Entergy

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Attachment 1 contains proprietary information.

GNRO-2012/00026

April 18, 2012

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Response to Request for Additional Information Regarding
Extended Power Uprate
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

REFERENCES: 1. Entergy Operations, Inc. letter to the NRC (GNRO-2010/00056), *License Amendment Request - Extended Power Uprate*, September 8, 2010 (ADAMS Accession No. ML102660403)

Dear Sir or Madam:

Entergy submitted a license amendment request (LAR) for an extended power uprate (EPU) for Grand Gulf Nuclear Station, Unit 1 (GGNS) in Reference 1. Based on recent telephone discussions regarding the steam dryer, Entergy would like to clarify certain aspects of several responses to requests for additional information (RAIs) related to the Steam Dryer Analysis Report. Revised responses to three RAIs are provided in Attachment 1 of this letter.

In addition, consistent with similar recent Boiling Water Reactor EPU LARs, Entergy proposes a license condition invoking key requirements for the testing program associated with the steam dryers during the initial power ascension to EPU conditions. The proposed license condition is provided in Attachment 4.

GE-Hitachi Nuclear Energy Americas, LLC (GEH) considers portions of the information provided in support of the clarification of the responses to the RAIs in Attachment 1 to be proprietary and therefore exempt from public disclosure pursuant to 10 CFR 2.390. Two affidavits for withholding information, executed by GEH, are provided in Attachment 3. The proprietary information was provided to Entergy in a GEH transmittal that is referenced in the affidavit. Therefore, on behalf of GEH, Entergy requests Attachment 1 be withheld from public disclosure in accordance with 10 CFR 2.390(b)(1). A non-proprietary version of the clarifications of the RAI responses is provided in Attachment 2.

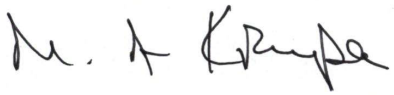
When Attachment 1 is removed, the entire letter is non-proprietary.

No change is needed to the no significant hazards consideration included in the initial LAR (Reference 1) as a result of the additional information provided. There are no new commitments in this letter.

If you have any questions or require additional information, please contact Jerry Burford at 601-368-5755.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 18, 2012.

Sincerely,



MAK/FGB

Attachments:
1. Clarifications of Responses to Request for Additional Information, Mechanical and Civil Engineering Branch, Steam Dryer (Proprietary)
2. Clarifications of Responses to Request for Additional Information, Mechanical and Civil Engineering Branch, Steam Dryer (Non-Proprietary)
3. GEH Affidavit for Withholding Information from Public Disclosure
4. Proposed License Condition

cc: Mr. Elmo E. Collins, Jr.
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
612 East Lamar Blvd., Suite 400
Arlington, TX 76011-4125

NRC Senior Resident Inspector
Grand Gulf Nuclear Station
Port Gibson, MS 39150

U. S. Nuclear Regulatory Commission
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Attachment 2

GNRO-2012/00026

Grand Gulf Nuclear Station Extended Power Uprate

Clarifications to Responses to Request for Additional Information

Mechanical and Civil Engineering Branch, Steam Dryer (Non-Proprietary)

This is a non-proprietary version of Attachment 1 from which the proprietary information has been removed. The proprietary portions that have been removed are indicated by double square brackets as shown here: [[ ]].

Non-Proprietary

Clarifications of Responses to Request for Additional Information
Mechanical and Civil Engineering Branch

By letter dated September 8, 2010, Entergy Operations, Inc. (Entergy) submitted a license amendment request (LAR) for an Extended Power Uprate (EPU) for Grand Gulf Nuclear Station, Unit 1 (GGNS). Based on the questions and misunderstandings identified in recent telephone conversations with the NRC staff reviewers regarding the responses to the following RAIs

- Round 6 RAI 09, which had been provided in Entergy letter to the NRC dated March 13, 2012 (NRC Accession No. ML120740083), and
- Round 7 RAIs 03 and 04, which were provided by Entergy letter to the NRC dated April 5, 2012.

Entergy is providing clarification to these responses. The information for Round 7 RAI 03 is new and supplements the previous responses. In the other two cases, the RAI and response text are repeated with the additional clarifying information noted with revision bars.

