

August 10, 2001
NG-01-0962

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station 0-P1-17
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Response to Request for Additional Information (RAI) to Technical
Specification Change Request TSCR-042 – Extended Power Uprate
(TAC # MB0543)
Reference: NG-00-1900, “Technical Specification Change Request (TSCR-042):
‘Extended Power Uprate’,” dated November 16, 2000.
File: A-117, SPF-189

Dear Sir(s):

On July 23, 2001 and August 7, 2001, conference calls were held with the NRC Staff regarding the referenced amendment request to increase the authorized license power level of the Duane Arnold Energy Center (DAEC). In order to complete their review, the Staff requested additional information to that previously provided. This Request for Additional Information (RAI) had been previously transmitted to us electronically on July 20, 2001 to facilitate the July 23rd call. Attachment 1 to this letter contains the requested additional information, as modified in the conference call.

Please note that the response in Attachment 1 contains information that the General Electric Company (GE) considers to be proprietary in nature and subsequently, pursuant to 10 CFR 9.17(a)(4), 2.790(a)(4) and 2.790(d)(1), requests that such information be withheld from public disclosure. The portion of the text containing the proprietary information is identified with vertical sidebars in the right margin. An affidavit supporting this request is provided as Attachment 2 to this letter. Attachment 3 is the redacted version of Attachment 1, with the GE proprietary material removed, suitable for public disclosure.

No new commitments are being made in this letter.

Please contact this office should you require additional information regarding this matter.

APO1

This letter is true and accurate to the best of my knowledge and belief.

NUCLEAR MANAGEMENT COMPANY, LLC

By *Gary Van Middlesworth*
Gary Van Middlesworth
DAEC Site Vice-President

State of Iowa
(County) of Linn

Signed and sworn to before me on this 10th day of August, 2001,

by *Gary Van Middlesworth*.

Nancy S. Franck
Notary Public in and for the State of Iowa



Commission Expires

- Attachments:
- 1) DAEC Response to NRC Mechanical and Civil Engineering Branch Request for Additional Information Regarding Proposed Amendment for Power Uprate
 - 2) General Electric Affidavit of Proprietary Information
 - 3) Redacted Version of DAEC Response to NRC Mechanical and Civil Engineering Branch Request for Additional Information Regarding Proposed Amendment for Power Uprate

cc: T. Browning
R. Anderson (NMC) (w/o Attachments 1&2)
B. Mozafari (NRC-NRR)
J. Dyer (Region III)
D. McGhee (State of Iowa) (w/o Attachments 1&2)
NRC Resident Office
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Redacted Version of
DAEC Response to NRC
Mechanical and Civil Engineering Branch
Request for Additional Information
Regarding Proposed Amendment for Power Uprate

1. In Appendix 7 to NG-00-1900, the tables show the analysis codes for the piping systems impacted by the EPU. Provide the Code Editions that were used for the RCPB piping evaluation for the EPU. Provide a justification of using those code and editions which are different from the code of record.

DAEC Response:

Attached is a revised version of the original tables in Appendix 7 showing the Edition (i.e., year) of the codes used to perform these analyses. These are the codes and code editions of record for the DAEC. No changes have been made for the EPU analyses.

Maximum Usage Factors for the Piping Subsystems Impacted by the EPU			
Subsystem	Analysis Code	Node Number	Maximum Usage Factor
Feedwater	USAS-B31.7-1969	140	0.308
RWCU	USAS-B31.7-1969 & ASME, Sec. III, NB-3600, 1986	188	0.001
RWCU	USAS-B31.7-1969 & ASME, Sec. III, NB-3600, 1986	216	0.046
RCIC	USAS-B31.7-1969 & ASME, Sec. III, NB-3600, 1986	250	0.090
Reactor Head Vent	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
Press. above Core Plate L.P.	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
MS D / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
MS C / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
MS B / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
MS A / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
RCIC Steam Piping (Instrumentation)	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
HPCI Steam Piping (Instrumentation)	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
MS Drain Lines	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
Steam to RCIC Turbine Vent Line	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	N/A	N/A
HPCI Turbine Piping	USAS-B31.7-1969	127	0.097

