SOUTHERN CALIFORNIA
EDISON
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Dwight E. Nunn
Vice President

April 23, 2001

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: **Docket Nos. 50-361 and 50-362**
Proposed Change Number NPF-10/15-514
Increase in Reactor Power to 3438 MWt
San Onofre Nuclear Generating Station
Units 2 and 3

Reference: April 3, 2001 letter from Dwight E. Nunn (SCE) to Document Control Desk (NRC), Subject: Proposed Change Number NPF-10/15-514, Increase in Reactor Power to 3438 MWt, San Onofre Nuclear Generating Station Units 2 and 3

Gentlemen:

By the above reference Southern California Edison (SCE) submitted Amendment Application Numbers 207 and 192 to the facility operating licenses for the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, respectively, to increase the licensed reactor thermal power level to 3438 MWt. In response to a request from the NRC concerning these amendment applications, enclosure 1 is one (1) copy of the Proprietary Westinghouse calculation "Steam Flow Uncertainty Based on the Warranted Crossflow Flow Uncertainties at SCE SONGS Units 2 and 3," Westinghouse Electric Company, CE Engineering Technology - Plant Systems, calculation number A-SG-PS-0002, Revision 000, dated November 17, 2000, SONGS number 1814-AA023-C0024-0.

Enclosure 2 is one (1) copy of Nonproprietary Westinghouse calculation "Steam Flow Uncertainty Based on the Warranted Crossflow Flow Uncertainties at SCE SONGS Units 2 and 3," Westinghouse Electric Company, CE Engineering Technology - Plant Systems, calculation number A-SG-PS-0002, Revision 000, dated November 17, 2000, SONGS number 1814-AA023-C0029-0.

Because Enclosure 1 contains information proprietary to Westinghouse, it is supported by an Affidavit (Enclosure 3) signed by Westinghouse, the owner of such information. The Affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.790 of the Commission's regulations.

P. O. Box 128
San Clemente, CA 92674-0128
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Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.790 of the Commission's regulations.

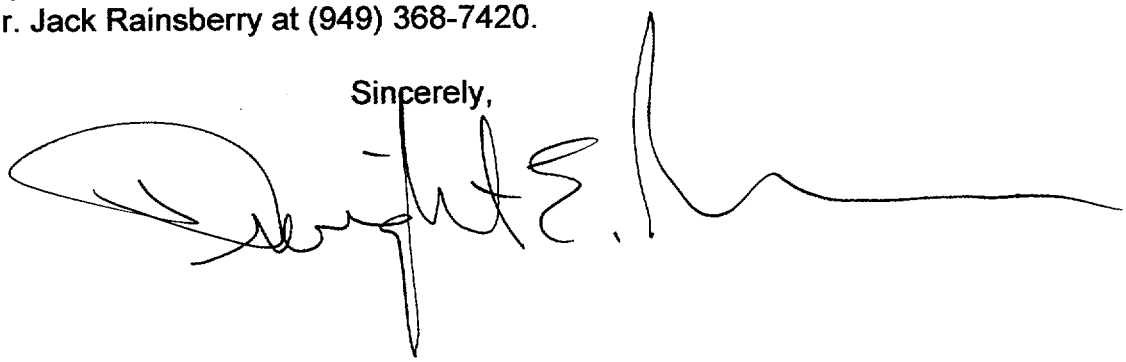
Correspondence with respect to the proprietary aspects of the enclosed calculation and Affidavit should be addressed to:

Mr. Phillip W. Richardson
Licensing Project Manager
Windsor Nuclear Licensing
Westinghouse Electric Company
2000 Day Hill Road
Windsor, CT 06095

The above information is provided to the NRC to be considered in the NRC review of the San Onofre Units 2 and 3 Proposed Change Number NPF-10/15-514, Increase in Reactor Power to 3438 MWt. SCE requests these amendments be issued by July 2001 and be effective as of their date of issuance, to be implemented within 30 days from the date of issuance.

If you have any questions regarding the enclosed information, please feel free to contact me or Mr. Jack Rainsberry at (949) 368-7420.