Round 6 RAI 09

Dryer instrumentation, Benchmark of B&U using GGNS-specific MSL & on-dryer Instrumentation, and Power Ascension

Based on the review of the response to RAI 9 (Attachment 1 to GNRO–2012/ 00009) the staff requests the following information:

i) The table on Page 49 of 66 (GNRO-2012/00009) for response to RAI 09 in Round #5 shows that each accelerometer is associated with several high stress locations. The licensee is requested to explain how the accelerometer measurements will be used in estimating the stresses at these locations.

ii) How the accelerometer data will be used in determining the end-to-end B&U at the high stress locations on the outer hood?

iii) On Page 51of 66 (GNRO-2012/00009) for response to RAI 09 in Round #5, it is stated, [[

]] However, no criteria are presented in the response. Instead, it is stated, [[

]] The licensee is requested to clarify when these criteria or the updated power ascension test plan will be submitted for the staff review.

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iv) On Page 53 of 66 (GNRO-2012/00009) for response to RAI 09 in round #5, the use of [[ ]] in prediction of peak stress and its location is summarized. It appears that the [[ ]] would be able to identify the changes in the peak stress location as power is increased. The licensee is requested to explain whether this specific use of [[ ]] has been validated. In addition, the licensee is requested to confirm that

   a. Whether this determination of the peak stress and its location would be made at each hold period. Please identify the hold periods.

   b. The results with sufficient details will be submitted to the staff for its review and approval.

v) In order to expedite the review process and not to lose the functionality of the on-dryer instruments, the licensee is requested to submit the following information. Please provide a detailed report outline including section titles, tables, plots and figures. Please identify all the data that will be submitted to the staff at power levels reaching to CLTP, CLTP, and each hold period above CLTP, so that the staff can make a decision about further power increase. As a minimum, the staff would like to review the following data:

   a. Benchmarking of PBLE Methods 1 and 2

   b. End-to-end benchmarking

   c. Maximum stress and its location

   d. Comparison with acceptance criteria

   e. Projection to next hold period and to EPU

   f. Any projected violation of acceptance criteria

   g. Any revisions to limit curves

vi) Reanalysis of the GGNS RSD using the measured pressure loads at CLTP. Compare the stress results with the ones obtained using [[ ]]

Please note that the staff's review of the MSL and on-dryer instrumentation data and evaluations to be submitted by the licensee at CLTP condition may require longer than 96 hours due to complete reassessment of the first time use of PBLE methodology and end-to-end benchmark. The subsequent staff assessments of power ascension data at power plateaus above CLTP, however, will be subject to the usual 96 hour evaluation periods.

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Response

Response to i) and ii)

The potential monitoring location areas depicted in Figures 1 through 5 in the response to Round 5 RAI 9 are evaluated using [[

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Response to iii)

The Round 5 RAI 09 response section “Full FE Reanalysis” describes the criteria considered for this determination. Item v) of this response includes a detailed summary of the information to be provided in each NRC report. The Power Accession Test (PAT) Plan with the detailed criteria will be submitted for NRC review a minimum of 10 days before the current licensed thermal power (CLTP) plateau is achieved.

Acceptance limits are established for comparison with loads generated at CLTP to ensure that the licensing basis analysis assumptions provide an acceptable representation of the acoustic load definition when compared to the measured on-dryer data. If the dryer instrumentation measured data are within these acceptance limits, a revised structural analysis is not required for power ascension beyond CLTP.

[[

]]

Comparison of the predicted and measured response for each sensor at CLTP will provide assurance that the frequency content and magnitude of the GGNS specific measured responses are within the licensing basis assumptions for the design loads and structural response with allowance for the bias and uncertainties of the licensing basis methodology.

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If the measured responses are not within the CLTP acceptance limits, new loads will be generated at CLTP conditions and will be used to re-perform the structural evaluation for the purposes of generating modified EPU acceptance limits.

Response to iv)

Validation of Stress Adjustment Method:

In addition to the stress analysis performed at original licensed thermal power (OLTP) conditions as part of the EPU license amendment request, GEH also performed complete dryer stress analyses at 1672 MWth, 1791 MWth, and 1912 MWth during the Vermont Yankee (VY) power ascension. GE performed a nominal time step analysis [[

]]

[[

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[[

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Response to iv) a and iv) b

The determination of the [[

]]

Response to v)

Table 1 summarizes target test points for data acquisition and assessment for the power ascension up to the full EPU power level. Reports to the NRC will include data plots and tables at the indicated test point and for any test point since the last report. Table 2 summarizes the

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information to be generated at each test point. (Note the NRC a to g list of minimum items requested in this RAI section have been flagged in the description column of Table 2.)