Maximum Stresses and Stress Ratios to Allowable for the Piping Subsystems Impacted by the EPU				
Subsystem	Analysis Code	Condition	Stress (psi)	Ratio
MS Line A with SRV lines	ASME-Sec. III, NC-3600, 1977 up to and including 1978 addenda	Eq. 9C	26,741	0.99
MS Line B with SRV lines	ASME-Sec. III, NC-3600, 1977 up to and including 1978 addenda	Eq. 9C	26,375	0.98
MS Line C with SRV lines	ASME-Sec. III, NC-3600, 1977 up to and including 1978 addenda	Eq. 9C	26,582	0.98
MS Line D with SRV lines	ASME-Sec. III, NC-3600, 1977 up to and including 1978 addenda	Eq. 9C	26,905	0.996
Reactor Head Vent	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	30,002	0.877
		Eq. 10	94,821	1.638 ⁽¹⁾
		Eq. 12	18,860	0.344
		Eq. 13	50,890	0.879
Press. above Core Plate L.P.	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	6,119	0.140
		Eq. 10	53,192	0.907
MS D / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	23,179	0.617
		Eq. 10	82,752	1.604 ⁽¹⁾
		Eq. 12	15,800	0.306
		Eq. 13	41,230	0.799
MS C / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	30,701	0.817
		Eq. 10	86,475	1.676 ⁽¹⁾
		Eq. 12	41,320	0.801
		Eq. 13	38,320	0.752
MS B / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	21,662	0.494
		Eq. 10	79,649	1.543 ⁽¹⁾
		Eq. 12	12,900	0.250
		Eq. 13	40,380	0.783

¹ When the ratio for equation 10 is over 1.0 then the ratios for equations 12 and 13 shall be less than 1.0.

Maximum Stresses and Stress Ratios to Allowable for the Piping Subsystems Impacted by the EPU				
Subsystem	Analysis Code	Condition	Stress (psi)	Ratio
MS A / Instrument Piping	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	24,836	0.661
		Eq. 10	91,372	1.771 ⁽¹⁾
		Eq. 12	17,960	0.348
		Eq. 13	48,370	0.937
RCIC Steam Piping (Instrumentation)	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	36,168	0.962
		Eq. 10	96,814	1.876 ⁽¹⁾
		Eq. 12	45,480	0.777
		Eq. 13	49,770	0.965
HPCI Steam Piping (Instrumentation)	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	34,629	0.789
		Eq. 10	87,827	1.702 ⁽¹⁾
		Eq. 12	35,660	0.876
		Eq. 13	45,180	0.876
MS Drain Lines	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	29,464	0.720
		Eq. 10	51,264	0.966
Steam to RCIC Turbine Vent Line	ASME-Sec. III, NB-3600, June, July & Dec. 71 & June & Dec. 72 & June 73	Eq. 9 Emergency	11,579	0.277
		Eq. 10	30,995	0.584
HPCI Turbine Piping	USAS-B31.7-1969	Eq. 9 Faulted	36,513	0.70
		Eq. 10	50,010	0.96
		Eq. 12	13,740	0.26
		Eq. 13	50,648	0.98
MS Lines Outside Containment (20" Pipe)	USAS-B31.1.0-1967	SUS+OBE+TSV	17,768	0.99
		SUS+DBE+TSV	25,463	0.94
MS Lines Outside Containment (6" Pipe)	USAS-B31.1.0-1967	SUS+OBE+TSV	18,081	1.0
		SUS+DBE+TSV	25,204	0.93

¹ When the ratio for equation 10 is over 1.0 then the ratios for equations 12 and 13 shall be less than 1.0.

