, and revise the Fuel Cycle Design Requirements.

IV. EFFECTIVITY

This procedure is applicable to all reload core design activity performed after the issue date of this procedure.

V. REFERENCES

NPG-0403-11 - Signatures on Technical Documents

VI. FORMS PROCESSED (See Forms Section Manual)

BWNP-20512 - Fuel Cycle Design Requirements (FCDR)

VII. GENERAL

A. The FCDR lists contract requirements compiled by the NSC Project Manager and the cognizant engineer within Fuel Engineering which relate to design, capability and description of the reload core. Preparation of the FCDR is initiated by the NSC Project Manager.

B. Responsibilities for the preparation, review and approval of the FCDR are as follows:

Prepared by: Cognizant Engineer within Fuel Engineering

Reviewed by: Independent Reviewer (i.e., Reviewed by another engineer within Fuel Engineering or by an engineer outside Fuel Engineering, who has been designated by the preparer's Unit Manager.)

REV STATUS	REV	2	2	2															
OF PAGES	PAGE	1	2	3															

**ADMINISTRATIVE MANUAL  
PROCEDURES**

NUMBER

NPG-0310-42

VII. GENERAL (Cont'd)

+ Approved by: NSC Project Manager and cognizant Fuel Engineering Unit Manager

Definition of the above signatures are in accordance with NPG-0403-11.

- C. Revisions to the FCDR shall be made by preparing a new form, increasing the revision level by one, and obtaining signatures from those organizations that signed the original document.
- D. The final revision of the FCDR, as determined by the NSC Project Manager, shall be approved in sufficient time to allow Fuel Engineering to perform their analysis in support of the Reload Licensing Report.
- E. The FCDR is identified by Document Identifier 89, and is a self-releasing document.

VIII. FUEL CYCLE DESIGN REQUIREMENTS CONTENTS

The contents of the FCDR include, but are not limited to, the information requirements reflected on FCDR Form BWNF-20512.

IX. PROCEDURE

Prepare and process the FCDR in accordance with Exhibit A.