Sincerely,



Enclosures

cc: E. W. Merschoff, Regional Administrator, NRC Region IV (w/o enclosures)
J. G. Kramer, NRC Acting Senior Resident Inspector,
San Onofre Units 2/3 (w/o enclosures)
L. Raghavan, NRC Project Manager, San Onofre Units 2 and 3
S. Y. Hsu, Department of Health Services, Radiologic Health Branch
(w/o enclosures)

ENCLOSURE 2
NONPROPRIETARY CALCULATION

Design Analysis Title Page

Title: **STEAM FLOW UNCERTAINTY BASED ON THE WARRANTED CROSSFLOW FLOW UNCERTAINTIES AT SCE SONGS UNITS 2 AND 3**

Document Number: **A-SG-PS-0002** Revision Number: **000**

1. **Verification Status**:

☒ Complete ☐ Incomplete / Not Verified ☐ Complete with Internal Contingencies / Assumptions

2. **Approval of Completed Analysis**

This Design Analysis is complete and verified. Management authorizes the use of its results and attests to the qualification of the Cognizant Engineer(s), Mentor and Independent Reviewer(s).

	Printed Name	Signature	Date
Cognizant Engineer(s)			
Mentor ☒ **None**			
Independent Reviewer(s)			
Management Approval			

NOTE 1

3. **Package Contents** (this section may be completed after Management approval):

Total page count, including body, appendices, attachments, etc. 20

List associated CD-ROM disk Volume Numbers and path names: ☒ **None**

CD-ROM Volume Numbers	Path Names (to lowest directory which uniquely applies to this document)

Other attachments (specify): ☐ **None**

Appendices	None
Attachments	See Table Of Contents

4. **Distribution**: C.T. French, T.P. Jaeger, G.J. Kanupka, B.K. McQuoid, Westinghouse Quality Records, AMAG Records

NOTE 1: NON-PROPRIETARY COPY - PROPRIETARY INFORMATION HAS BEEN REMOVED.

[ ]

Record of Revisions

Rev	Date	Extent of Revision	Cognizant Engineer(s)	Independent Reviewer(s)	Approver
000	11/17/00	Original Issue	T.P. Jaeger	B.K. McQuoid	R.O. Doney

[ ]

TABLE OF CONTENTS

LIST OF APPENDICES

None

LIST OF ATTACHMENTS

[ ]

1. OBJECTIVE OF DESIGN ANALYSIS

1.1 Purpose

The purpose of this calculation is to determine the upper bound steam flow uncertainty based on the warranted CROSSFLOW feedwater and blowdown flow uncertainties. This bounding steam flow uncertainty is intended for use in SCE's power uprate licensing submittal in the interim period prior to installation of the CROSSFLOW meters on the feedwater and blowdown lines at which time the actual uncertainty will be determined.

1.2 Task Definition

This calculation is performed, as requested by the customer's purchase order of Reference 9.1.1, in accordance with the requirements in Reference 9.1.2.

1.3 Applicability

This analysis is applicable for SCE SONGS UNITS 2 AND 3 and its use is limited to estimating the upper bound steam flow uncertainty per steam generator.

2. ASSESSMENT OF SIGNIFICANT DESIGN CHANGES

This analysis uses the warranted CROSSFLOW uncertainties in conjunction with the 100% power uprate condition design feedwater and blowdown flow values provided by SCE to determine an upper bound uncertainty in accordance with the criteria specified in Section 1.2. As such, up-to-date inputs and methods are utilized.

3. ANALYTICAL TECHNIQUES / METHODS

As discussed in Section 1, the purpose of this calculation is to determine a bounding steam flow uncertainty that can be used in SCE's licensing submittals prior to the CROSSFLOW System installation. Note that the actual design feedwater, blowdown and steam flow uncertainties will be determined in separate calculations using as-installed design parameters obtained during installation of the CROSSFLOW Meters in the feedwater and blowdown lines and following initial test runs at full power. The methods/techniques used in this calculation are consistent with the methodologies/techniques presented in the topical report of Reference 9.2.2 as approved by the NRC in Reference 9.2.3. The methodology is presented below.