Maximum Stresses and Stress Ratios to Allowable for the Piping Subsystems Impacted by the EPU				
Subsystem	Analysis Code	Condition	Stress (psi)	Ratio
Feedwater	USAS-B31.7-1969	Eq. 9	37,999	0.85
		Eq. 10	121,292	2.19 ⁽¹⁾
		Eq. 12	3,686	0.07
		Eq. 13	47,590	0.86
RWCU	USAS-B31.7-1969 & ASME, Sec. III, NB-3600, 1986	Eq. 9 A	8,836	0.37
		Eq. 9 B	8,168	0.31
		Eq. 9 C	9,036	0.28
		Eq. 9 D	12,553	0.26
		Eq. 10	45,096	0.95
RCIC Discharge	USAS-B31.7-1969 & ASME, Sec. III, NB-3600, 1986	Eq. 9 A	12,496	0.47
		Eq. 9 B	11,895	0.37
		Eq. 9 C	12,496	0.21
		Eq. 9 D	16,977	0.32
		Eq. 10	45,971	0.86

¹ When the ratio for equation 10 is over 1.0 then the ratios for equations 12 and 13 shall be less than 1.0.

2. Provide a comparison of maximum pipe stresses for the current rated and the EPU conditions for the MS line with SRV lines, RCIC steam piping and feedwater lines where the principal stresses are almost equal to the allowable stress limit.

DAEC Response:

Attached are the stress comparisons for the requested lines.

Project : DAEC AEP Extended Power Uprate (NSSS Piping)

Stress Report No. : IOW-23-130, Rev. 0 / APED-B21-175, Rev. 0

PAGE 4.54, 5.43, 6.4 / 3

Stress Report Title : Design Report for SRVDL Piping & MS Line Modifications
 {Reference P & ID (BECH-M114-WIP, Rev. 60A) Mark Up}
 Maximum Stress Intensity

Description: MS Line A/Associated SRV Lines GBC-9+10/Location Inside Containment

CRITERIA PER ASME SECTION III NC-3600	Original Maximum Stress* (PSI)	MSIV Oper. Mod. Factor ***	Additional TSV load case Factor	Total (TSV X MSIV Op.) X Original Stress (PSI)	Power Uprate Stress (PSI)	Code Allowable Stress (PSI)	Ratio: Power Uprate to Allowable
EQUATION: 8 Level A	9,160	1.013		[[General Electric Proprietary Information Redacted]]	9,279	15,000	0.62
EQUATION: 9 Level B	16,211 **	1.013			17,671	18,000	0.98
Level C	24,850	1.000			26,741	27,000	0.99
Level D	23,480	1.000			25,267	36,000	0.70
EQUATION: 11	34,260	1.013			34,705	37,500	0.93

*From Stress Report

** Pressure stress recalculated based on maximum operating pressure (Ref. APED-B21-91Ref., Table A.1.2)

*** MSIV modification factor (=1.013) from APED-B21-175, Rev. 0 (GE # PED-20-0390)

Project : DAEC AEP Extended Power Uprate (NSSS Piping)

Stress Report No. : IOW-23-130, Rev. 0 / APED-B21-175, Rev. 0

PAGE 4.54, 5.43, 6.4 / 3

Stress Report Title : Design Report for SRVDL Piping & MS Line Modifications
 {Reference P & ID (BECH-M114-WIP, Rev. 60A) Mark Up}
 Maximum Stress Intensity

Description: MS Line B/Associated SRV Lines GBC-6/Location Inside Containment

CRITERIA PER ASME SECTION III NC-3600	Original Maximum Stress* (PSI)	MSIV Oper. Mod. Factor ***	Additional TSV load case Factor	Total (TSV X MSIV Op.) X Original Stress (PSI)	Power Uprate Stress (PSI)	Code Allowable Stress (PSI)	Ratio: Power Uprate to Allowable
EQUATION: 8 Level A	9,050	1.013	[[General Electric Proprietary Information Redacted]]		9,168	15,000	0.61
EQUATION: 9 Level B	16,170	1.013			17,627	18,000	0.98
Level C	24,510	1.000			26,375	27,000	0.98
Level D	24,170	1.000			26,009	36,000	0.72
EQUATION: 11	35,340	1.013			35,799	37,500	0.95