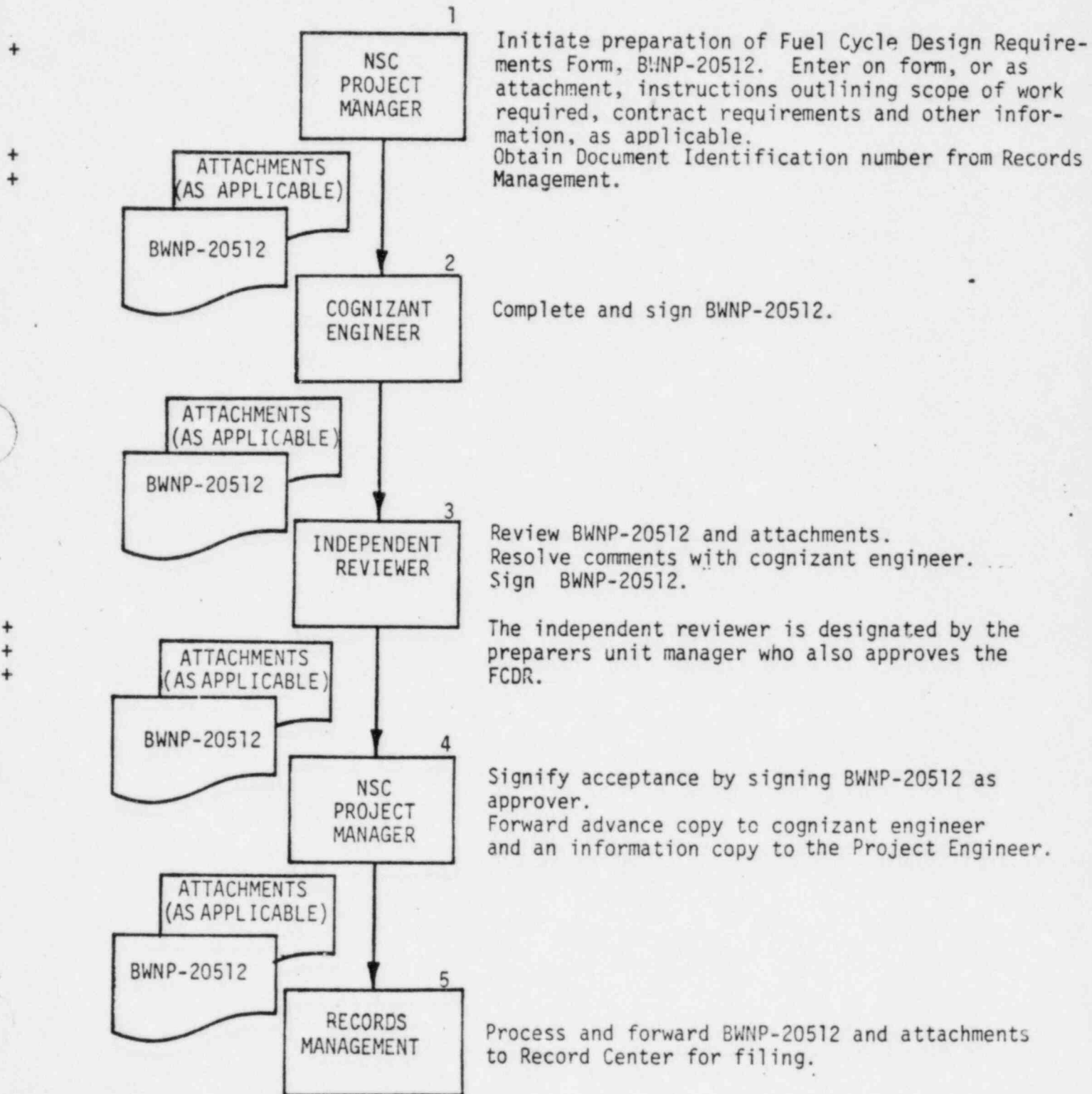
- END -

ADMINISTRATIVE MANUAL  
PROCEDURES

NUMBER  
NPG-0310-42

EXHIBIT A

PROCESSING OF FUEL CYCLE DESIGN REQUIREMENTS



FUEL CYCLE DESIGN REQUIREMENTS

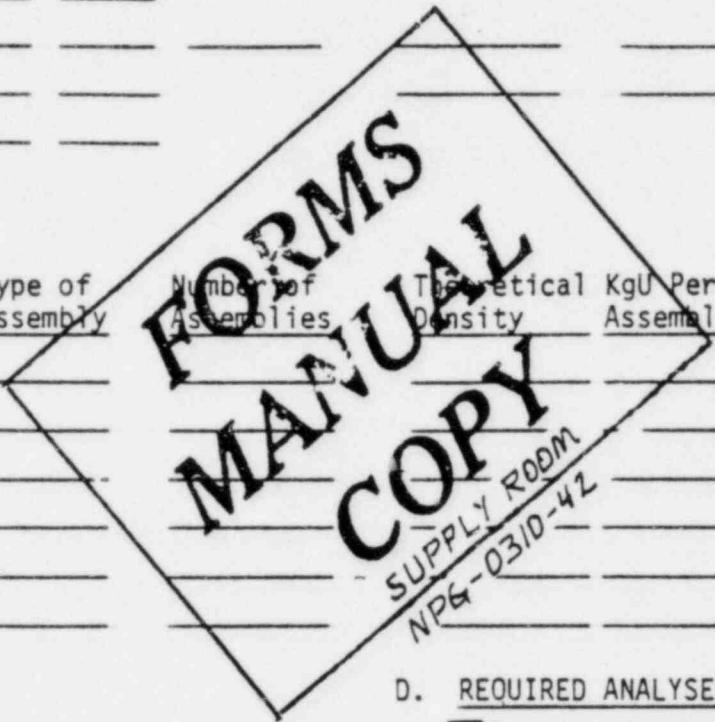
CONTRACT NO.:	CUSTOMER:	I.D. NO.: 89-
PLANT:	CYCLE NO. (N):	FEED BATCH NO.:

A. FUEL CYCLE PARAMETERS

	<u>Cycle Number</u>	<u>Cycle Length, EFPD</u>	<u>Power Level, Mwt</u>	<u>Shutdown Window ± EFPD</u>	<u>APSR Withdrawal (Yes/No)</u>	<u>Power Coastdown (Yes/No)</u>
N-2	_____	_____	_____	_____	_____	_____
N-1	_____	_____	_____	_____	_____	_____
N	_____	_____	_____	_____	_____	_____
N+1	_____	_____	_____	_____	_____	_____

B. BATCH DESCRIPTIONS

<u>Batch Number</u>	<u>w/o U235</u>	<u>Type of Assembly</u>	<u>Number of Assemblies</u>	<u>Theoretical Density</u>	<u>KgU Per Assembly</u>	<u>Nominal Stack Height</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____



C. CONTROL COMPONENTS

1. No. of Control Rods \_\_\_\_\_
2. No. of APSRs \_\_\_\_\_
3. No. of ORAs \_\_\_\_\_
4. No. of Sources and Type \_\_\_\_\_
5. No. of BPRA and B4C Concentration \_\_\_\_\_

D. REQUIRED ANALYSES

- Physics Test Manual
- Physics Operation Manual
- Maneuvering Operations Manual
- Integrated Systems Test
- Design Report
- Mechanical Maneuvering Recommendations

E. OTHER REQUIREMENTS (SPECIAL CORE TESTING, R&D REQUIREMENTS, ETC.)

PREPARED BY:	REVIEWED BY:	APPROVED BY:
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To	FILE	BWNP-20553(7-81)
From	W. L. MOORE - QA AUDITS (2359)	Customer or File
Subject	NRC AUDIT - MAY 17-21, 1982	Date MAY 25, 1982

The NRC Inspector requested additional information during his inspection. This information is described below:

1. Fuel Cycle Design Requirements - A Fuel Cycle Design Requirement (FCDR) form contain all the signatures except for "Originator." A check was made of all the FCDR forms in the Records Center (total of 12). All of those had all four of the required signatures.
2. Three Fuel Engineering originated DRN's failed to have the "PUL STAT" block marked. A check of the Records Center showed these to be an isolated case. The attached sheets summarize that check of the Records Center.

*W L Moore*



DRNs CITED IN NRC NONCONFORMANCE

<u>DRN on DOCUMENT</u>	<u>PUL STAT</u>	<u>RELEASED BY</u>	<u>DATE</u>
86-1122788-00	Blank-No stat given	R. C. Deveney	1-5-81
86-1123252-00	Blank-No stat given	R. C. Deveney	1-21-81
86-1123301-00	Blank-No stat given	R. C. Deveney	1-23-81

FOLLOW-UP TO HIGHER REVISIONS OF ABOVE DOCUMENTS

<u>DRN on DOCUMENT</u>	<u>PUL STAT</u>	<u>RELEASED BY</u>	<u>DATE</u>
86-1122788-01	N	R. C. Deveney	2-13-81
86-1123252-01	N	R. C. Deveney	2-24-81
86-1123301-01	N	R. C. Deveney	2-2-81
86-1123301-02	N	R. C. Deveney	2-26-81



OTHER DRNs PREPARED BY R. C. DEVENEY

<u>DRN on DOCUMENT</u>	<u>PUL STAT</u>	<u>RELEASED BY</u>	<u>DATE</u>
86-1123144-00	N	R. C. Deveney	1-13-81
86-1124188-00	N	R. C. Deveney	3-23-81
86-1125343-00	N	R. C. Deveney	4-14-81
86-1125615-00	N	R. C. Deveney	5-8-81
86-1125890-00	N	R. C. Deveney	5-20-81
86-1126503-00	N	R. C. Deveney	7-6-81