3.1 Equation For Determination Of Steam Flow

The relationship between feedwater flow, blowdown flow and steam flow as used in the SONGS Units 2 and 3 thermal power determination is obtained from the COLSS function design requirements report of Reference 9.2.1 (page 52.7) and is presented in Equation 1.

[

Equation 1

]

[ ]

3.2 Steam Flow Uncertainty

[

]

4. SELECTION OF DESIGN INPUTS

Design inputs and associated source references used herein are shown below.

Design Input Parameter	Symbol	Value	Reference
Warranted CROSSFLOW Feedwater Flow Uncertainty (%)	$\varepsilon_{W\,feedwater}$	[ ]	9.1.2
Warranted CROSSFLOW Blowdown Flow Uncertainty (%)	$\varepsilon_{W\,blowdown}$	[ ]	9.1.2
100% Uprate Nominal Feedwater Flow / SG (lbm/hr)	$W_{Nom\ feedwater}$	7630000	9.3.1
100% Uprate Minimum Feedwater Flow / SG (lbm/hr)	$W_{Min\ feedwater}$	7180000	9.3.1
100% Uprate Nominal Blowdown Flow / SG (lbm/hr)	$W_{Nom\ blowdown}$	57442	9.3.1
100% Uprate Maximum Blowdown Flow / SG (lbm/hr)	$W_{Max\ blowdown}$	96000	9.3.1

[ ]

5. ASSUMPTIONS

Assumptions are classified as either a local analysis assumption, an internal assumption or external assumption. Local analysis assumptions are documented, fully justified and verified within this analysis and require no further action/verification by Westinghouse or the customer. Internal assumptions are assumptions that require additional verification/clearing by Westinghouse. External assumptions are assumptions that require additional verification and are the customer's responsibility for clearing.

5.1 Local Analysis Assumptions

There are no internal assumptions/contingencies.

5.2 Internal Assumptions/Contingencies

There are no internal assumptions/contingencies.

5.3 External Assumptions/Contingencies

There are no external assumptions/contingencies.

6. COMPARISON TO SIMILAR WORK

This design analysis provides a bounding steam flow uncertainty based on the warranted CROSSFLOW System uncertainties and design feedwater and blowdown flow values at the SCE uprate power condition. Therefore, no direct comparison of the results with those of a previous cycle or other similar analysis can be made. However, the results herein appear reasonable.

7. RESULTS / CONCLUSIONS

The maximum expected steam flow uncertainty for any one steam generator at SONGS Unit 2 and 3 [

] This uncertainty is provided solely for the purpose of providing an assumed bounding steam flow uncertainty for use in SCE's licensing submittals and shall not be used in any analysis where it is reflected as being the actual uncertainty. When used as an input, there should be a corresponding contingency placed on any derived result(s) that will subsequently verify its validity when the actual uncertainties are determined after installation of the feedwater and blowdown CROSSFLOW Meters.

8. ANALYSIS / OTHER ELEMENTS

Calculation of the steam flow uncertainty at the 95% confidence interval assuming the CROSSFLOW meter uncertainties in the corresponding feedwater and blowdown lines are at their maximum warranted uncertainty values is shown below using the methodology presented in Section 3 and the inputs from Section 4. The steam flow uncertainty is calculated at the nominal feedwater and blowdown flow conditions as well as for the other combinations of the feedwater and blowdown conditions in order to determine the scenario that provides the greatest steam flow uncertainty. The results are summarized in Section 7.

8.1 Nominal Feedwater Flow And Nominal Blowdown Flow Condition

[ ]

8.2 Nominal Feedwater Flow And Maximum Blowdown Flow Condition

[ ]

[ ]

8.3 Minimum Feedwater Flow And Nominal Blowdown Flow Condition

[

]

8.4 Minimum Feedwater Flow And Maximum Blowdown Flow Condition

[

]

8.5 Bounding Steam Flow Uncertainty

Review of the steam flow uncertainties calculated in Sections 8.1, 8.2, 8.3 and 8.4 indicates that [

]

9. REFERENCES

9.1 Task Definition References

9.1.1 Southern California Edison Purchase Order Number 8X090026.

9.1.2 Westinghouse Electric Company CE Nuclear Power LLC Proposal, "Installation Of The CROSSFLOW Ultrasonic Flow Measurement System At The San Onofre Nuclear Generating Station Unit 2 And Unit 3," transmitted via Westinghouse Electric Company Letter PS-2000-0075, Rev 001.

