



Exelon Generation®

May 4, 2016  
NMP2L 2621

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 2  
Renewed Facility Operating License No. NPF-69  
Docket No. 50-410

Subject: Response to Questions Raised during NRC Audit of the Response to Request for Additional Information Regarding Post Extended Power Uprate Steam Dryer Inspection Results

- References:
- (1) Letter from R. Guzman (NRC) to K. Langdon (NMPNS), dated December 22, 2011, Nine Mile Point Nuclear Station, Unit No. 2 – Issuance of Amendment RE: Extended Power Uprate (TAC No. ME1476)
  - (2) Letter from P. Swift (NMPNS) to Document Control Desk (NRC), dated July 28, 2014, Submittal of Post Extended Power Uprate Steam Dryer Inspection Results in Accordance with Operating License Condition 2.C.(20)(f) and 2.C.(20)(g)
  - (3) Email from B. Vaidya (NRC) to T. Darling (NMPNS), dated August 13, 2014, Request for Additional Information, Nine Mile Point Unit 2, Submittal of Post Extended Power Uprate Steam Dryer Inspection Results in Accordance with Operating License Condition 2.C.(20)(f) and 2.C.(20)(g)
  - (4) Letter from P. Swift (NMPNS) to Document Control Desk (NRC), dated October 3, 2014, Response to Request for Additional Information - Nine Mile Point Unit 2, Submittal of Post Extended Power Uprate Steam Dryer Inspection Results in Accordance with Operating License Condition 2.C.(20)(f) and 2.C.(20)(g)
  - (5) Letter from B. Mozafari (NRC) to P. Orphanos (NMPNS), dated August 5, 2015, Nine Mile Point Nuclear Station, Unit 2 - Request for Additional Information Regarding Post Extended Power Uprate Steam Dryer Inspection Results
  - (6) Letter from A. Sterio (NMPNS) to Document Control Desk (NRC) dated October 8, 2015, Response to Request for Additional Information - Nine Mile Point Nuclear Station, Unit 2 - Request for Additional Information Regarding Post Extended Power Uprate Steam Dryer Inspection Results
  - (7) NRC Audit dated February 18, 2016, to determine the validity and applicability of the new loading component that was used in the NMP2 steam dryer stress analysis.

ADD  
NRR

By letter dated December 22, 2011 (Reference 1), the NRC issued Amendment No. 140 to Renewed Facility Operating License No. NPF-69 for Nine Mile Point Unit 2 (NMP2). The amendment authorized an increase in the maximum steady-state reactor core power level for NMP2 to 3,988 megawatts thermal (MWt). By letter dated July 28, 2014 (Reference 2), Nine Mile Point Nuclear Station (NMPNS) provided the steam dryer inspection results in accordance with NMP2 Operating License Condition 2.C.(20)(f) and 2.C.(20)(g). In Reference 3, the NRC requested additional information regarding the results of the steam dryer inspections documented in Reference 2. NMPNS provided a response to the RAIs in Reference 4. In Reference 5, the NRC requested additional information regarding the results of the steam dryer inspections documented in Reference 2. NMPNS provided a response to the RAIs in Reference 6. On February 18, 2016 the NRC performed an audit to determine the validity and applicability of the new loading component that was used in the NMP2 steam dryer stress analysis.

The supplemental information provided in the Attachments to this letter responds to request for additional information (RAI) during the audit (Reference 7).

Attachment 1 contains the proprietary response to the question raised during the audit. Attachment 2 contains the nonproprietary version of the response to the question raised during the audit. Attachment 3 contains the proprietary version of a white paper prepared in response to a question raised during the audit. Attachment 4 contains the nonproprietary version of the white paper prepared in response to the question raised during the audit. Attachments 5 and 6 contain affidavits to withhold Continuum Dynamics Inc. (CDI) proprietary information contained in Attachments 1 and 3. Attachment 7 contains inspection results of the SRs < 2.0 without VIL locations. The table provides the results of the 2016 refueling outage N2R15 for the CDI TN 16-03 Table 2 locations. The inspections show no indications of service induced cracking.

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact Dennis Moore, Site Regulatory Assurance Manager, at (315) 349-5219.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 4<sup>th</sup> day of May, 2016.