DRNs REVIEWED IN RECORDS CENTER

<u>DRN on DOCUMENT</u>	<u>PUL STAT</u>	<u>RELEASED BY</u>	<u>DATE</u>
86-1122791-00	No	F. D. Johnson	1-7-81
86-1122791-01	No	F. D. Johnson	1-20-81
86-1122832-00	No	Frederick D. Johnson	7-23-81
86-1123091-00	N	Nancy Harlow	1-29-81
86-1123095-00	No	F. D. Johnson	1-8-81
86-1123098-00	N	B. Badruzz Amen	3-16-81
86-1123108-00	N	J. W. Harwell	2-27-81
86-1123125-00	N	J. L. Creasy	10-1-81
86-1123131-00	N	B. A. Guthrie, III	7-9-81
86-1123184-00	N	C. G. Dideon	1-14-81
86-1123192-00	N	M. Lockey	1-26-81
86-1123260-00	N	Nancy Harlow	5-11-81
86-1123264-00	N	Talimer Bodruzzanau	1-20-81
86-1123288-00	N	W. C. Nestor	1-21-81

EXHIBIT III

B&W-NPGD MEMO, R. C. DEVENY  
TO RECORDS CENTER DATED MAY 26, 1982

# INFORMATION

1 1982

BWNP-20553(7-81)

To Records Center		Customer or File RPT-82-26 B&W
From <i>R. C. Deveney</i> R. C. Deveney, NOA&S Unit, Ext. 3286		Date May 26, 1982
Subject PUL Status		

The following documents have a blank for the PUL status on the DRN.

- 86-1122788-00
- 86-1123252-00
- 86-1123301-00

The blank should be an "N". Please include this memo with these files.

RCD/lec


- cc:   
 G. E. Hanson *2274*  
 J. B. Andrews  
 W. T. Brunson *WB*  
 C. W. Mays



EXHIBIT IV  
HDL PA LISTING FOR  
SMUD RANCHO SECO CYCLE 6 FUEL RELOAD  
B&W-NPGD CONTRACT 660-087F

HISTORICAL DOCUMENT LISTING - HDL

( QA RECORD INDEX )

CONTRACT 660-087F

ASSEMBLY NUMBER 70-001 TASK-FUEL ASSEMBLY DESIGN

DOC MOD	PART / B+W MARK NUMBER	DOCUMENT NUMBER ID SERIAL	RV	EQUIPMENT/DOCUMENT DESCRIPTION	B+W ST	RELEASED/ RECEIVED DATE	RELEASING DOCUMENT	VENDOR	VENDOR DOCUMENT NUMBER
	70-001	20- 1020832-00		MK-B FUEL ASSEMBLY	A	18MAY82	OCF		
		21- 1120988-00		MARK B5 FUEL ASSEMBLY	A	23JAN81	FA768661-01	CNFP	CR-87F-001
		21- 1120988-01		MARK B5 FUEL ASSEMBLY	A	11AUG81	FA768661-02		
		21- 1120988-02		MARK B5 FUEL ASSEMBLY	A	31AUG81	FA768661-03		
		21- 1120988-03		MARK B5 FUEL ASSEMBLY	A	01OCT81	FA768661-04		
		21- 1120988-04		MARK B5 FUEL ASSEMBLY	A	03NOV81	FA768661-05		
		21- 1120988-05		MARK B5 FUEL ASSEMBLY	A	21JAN82	FA768661-06		
		21- 1120988-06		MARK B5 FUEL ASSEMBLY	A	31MAR82	FA768661-07		
		21- 1120988-07		MARK B5 FUEL ASSEMBLY	A	16APR82	FA768661-08		
		21- 1120988-08		MARK B5 FUEL ASSEMBLY	A	16APR82	FA768661-08		
		23- 1132743-00		AXIAL BLANKET FUEL ASM. (4)	A	09JUL82	DRN		
		23- 1132744-00		SHORT STACK BURN POISON ROD	A	09JUL82	DRN		
		23- 1132745-00		BURNABLE POISON ROD ASM. (8)	A	09JUL82	DRN		



EXHIBIT V

FIRST PAGE OF CALCULATION

32-1122317-00

CALCULATION DATA/TRANSMITTAL SHEETDOCUMENT IDENTIFIERCALC. 32 - 1122317 - 00TRANS. 86 - - TYPE:  RESEARCH & DEVELOPMENT  SAFETY ANALYSIS REPORT  NUC. SERV. INPUT  DESIGN REQMT.  DESIGN VERIF.  OTHERTITLE ANO-1 CY5 Maneuvering F+BPREPARED BY R.C. Deveney REVIEWED BY Timothy MATITLE Engineer DATE 2/25/81 TITLE engineer DATE 1/5/81

## PURPOSE:

To calculate maneuvering information for ANO-1 Cycles off 320 CY4.