9.2 Method References

9.2.1 Westinghouse Document CE-NPSD-345-P, Revision 06-P, Proprietary Information, "San Onofre Nuclear Generating Station Units 2 And 3 COLSS Functional Design Requirements Plant Specific Supplement."

9.2.2 CE Nuclear Power LLC Topical Report CENPD-397-P-A, Revision 01, May 2000, Proprietary Information, "Improved Flow Measurement Accuracy Using CROSSFLOW Ultrasonic Flow Measurement Technology."

9.2.3 NRC Letter to I.C. Rickard, dated March 20, 2000, "Acceptance For Referencing Of CENPD-397-P, Revision-01-P, 'Improved Flow Measurement Accuracy Using CROSSFLOW Ultrasonic Flow Measurement Technology,' (TAC No. MA6452)."

9.3 Design Input Source References

9.3.1 FAX Data Transmittal dated 11/7/00, from J. Murray to P. Kramarchyk, "Maximum And Minimum Feedwater Flow And Temperature, And Blowdown Conditions At 100% Uprate Power," (See Attachment B).

9.4 Technical References

9.4.1 USNRC Regulatory Guide 1.105, Revision 2, "Instrument Setpoints For Safety-Related Systems."

9.4.2 ANSI/ISA-S67.04, Part I-1994, "Setpoints For Nuclear Safety-Related Instrumentation."

9.4.3 Instrument Society Of America Standard ISA-RP67.04, Part II, "Recommended Practice For Methodologies For The Determination Of Setpoints For Nuclear Safety-Related Instrumentation," 1994.

10. COMPUTER SOFTWARE USE

None

Attachment A
Westinghouse Quality Procedure Forms
(6 pages)

Contingencies and Assumptions

Title: STEAM FLOW UNCERTAINTY BASED ON THE WARRANTED CROSSFLOW FLOW UNCERTAINTIES AT SCE SONGS UNITS 2 AND 3

Document Number: A-SG-PS-0002 Revision Number: 000

Project Manager: P.B. Kramarchyk

Project Number: 2010309

Instructions: A copy of this form shall be sent to the cognizant Project Manager who shall be responsible for assuring that Internal Contingencies and Assumptions are cleared and External Contingencies and Assumptions are transmitted to the customer.

Type of Contingency/Assumption	Contingency/Assumption
☒ None	There are neither Internal nor External Contingencies or Assumptions in this Design Analysis.
☐ Internal ☐ External	

[ ]

Design Analysis Verification Checklist

Instructions: If a major topic area (generally unnumbered, bold face type such as **Use of Computer Software**) is not applicable, then N/A (not applicable) next to the topic may be checked and the check boxes for all items under it may be left blank. Where there is no check box under N/A for a numbered item, such a response is generally inappropriate. If N/A is checked in such a situation, document the basis at the end of this checklist in the Comments section.