Response to vi)

ANSYS FE Model Reanalysis at CLTP

The purpose of the instrumentation is to [[

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Acknowledgement of MSL and on-dryer instrumentation data review

Entergy understands the NRC may need additional time to review the initial results provided at CLTP conditions. With this information, it is requested that a review period of no more than 240 hours (10 days) be applied to the CLTP plateau review and that the 96-hour evaluation periods be applied to the data submitted at the 4102 Mwt and 4306 Mwt hold-point plateaus.

Reference

1. Engineering Report “Susquehanna Replacement Steam Dryer Instrumentation Acceptance Criteria – Dryer Mounted Instrumentation,” February 2008, ML080660255, Attachment 1.

[[

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Round 7 RAI 03 – Supplemental Information

While reviewing the response to RAI 03 in Round #7, it was noted that the response mentions [[

]]

The following information provides a clarification and additional details regarding the configuration where [[

]]. For this solid-to shell transition, are additional overlay shell elements are used, or the existing shell elements buried into the solid elements.

Response:

As stated in the response to Round 7 RAI 03, there are two basic dryer design configurations where the shell-to-solid transitions were used in the global model. The first configuration is where the [[

]] Examples of this configuration are the [[

]] The other configuration is where the [[

]] Examples of these components are [[

]]

For the components with the overlap joint configuration, such as [[

]] are used to facilitate the moment transfer between the two different types of elements. For example, [[

]] (Figure 1). The dryer cover plate (shell elements) and mid support ring (solid elements) finite element model is shown in Figure 2. [[

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Figure 1: [[ ]] of Dryer Cover Plate to Support Ring

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Figure 2: GGNS Finite Element Model on Dryer Cover Plate and Mid Support Ring Connection

Non-Proprietary

[[

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Figure 3: [[ ]] Shell Elements to Dryer Cover Plate

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Round 7 RAI 04

During the audit conducted by the NRC staff on March 21-23, 2012, the staff noted that some overlay elements were used on some [[ ]] in the Susquehanna Steam Electric Station (SSES) steam dryer structural finite element model (FEM) in regions [[ ]] as described below.

Based on its review of Table 1 on page 4 DRF 0000-0087-2787, "SSES Dryer FEM with Super Element Vane Bundle Representations and Other Modifications", dated 09/20/2008, prepared by Mike Hager, GEH, the staff noted the following, and requests additional information:

Element Nos. 99 and 199 are specified as [[ ]], and are described as "dummy or fictitious elements". In a subsequent table, [[ ]] There is no information about stiffness or mass associated with these elements. It appears that these "dummy elements" are somehow related to the application of surface pressures on the fluid-exposed surfaces of solid elements. The staff requests the applicant to (i) provide the purpose for using these elements (ii) provide the thickness and the stiffness properties - Modulus of Elasticity and Poisson's ratio (E, nu) - and mass density; and (3) address any impact of these elements on the structural response of the steam dryer.

Since the SSES steam dryer is a prototype for Grand Gulf, and the FEMs are similar, the licensee is requested to provide the purpose for utilizing any fictitious overlay elements in regions [[ ]], and their impact on the Grand Gulf RSD stresses.

Response

In the SSES replacement dryer global Finite Element Model (FEM), [[

]] The skin shell elements are not included in the solution of the structural analysis. Therefore, these skin shell elements have no impact on the SSES dryer stress calculations.

In the GGNS FEM, [[

]] (see Figure 2). They are not used in the structural solution. There are no overlay elements used in the GGNS FEM other than those used for the [[ ]] locations as described in previous RAI responses.

In summary, [[

]] The skin shell overlay elements are not used in the structural solution and do not have any impact on the stresses determined for either SSES or GGNS.

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Figure 1: Skin Shell Overlay Elements in SSES Finite Element Model

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Figure 2: Skin Shell Overlay Elements in GGNS Finite Element Model

Attachment 3

GNRO-2012/00026

Grand Gulf Nuclear Station Extended Power Uprate

GEH Affidavit for Withholding Information from Public Disclosure

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, Edward D. Schrull, PE state as follows:

(1) I am the Vice President, Regulatory Affairs, Services Licensing, GE-Hitachi Nuclear Energy Americas LLC ("GEH"), 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 of GEH letter, 173280-JB-065, "Grand Gulf Steam Dryer: Transmittal of Clarifications to Steam Dryer Responses to Request for Additional Information Round 6-RAI 9 and Round 7-RAI 3," dated April 17, 2012. The GEH proprietary information in Enclosure 1, which is entitled "GEH Responses to GGNS Steam Dryer Round 6-RAI 9 and Round 7-RAI 3, GEH Proprietary Information - Class III (Confidential)" is identified by a dotted underline inside double square brackets. [[This sentence is an example.{3}]] Figures containing GEH proprietary information are identified with double square brackets before and after the object. In each case, the superscript notation {3} refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.