*From Stress Report

*** MSIV modification factor (=1.013) from APED-B21-175, Rev. 0 (GE # PED-20-0390)

Project : DAEC AEP Extended Power Uprate (NSSS Piping)

Stress Report No. : IOW-23-130, Rev. 0 / APED-B21-175, Rev. 0

PAGE 4.54, 5.43, 6.4 / 3

Stress Report Title : Design Report for SRVDL Piping & MS Line Modifications
 {Reference P & ID (BECH-M114-WIP, Rev. 60A) Mark Up}
 Maximum Stress Intensity

Description: MS Line C/Associated SRV Line GBC-11/Location Inside Containment

CRITERIA PER ASME SECTION III NC-3600	Original Maximum Stress* (PSI)	MSIV Oper. Mod. Factor ***	Additional TSV load case Factor	Total (TSV X MSIV Op.) X Original Stress (PSI)	Power Uprate Stress (PSI)	Code Allowable Stress (PSI)	Ratio: Power Uprate to Allowable
EQUATION: 8 Level A	8,840	1.013	[[General Electric Proprietary Information Redacted]]		8,955	15,000	0.60
EQUATION: 9 Level B	14,540	1.013			15,850	18,000	0.88
Level C	24,702**	1.000			26,582	27,000	0.98
Level D	27,900	1.000			30,023	36,000	0.83
EQUATION: 11	34,290	1.013			34,736	37,500	0.93

*From Stress Report

** Pressure stress recalculated based on maximum operating pressure (Ref. APED-B21-98Ref., Table A.1.2)

*** MSIV modification factor (=1.013) from APED-B21-175, Rev. 0 (GE # PED-20-0390)

Project : DAEC AEP Extended Power Uprate (NSSS Piping)

Stress Report No. : IOW-23-130, Rev. 0 / APED-B21-175, Rev. 0

PAGE 4.54, 5.43, 6.4 / 3

Stress Report Title : Design Report for SRVDL Piping & MS Line Modifications
 {Reference P & ID (BECH-M114-WIP, Rev. 60A) Mark Up}
 Maximum Stress Intensity

Description: MS Line D/Associated SRV Lines GBC-7+8/Location Inside Containment

CRITERIA PER ASME SECTION III NC-3600	Original Maximum Stress* (PSI)	MSIV Oper. Mod. Factor ***	Additional TSV load case Factor	Total (TSV X MSIV Op.) X Original Stress (PSI)	Power Uprate Stress (PSI)	Code Allowable Stress (PSI)	Ratio: Power Uprate to Allowable
EQUATION: 8 Level A	9,160	1.013	[[General Electric Proprietary Information Redacted]]		9,279	15,000	0.619
EQUATION: 9 Level B	15,072 **	1.013			16,430	18,000	0.913
Level C	25,002 **	1.000			26,905	27,000	0.996
Level D	28,030	1.000			30,163	36,000	0.838
EQUATION: 11	34,260	1.013			34,705	37,500	0.925

*From Stress Report

** Pressure stress recalculated based on maximum operating pressure (Ref. APED-B21-101Ref., Table A.1.2)

*** MSIV modification factor (=1.013) from APED-B21-175, Rev. 0 (GE # PED-20-0390)

Project : DAEC AEP Extended Power Uprate (NSSS Piping)
 Stress Report No. : APED-B21-107, Rev. 0 PAGE 111
 Stress Report Title : Report of the ASME B & PV Code, Section III, Nucl. Class I, Stress Analysis of the Nuclear Boiler (Reactor Vessel) Main Steam Diff. Press. Instrument Piping, RCIC Diff. Press. Instrument Piping, Vents on RCIC & RHR Piping, (Start-up #62) {Reference P & ID (BECH-M124, Rev. 45) Mark Up}
 Pipe Description: RCIC Steam piping X - 56E (H.P.), [FSK -5587-B(2)]
 Maximum Stress Intensity