Overall Assessment	Author Yes	Author N/A	IR Concur.
1. Are the results/conclusions correct and appropriate for their intended use?	☒		☐
2. Are all limitations and contingencies on the results/conclusions documented?	☒		☐
Assignment of Cognizant Engineers, Independent Reviewers and Mentors			
1. If there are multiple Cognizant Engineers, has their scope been documented?	☐	☒	☐
2. If there are multiple Independent Reviewers, has their scope been documented?	☐	☒	☐
3. If there will be multiple Management Approvers, has their scope been documented?	☐	☒	☐
4. If an Independent Reviewer is the supervisor or Project Manager, has authorization as an IR been documented?	☐	☒	☐
5. If there is a Mentor, has their scope and responsibilities been adequately documented?	☐	☒	☐
Use of Computer Software			
For software which has been validated under QP 3.13:		☒	☐
1. Is the software listed on an Approved QC-1 Software List?	☐		☐
2. Is the software applicable for this analysis?	☐		☐
For Code-Like Constructs validated under QP 3.14.		☒	☐
1. Is the Code-Like Construct listed on an Approved QC-1 Software List?	☐		☐
2. Is the Code-Like Construct applicable for this analysis?	☐		☐
3. Was the Code-Like Construct used directly in the controlled location?	☐	No ☐	☐
- If No above, is the copy identical to the version in the controlled location? (Leave blank if not applicable.)	☐		☐
4. If changes were made to the Code-Like Construct to meet specific analysis needs, were such changes documented as non-validated software following para. 3.3.3? (Leave blank if not applicable. Complete the next section if "Yes".)	☐		☐
For software excluding spreadsheets which has not been validated under QP 3.13 or QP 3.14:		☒	☐
1. Is the software identification documented?	☐		☐
2. Is a copy of the software included in the Design Analysis?	☐		☐
3. Have tests been documented which are adequate to demonstrate correct operation for the software's intended use?	☐		☐
4. Is the output from the tests included in the Design Analysis?	☐		☐
5. Has the Cognizant Engineer documented the results of the tests and the basis for concluding the software is operating correctly for its intended use?	☐		☐
6. Did the software, as used in this analysis, give correct results?	☐		☐
For spreadsheets which has not been validated under QP 3.13 or QP 3.14:		☒	☐
1. Were spreadsheets used in this Design Analysis in any way – data display, plotting, computations, etc.?	☐	No ☐	☐
- If data display only (no computations or plotting), check "Yes" and skip remaining sub-questions.	☐	☐	☐

Design Analysis Verification Checklist

Use of Computer Software (continued)	Author Yes	Author N/A	IR Concur.
- If used for computations:	☐	☐	☐
• Are the computations adequately documented and are the results correct?	☐		☐
- If used for ploting:	☐	☐	☐
• Is the data to be plotted correct?	☐		☐
• Are the plots correct in other respects? (titles, scales, labels, etc.)	☐		☐
2. Have tests been documented which are adequate to demonstrate correct operation for the spreadsheet's intended use?	☐	☐	☐
3. Is the output from the tests included in the Design Analysis?	☐	☐	☐
4. Has the Cognizant Engineer documented the results of the tests and the basis for concluding the spreadsheet is operating correctly for its intended use?	☐	☐	☐
5. Has a copy of the spreadsheet file been included in the Design Analysis or has sufficient detail been included in the analysis documentation to permit recreating the spreadsheet?	☐		☐
Use of software with uncorrected errors:		☒	☐
1. Does any of the software used have uncorrected errors?	☐	☐	☐
2. If yes, is the software identified and documented and has the impact of use been evaluated and documented?	☐	☐	☐
Objective of the Design Analysis			
1. Has information necessary to define the task been included or referenced?	☒		☐
2. Have the objectives been enumerated?	☒		☐
3. Has the applicability and intended use of the results been documented?	☒		☐
Assessment of Significant Design Changes			
1. Have significant design-related changes that might impact this analysis been considered?	☒		☐
2. If any such changes have been identified, have they been adequately addressed?	☒	☐	☐
Analytical Techniques (Methods)			
1. Are the analytical techniques (methods) described in sufficient detail to judge their appropriateness?	☒	No	☐
2. Are the analytical techniques used or their application governed by an NRC issued SER?	☒	☐	☐
If yes, have the applicable SERs been documented?	☒		☐
If yes, has the basis for concluding the analysis is in conformance been documented?	☒		☐
3. Have analytical techniques incorporated by reference to generic analyses, lead plant analyses or previous cycle analyses been previously verified?	☒	☐	☐
4. Are any modifications or departures from previously approved analytical techniques or Conventional or Automated Procedures documented and justified?	☐	☒	☐
5. If superseded approved analytical techniques or engineering procedures are used, is their use justified and approved?	☐	☒	☐
6. Does the issue date of referenced approved Conventional or Automated Procedures predate their use in this analysis?	☐	☒	☐
Selection of Design Inputs			
1. Are the design inputs documented?	☒		☐
2. Are the design inputs correctly selected and traceable to their source?	☒		☐
3. Are the bases for selection of all design inputs documented?	☒	No	☐
4. Is previously unverified design input uised in this analysis?	☐	☒	☐
If Yes, is it treated in accordance with QP 3.2, paragraph 3.4 for use of unverified design information?	☐		☐