(3) In making this application for withholding of proprietary information of which it is the owner or licensee, GEH 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), and 2.390(a)(4) for trade secrets (Exemption 4). The material for which exemption from disclosure is here sought also qualifies 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, 975 F2d 871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704 F2d 1280 (DC Cir. 1983).

(4) The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b. Some examples of categories of information that 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 GEH's competitors without license from GEH constitutes a competitive economic advantage over other companies;

b. Information that, if used by a competitor, would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information that reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;

d. Information that discloses trade secret and/or potentially patentable subject matter for which it may be desirable to obtain patent protection.

(5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GEH, 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 GEH, not been disclosed publicly, and not been made available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary and/or confidentiality agreements that provide for maintaining the information in confidence. The initial designation of this information as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in the following paragraphs (6) and (7).

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, who is the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or who is the person most likely to be subject to the terms under which it was licensed to GEH. Access to such documents within GEH is limited to 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 for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GEH 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 and/or confidentiality agreements.

(8) The information identified in paragraph (2), above, is classified as proprietary because it contains detailed GEH design information of the methodology used in the design and analysis of the steam dryers for the GEH Boiling Water Reactor (BWR). Development of these methods, techniques, and information and their application for the design, modification, and analyses methodologies and processes was achieved at a significant cost to GEH.

The development of the evaluation processes along with the interpretation and application of the analytical results is derived from the extensive experience databases that constitute major GEH asset.

(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GEH's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GEH'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 GEH. 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. GEH's competitive advantage will be lost if its competitors are able to use the results of the GEH 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 GEH 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 GEH of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 17th day of April 2012.

Edward D. Schrull, PE
Vice President, Regulatory Affairs
Services Licensing
GE-Hitachi Nuclear Energy Americas LLC
3901 Castle Hayne Rd.
Wilmington, NC 28401
Edward.Schrull@ge.com

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

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(2) The information sought to be withheld is contained in Enclosure 1 of GEH letter, 173280-JB-064, "Grand Gulf Steam Dryer: Transmittal of Steam Dryer Response to Request for Additional Information Round 7-Revised RAI 4," dated April 11, 2012. The GEH proprietary information in Enclosure 1, which is entitled "GEH Response to GGNS Steam Dryer Round 7-RAI 4, GEH Proprietary Information - Class III (Confidential)" is identified by a dotted underline inside double square brackets. [[This sentence is an example.{3}]] Figures containing GEH proprietary information are identified with double square brackets before and after the object. In each case, the superscript notation {3} refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.

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a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by GEH's competitors without license from GEH constitutes a competitive economic advantage over other companies;

b. Information that, if used by a competitor, would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information that reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;

d. Information that discloses trade secret and/or potentially patentable subject matter for which it may be desirable to obtain patent protection.

(5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GEH, 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 GEH, not been disclosed publicly, and not been made available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary and/or confidentiality agreements that provide for maintaining the information in confidence. The initial designation of this information as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in the following paragraphs (6) and (7).

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(8) The information identified in paragraph (2), above, is classified as proprietary because it contains detailed GEH design information of the methodology used in the design and analysis of the steam dryers for the GEH Boiling Water Reactor (BWR). Development of these methods, techniques, and information and their application for the design, modification, and analyses methodologies and processes was achieved at a significant cost to GEH.

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The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GEH. 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. GEH's competitive advantage will be lost if its competitors are able to use the results of the GEH 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 GEH 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 GEH of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 11th day of April 2012.

Edward D. Schrull, PE
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Edward.Schrull@ge.com

Attachment 4

GNRO-2012/00026

Grand Gulf Nuclear Station Extended Power Uprate

Proposed License Condition

Proposed Steam Dryer Monitoring License Condition

GGNS Steam Dryer Power Ascension Testing

47. This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer) for power ascension from the previous LTP (3898 MWt) to the EPU level of 4408 MWt (or 115 percent of OLTP).