## SUMMARY OF RESULTS (INCLUDE DOC. ID'S OF PREVIOUS TRANSMITTALS &amp; SOURCE CALCULATIONAL PACKAGES FOR THIS TRANSMITTAL)

## MEMOS

- 1) 86-1122288-00, "ANO-1 Cycle 5 off 320 CY4 RPS Offset Limits," RC Deveney, Jan 1981.
- 2) 86-1123133-00, "ANO-1 Cycle 5 125% Power Distributions," RC Deveney, Jan. 1981.
- 3) 86-1123252-00, "ANO-1 Cycle 5 Tech Spec Limits," RC Deveney, Jan. 1981.
- 4) 86-1123252-00,01, "ANO-1 Cycle 5 Alarm Setpoints," R.C. Deveney, Feb. 1981

DISTRIBUTION

★ See Page 10

EXHIBIT VI

FIRST PAGE OF CALCULATION

32-1119748-01

CALCULATION DATA/TRANSMITTAL SHEET

DOCUMENT IDENTIFIER          CALC. 32 - 1119748                  - 01  
TRANS. 86 -    -

TYPE:         RESEARCH & DEVELOPMENT         SAFETY ANALYSIS REPORT         NUC. SERV. INPUT      X   DESIGN RQMT.         DESIGN VERIF.         OTHER

TITLE Oconee 2 Cycle 6 Off 360 EFPD Cycle 5

PREPARED BY PETER Holman (Peter Holman)    REVIEWED BY Mike Hannek (Mike Hannek)

TITLE Engineer IV                      DATE 7/26/82    TITLE Supervising Engineer                      DATE 7/26/82

PURPOSE:

- To perform Final Fuel Cycle Design calculations for Oconee 2 Cycle 6 based on
- 1) Cycle 5 = 360 EFPD, and
  - 2) Feed batch to cycle 6 is 3.17 w/o U235.

SUMMARY OF RESULTS (INCLUDE DOC. ID'S OF PREVIOUS TRANSMITTALS & SOURCE CALCULATIONAL PACKAGES FOR THIS TRANSMITTAL)

86-1121016-00, "Oconee 2 Cycle 6 Off 360 EFPD Cycle 5."

DISTRIBUTION

See DRN.

EXHIBIT VII

B&W-NPGD MEMO, C. A. ARMONTROUT

TO INTERNAL AUDIT #98 FILE,

DATED AUGUST 3, 1982

To	INTERNAL AUDIT #98 FILE	BNWP-20553(7-81)	
From	C. A. ARMONTROUT - MANAGER, QA AUDITS & PROGRAMS (2473)	Customer or File	IA #98 T5.4
Subject	ADDENDUM TO INTERNAL AUDIT #98	Date	AUGUST 3, 1982

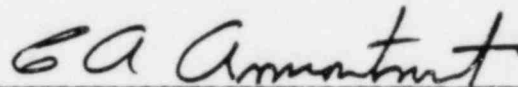
IA #98 consisted of an audit of 41 calculations selected at random from a population of 970 calculations that were completed and released between April 1, 1981 and January 29, 1982.

The purpose of this addendum is to document the results of a review of the "Summary of Results" on the first page of each of the above calculations. This review was conducted in response to Nonconformance D of NRC Inspection Report 99900400/82-02 which stated that two calculations did not have the "Summary of Results" properly completed.

This review indicated that the "Summary of Results" for the 41 calculations were completed in one or more of the following methods:

1. Reference to 86 documents which transmitted summaries of the calculation results to users.
2. Summaries of the calculation results were stated.
3. References were made to sections of the calculation package that summarized the calculation results.

The above methods were considered to be in compliance with the requirement to complete a "Summary of Results" for each calculation.

  
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