[ ]

Design Analysis Verification Checklist

Selection of Design Inputs (continued)	Author Yes	Author N/A	IR Concur.
5. Is the verification status of design inputs transmitted from customers or CENP Nuclear Systems appropriate and documented?	☒	☐	☐
6. Is the use of customer-controlled sources such as Tech Specs, UFSARs, etc. authorized, and does the authorization specify amendment level, revision number, etc.?	☐	☒	☐
Assumptions			
1. If there are no assumptions, is this documented?	☐	☒	☐
2. Are local assumptions documented, fully justified and verified?	☒	☐	☐
3. Are Internal and External Assumptions which must be cleared by CENP or the customer listed on a Contingencies and Assumptions form?	☒	☐	☐
4. Is the Project Manager responsible for clearing the Assumptions identified on the form?	☒	☐	☐
Results/Conclusions			
1. Are all results contained in or referenced in the Results/Conclusion section? (Where feasible, in the enumerated order of the objectives.)	☒		☐
2. Are all limitations on the results/conclusions and their applicability documented in this section?	☒		☐
3. Are all contingencies on the results that must be cleared listed in the Results/Conclusion section or the Contingencies and Assumptions form referenced?	☒	☐	☐
4. Is the Project Manager responsible for clearing the Assumptions or Contingencies identified on the form?	☒	☐	☐
Other Elements			
1. Has a comparison of the results with those of a previous cycle or similar analysis been documented and significant differences explained?	☐	☒	☐
2. Have applicable Codes (e.g., ASME Code) and standards been appropriately referenced and applied?	☒	☐	☐
3. Is the information from relevant literature searches/background data adequately documented and referenced?	☒	☐	☐
4. Are hand calculations correct and appropriately documented?	☒	☐	☐
5. Is all applicable computer output and input included?	☒	☐	☐
6. Is all computer software used identified by name and revision identification?	☒	☐	☐
References			
1. Are all references used to perform the analysis listed?	☒	☐	☐
2. Are the references as direct as possible and appropriate to the source?	☒		☐
3. Is the reference notation specific to the information utilized, including revision level or date of issue, and where appropriate, identification of the location of the information in the reference, such as page, table or paragraph number?	☒		☐

Independent Reviewer's Statement of Verification Activities:

The IR should describe details of verification activities beyond the obvious on this checklist including, but not limited to the review of new methods, use of software under para. 3.3.3, spreadsheet use, assessment of design and methodology changes, engineering judgments, and use of previously unverified inputs.

[ ]

Checklist Completed by Independent Reviewer: [ ]

Printed Name Signature Date

[ ]

Design Analysis Verification Checklist

The Form and Format section of the Checklist below may be completed by a Checker under the direction of the Independent Reviewer.

Form/Format	Author		IR
	Yes	N/A	Concur.
1. Is the document legible, reproducible and in a form suitable for filing and retrieving as a Quality Record?	☒		☐
2. Except as permitted by 3.1.3.a, are all pages identified with the document number, including revision number?	☒		☐
3. Except as permitted by 3.1.3.a, do all pages have a unique page number?	☒		☐
4. Are all computer disks identified with the analysis number?	☐	☒	☐
5. Are any unverified sections of an otherwise verified analysis clearly indicated?	☐	☒	☐
For a revision to a completed analysis in the "Complete Revision" and "Page Change Package" formats:		☒	☐
1. Where practical, have changes and additions been identified by mechanisms such as vertical lines, etc.?	☐		☐
2. Where practical, have deletions been identified by mechanisms such as strike outs, etc.?	☐		☐
3. Have indications of change in previous revisions been removed?	☐		☐
4. Does the distribution of the revision include those on the distribution of the previous revision?	☐		☐
For a "Complete Revision":		☒	☐
1. Have the title and document number been preserved without change?	☐		☐
2. Has the revision number been incremented by one?	☐		☐
For a "Page Change Package":		☒	☐
1. Are pages numbered in accordance with the original analysis?	☐		☐
2. Are instructions provided for the insertion and deletion of revisied pages?	☐		☐
3. Has a new Title Page been prepared?	☐		☐
4. Does the Package Contents Page reflect the composite document?	☐		☐

☒ Form/Format section completed by the Independent Reviewer.