    (a) The following requirements are placed on operation of the facility before and during the power ascension to 3898 MWt:

        1. GGNS shall provide a Power Ascension Test (PAT) Plan for the Steam Dryer testing. This plan shall include:

            - Criteria for comparison and evaluation of projected strain and acceleration with on-dryer instrument data.
            - Acceptance limits developed for each on-dryer strain gauge and accelerometer.
            - Tables of predicted dryer stresses at CLTP, strain amplitudes and PSDs at strain gauge locations, acceleration amplitudes and PSDs at accelerometer locations, and maximum stresses and locations.

            The PAT plan shall provide correlations between measured accelerations and strains and the corresponding maximum stresses. The PAT shall be submitted to the NRC Project Manager no later than 10 days before start-up.

        2. GGNS shall monitor the main steam line (MSL) strain gages and on-dryer instrumentation at a minimum of three power levels up to 3898 MWt. Based on a comparison of projected and measured strains and accelerations, GGNS will assess whether the dryer acoustic and structural models have adequately captured the response significant to peak stress projections. If the measured strains and accelerations are not within the CLTP acceptance limits, the new measured data will be used to re-perform the full structural re-analysis for the purposes of generating modified EPU acceptance limits.

        3. GGNS shall provide a summary of the data and evaluation of predicted and measured pressures, strains, and accelerations. This data will include the GGNS-specific bias and uncertainty data and transfer function, revised peak stress table and any revised acceptance limits. The predicted pressures shall include those using both PBLE methods (that is, Method 1 using on-dryer data, and Method 2 using MSL data). It shall be provided to the NRC Project Manager upon completion of the evaluation. GGNS shall not increase power above 3898 MWt until the NRC PM notifies GGNS the NRC accepts the evaluation or NRC questions regarding the evaluation have been addressed. If no questions are identified within 240 hours after the NRC receives the evaluation, power ascension may continue.

(b) The following requirements are placed on operation of the facility during the initial power ascension from 3898 MWt to the approved EPU level (4408 MWt):

1. GGNS shall increase power in increments of approximately 102 MWt, hold the facility at approximately steady state conditions and collect data from available main steam line (MSL) strain gages and available on-dryer instrumentation. This data will be evaluated, including the comparison of measured dryer strains and accelerations to acceptance limits and the comparison of predicted dryer loads based on MSL strain gage data to acceptance limits. It will also be used to trend and project loads at the next test point and to EPU conditions to demonstrate margin for continued power ascension.
2. Following the data collection and evaluation at the plateaus at approximately 4102 MWt, 4306 MWt, and 4408 MWt, GGNS shall provide a summary of the data and the evaluation performed in Section b.1 above to the NRC Project Manager. GGNS shall not increase power above these power levels for up to 96 hours to allow for NRC review of the information.
3. Should the measured strains and accelerations on the dryer exceed the level 1 acceptance limits, or alternatively if the dryer instrumentation is not available and the projected load on the dryer from the MSL strain gage data exceeds the Level 1 acceptance limits, GGNS shall return the facility to a power level at which the limits are not exceeded. GGNS shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to the NRC Project Manager prior to further increases in reactor power. GGNS shall not increase power above these power levels for up to 96 hours to allow for NRC review of the information.
    a. In the event that acoustic signals (in MSL strain gage signals) are identified that challenge the dryer acceptance limits during power ascension above 3898 MWt, GGNS shall evaluate dryer loads, and stresses, including the effect of ±10 percent frequency shift, and re-establish the acceptance limits and determine whether there is margin for continued power ascension.
    b. During power ascension above 3898 MWt, if an engineering evaluation for the steam dryer is required because a Level 1 acceptance limit is exceeded, GGNS shall perform the structural analysis using the Steam Dryer Analysis Report, Appendix A methods to address frequency uncertainties up to ±10% and assure that peak responses that fall within this uncertainty band are addressed.
4. Following the data collection and evaluation at the EPU power level, GGNS shall provide a final load definition and stress report of the steam dryer, including the results of a complete re-analysis using the GGNS-specific bias and uncertainties and transfer function. The GGNS-specific bias and uncertainties summary shall include both PBLE Method 1 and Method 2. This report shall be transmitted to the NRC within 90 days of achieving the EPU power level. Should the results of this stress analysis indicate the allowable stress in any part of the dryer is exceeded, GGNS shall reduce power to a level at which the allowable stress is met, evaluate the dryer

integrity, and assess any shortcomings in the predictive analysis. The results of this evaluation, including a recommended resolution of any identified issues and a demonstration of dryer integrity at EPU conditions, shall be provided to the NRC prior to return to EPU conditions.