CRITERIA PER ASME SECTION III NB-3600	Component/ Joint Number	Original Maximum Stress* (PSI)	Power Uprate Stress (PSI)	Ratio Original Max. Stress to Code Allowable	Ratio Power Uprate Max. Stress to Code Allowable
Equation : 9 Design Emergency Faulted	CO1/5	22,320	22,320	0.891	0.891
	CO1/5	33,610	36,168 **	0.894	0.962 **
	N/A	N/A	N/A	N/A	N/A
Equation : 10	1A/2	83,810	87,880 **	1.624	1.703 **
Equation : 12	1A/2	11,900	11,900	0.231	0.231
Equation : 13	1A/2	47,770	47,770	0.926	0.926
Equation : 14 (Fatigue)	N/A	N/A	N/A	N/A	N/A

*From Stress Report

** **[[General Electric Proprietary Information Redacted]]**

Note: After the first support on the branch piping , 1 SV load diminishes rapidly such that it is insignificant.

Project : DAEC AEP Extended Power Uprate (BOP Piping)
 Stress Report No. : APED-N21-001, Rev. 3
 Stress Report Title : Feedwater HPCI, RCIC, RWCU Return Vol. 1

Description: Feedwater

CRITERIA PER ASME ANSI B31.7	Original Maximum Stress*	Power Uprate Stress	Code Allowable Stress	Ratio: Power Uprate to Allowable
EQUATION: 9 Node No. 110 Load Case 20	37,999	37,999	44,505	0.85
EQUATION: 10 Node No. 175 Load Case 3	118,449	121,292	55,320	2.19
EQUATION: 12 Node No. 216 Load Case 3	3,561	3,686	55,320	0.07
EQUATION: 13 Node No. 140 Load Case 3	47,026	47,590	55,320	0.86
EQUATION: 14** Node No. 140 Load Case 20	0.2839	0.308	-----	-----

*From Stress Report(Ref. 5) All the data from computer run job number 7884, Prob number 1
 **Cumulative Usage Factor

Attachment 2 to

NG-01-0962

General Electric Affidavit of Proprietary Information

General Electric Company

AFFIDAVIT

I, **George B. Stramback**, being duly sworn, depose and state as follows:

- (1) I am Project Manager, Regulatory Services, General Electric Company ("GE") and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in Enclosure 1 to letter GEDA-AEP-567, *Response to NRC RAI Regarding Stress Calculations*, (GE Company Proprietary), dated July 31, 2001. The proprietary information is delineated by bars marked in the margin adjacent to the specific material in the *Enclosure 1 to Letter GEDA-AEP-567 GE Responses to NRC RAI Regarding Stress Calculations*.
- (3) In making this application for withholding of proprietary information of which it is the owner, GE relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), 2.790(a)(4), and 2.790(d)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).
- (4) Some examples of categories of information which fit into the definition of proprietary information are:
 - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;
 - b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

- c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;
- e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in both paragraphs (4)a. and (4)b., above.

- (5) The information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GE, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GE, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within GE is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GE are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information identified in paragraph (2), above, is classified as proprietary because it contains further details regarding the GE proprietary report NEDC-32980P, *Safety Analysis Report for Duane Arnold Energy Center Extended Power Uprate*, Class III (GE Proprietary Information), dated November 2000, which contains detailed results of analytical models, methods and processes, including computer codes, which GE has developed, obtained NRC approval of, and applied

to perform evaluations of transient and accident events in the GE Boiling Water Reactor ("BWR").

The development and approval of these system, component, and thermal hydraulic models and computer codes was achieved at a significant cost to GE, on the order of several million dollars.

The development of the evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GE asset.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GE.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GE would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

STATE OF CALIFORNIA)
) ss:
COUNTY OF SANTA CLARA)

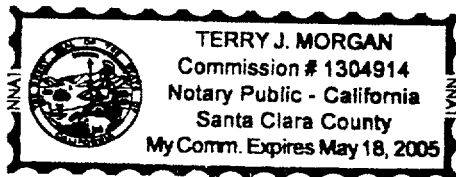
George B. Stramback, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 9th day of August 2001.

George B. Stramback
George B. Stramback
General Electric Company

Subscribed and sworn before me this 9th day of August 2001.



Terry J. Morgan
Notary Public, State of California