☐ Form/Format section completed by the Checker identified below:

Checker Name: _____ Signature: _____

[ ]

Reviewer's Comment Form

Page 1 of 1

Title: STEAM FLOW UNCERTAINTY BASED ON THE WARRANTED CROSSFLOW FLOW UNCERTAINTIES AT SCE SONGS UNITS 2 AND 3

Document Number: A-SG-PS-0002 Revision Number: 000

Comment Number	Reviewer's Comment	Response Required?	Author's Response	Response Accepted?

Attachment B
SCE Design Input Transmittal
(3 pages)

NEDO Fax:949-368-2122 Nov 17 '00 10:42 P.01/03

FAX Number (949 368-2122 or 82122

Southern California Edison Co.
Nuclear Engineering Design Organization
P.O. Box 128 M/S G50B
San Clemente, CA 92672

FAX TRANSMITTAL

DATE: 11-17-2000

NUMBER OF PAGES: 3
(Including Cover)

TO: Paul Krumwiede

TELEPHONE:

COMPANY: W

FAX: 860-285-4232

FROM: Joe Murray

TELEPHONE: 949-368-2291

COMPANY:

FAX:

MESSAGE:

NOV 17 2000 13:03 949 368 2122 PAGE.01

MAXIMUM AND MINIMUM FEEDWATER FLOW AND TEMPERATURE, AND BLOWDOWN CONDITIONS AT 100% UPRATE POWER (Continued)

REVISED 11/17/2000

Reference	Title
1	Diagram of Operating Conditions, Southern California Edison Company, San Onofre Units 2 & 3, Expected Operating Conditions 101.5% Reactor Power - 816 psia SG Pressure 1.6 / 2.1 / 1.6 ins. Hg. Abs Condenser Pressure. TS26094, Issue A (SCE Drawing SO23-401-4-D409, Rev. 0).
2	Reload Ground Rules for SONGS 3, Cycle 10, RGR-U3-C10, Rev. 0. The reference for minimum flow is ABB/CE Letter: Palo, W., WEST-96-007, 'Transmittal of Final Report-SONGS Reduced Secondary Pressure/Feed Water Temperature, Steam Generator Evaluations," February 16, 1996.
3	Best estimate by W.C. Phoenix on 10/16/2000. The procedural limit is 200 gpm for the normal blowdown system ('Blowdown Processing System Operation', SO23-9-4, Rev. 14) and the Blowdown Bypass System (FSAR Section 10.4.8.2.2.6, Rev. 13) maximum flow is 200 gpm at normal operating temperatures of 510°F. Blowdown flow is described by Design Basis Document, 'Steam Generators and Secondary Side', DBD-SO23-365, Rev. 5, Section 1.2.1.3 as having 'an approximate maximum flow of 200 gpm'. A review of operating history shows brief times of approximately 220 gpm. The observed blowdown temperature is approximately 480°F to 490°F.

MAXIMUM AND MINIMUM FEEDWATER FLOW AND TEMPERATURE, AND BLOWDOWN CONDITIONS AT 100% UPRATE POWER

REVISED 11/17/2000

Changes are: (1) Increase in minimum feedwater flow rate; and
(2) Statement of actual blowdown flow conditions.

Item	Parameter	Value	Reference and Comments
1	Nominal feed flow per steam generator at 100% uprate power.	7.63E+06 lbm/hour	Feed temperature 440.2°F. Blowdown 57,442 lbm/hour/generator. Reference 1, total flow is 15266084 lbm/hr.
2	Minimum feed flow per steam generator at 100% uprate power.	7.18E+06 lbm/hour	Reload Ground Rules. Reference 2, for Degraded Secondary (Section V, Item V.001), for 3390 Mwt core thermal power, total flow is 14.16E6 lbm/hour, multiplied by the increase in power level of 1.42% (1.0142 x 7.08E6 = 7.18E6).
3	Nominal blowdown flow per steam generator at 100% uprate power.	57,442 lbm/hour	Blowdown of one steam generator. Reference 1, total flow is 114884 lbm/hour.
4	Maximum blowdown flow per steam generator at 100% uprate power.	96,000 lbm/hour	Blowdown 240 gpm/steam generator Calculation by Bill Phoenix assuming 490°F at 800 psia.

The following signatures indicate that the above design input data has been verified to be correct in accordance with Southern California Edison's Quality Assurance Program and is appropriate for use in the San Onofre Nuclear Generating Station Units 2 and 3 CROSSFLOW steam flow uncertainty calculation under Southern California Edison's Purchase Order No. 8X090026 dated 9/27/00.

Prepared By: _____ Date: _____
Print / Signature

Reviewed By: _____ Date: _____
Print / Signature

ENCLOSURE 3
AFFIDAVIT

AFFIDAVIT PURSUANT TO 10 CFR 2.790

I, Philip W. Richardson, depose and say that I am the Licensing Project Manager, Windsor Nuclear Licensing, of Westinghouse Electric Company LLC (WEC), duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations and in conjunction with the application of Southern California Edison (SCE) for withholding this information.

The information for which proprietary treatment is sought is contained in the following document:

A-SG-PS-0002, Rev. 000, "Steam Flow Uncertainty Based on the Warranted CROSSFLOW Flow Uncertainties at SCE SONGS Units 2 and 3", November 11, 2000

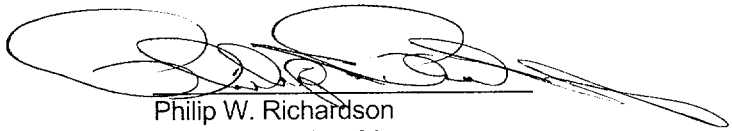
This document has been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by WEC in designating information as a trade secret, privileged or as confidential commercial or financial information.

Pursuant to the provisions of Section 2.790(b)(4) of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

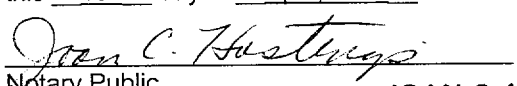
1. The information sought to be withheld from public disclosure, is owned and has been held in confidence by WEC. It consists of specific design uncertainty values, methodologies, and performance information for the CROSSFLOW UFM System.
2. The information consists of test data or other similar data concerning a process, method or component, the application of which results in substantial competitive advantage to WEC.
3. The information is of a type customarily held in confidence by WEC and not customarily disclosed to the public. WEC has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence.
4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.
5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.
6. Public disclosure of the information is likely to cause substantial harm to the competitive position of WEC because:
   a. A similar product is manufactured and sold by major pressurized water reactor competitors of WEC.
   b. Development of this information by WEC required hundreds of thousands of dollars and hundreds of man-hours of effort. A competitor would have to undergo similar expense in generating equivalent information.
   c. In order to acquire such information, a competitor would also require considerable time and inconvenience to develop specific design uncertainty values, methodologies, and performance information for the CROSSFLOW UFM System.
   d. The information consists of specific design uncertainty values, methodologies, and performance information for the CROSSFLOW UFM System, the application of which provides a competitive economic advantage. The availability of such information to competitors would enable them to modify their product to better compete with WEC, take marketing or other actions to improve their product's position or impair the position of WEC's product, and avoid developing similar data and analyses in support of their processes, methods or apparatus.
   e. In pricing WEC's products and services, significant research, development, engineering, analytical, manufacturing, licensing, quality assurance and other costs and expenses must be included. The ability of WEC's competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.
   f. Use of the information by competitors in the international marketplace would increase their ability to market nuclear steam supply systems by reducing the costs associated with their technology development. In addition, disclosure would have an adverse economic impact on WEC 's potential for obtaining or maintaining foreign licensees.

Further the deponent sayeth not.



Philip W. Richardson
Licensing Project Manager
Windsor Nuclear Licensing

Sworn to before me
this 19th day of April, 2001



Notary Public
My commission expires:

JOAN C. HASTINGS
NOTARY PUBLIC
MY COMMISSION EXPIRES SEP. 30, 2002