Sincerely,



Alexander D. Sterio  
Director – Site Engineering, Nine Mile Point Nuclear Station  
Exelon Generation Company, LLC

ADS/MHS

- Attachments:
- (1) Response to a Question Raised During the Audit (Proprietary)
  - (2) Response to a Question Raised During the Audit (Nonproprietary)
  - (3) White Paper Prepared in Response to a Question Raised During the Audit (Proprietary)
  - (4) White Paper Prepared in Response to the Question Raised During the Audit (Nonproprietary)
  - (5) Affidavit for Withholding Continuum Dynamics Inc. (CDI) Proprietary Information Provided in Attachment 1
  - (6) Affidavit for Withholding Continuum Dynamics Inc. (CDI) Proprietary Information Provided in Attachment 3
  - (7) Inspection results of the SRs < 2.0 without VIL locations.

cc: (Without attachments)  
Regional Administrator, Region I, USNRC  
Project Manager, USNRC  
Resident Inspector, USNRC

## **Attachment 1**

Response to a Question Raised During the Audit (Proprietary)

## **Attachment 5**

**Affidavit for Withholding Continuum Dynamics Inc. (CDI) Proprietary Information  
Provided in Attachment 1**



# Continuum Dynamics, Inc.

(609) 538-0444 (609) 538-0464 fax

34 Lexington Avenue Ewing, NJ 08618-2302

## AFFIDAVIT

RE: CDI Technical Note No. 16-03P "Nine Mile Point Steam Dryer Inspection Recommendations Based on Flow-Induced Vibratory Stresses," Revision 1

I, Alan J. Bilanin, being duly sworn, depose and state as follows:

1. I hold the position of President and Senior Associate of Continuum Dynamics, Inc. (hereinafter referred to as CDI), and I am authorized to make the request for withholding from Public Record the Information contained in the document described in Paragraph 2. This Affidavit is submitted to the Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 2.390(a)(4) based on the fact that the attached information consists of trade secret(s) of CDI and that the NRC will receive the information from CDI under privilege and in confidence.
2. The Information sought to be withheld, as transmitted to Exelon Corporation as attachment to CDI Letter No. 16037 dated 22 April 2016, CDI Technical Note No. 16-03P "Nine Mile Point Steam Dryer Inspection Recommendations Based on Flow-Induced Vibratory Stresses," Revision 1. The proprietary information is identified by its enclosure within pairs of double square brackets ("[[ ]]"). In each case, the superscript notation <sup>(3)</sup> refers to Paragraph 3 of this affidavit that provides the basis for the proprietary determination.
3. The Information summarizes:
  - (a) a process or method, including supporting data and analysis, where prevention of its use by CDI's competitors without license from CDI constitutes a competitive 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 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 paragraphs 3(a), 3(b) and 3(c) above.

4. The Information has been held in confidence by CDI, its owner. The Information has consistently been held in confidence by CDI and no public disclosure has been made and it is not available to the public. All disclosures to third parties, which have been limited, have been made pursuant to the terms and conditions contained in CDI's Nondisclosure Secrecy Agreement which must be fully executed prior to disclosure.

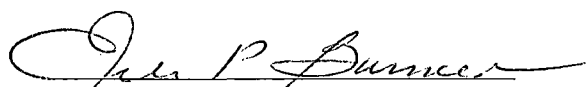
5. The Information is a type customarily held in confidence by CDI and there is a rational basis therefore. The Information is a type, which CDI considers trade secret and is held in confidence by CDI because it constitutes a source of competitive advantage in the competition and performance of such work in the industry. Public disclosure of the Information is likely to cause substantial harm to CDI's competitive position and foreclose or reduce the availability of profit-making opportunities.

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

Executed on this 22 day of April 2016.

  
Alan J. Bilanin  
Continuum Dynamics, Inc.

Subscribed and sworn before me this day: 22<sup>nd</sup> Day of April 2016

  
Eileen P. Burmeister, Notary Public

**EILEEN P BURMEISTER**  
NOTARY PUBLIC  
STATE OF NEW JERSEY  
My Commission Expires May 06, 2017

## **Attachment 6**

**Affidavit for Withholding Continuum Dynamics Inc. (CDI) Proprietary Information  
Provided in Attachment 3**





# Continuum Dynamics, Inc.

(609) 538-0444 (609) 538-0464 fax

34 Lexington Avenue Ewing, NJ 08618-2302

## AFFIDAVIT

RE: CDI White Paper No. 16-05P "Significance of Steam Dryer Fluid- Structural Interaction – CDI Perspective In Response to Nine Mile Point Unit 2 Audit," Revision 0

I, Alan J. Bilanin, being duly sworn, depose and state as follows:

1. I hold the position of President and Senior Associate of Continuum Dynamics, Inc. (hereinafter referred to as CDI), and I am authorized to make the request for withholding from Public Record the Information contained in the document described in Paragraph 2. This Affidavit is submitted to the Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 2.390(a)(4) based on the fact that the attached information consists of trade secret(s) of CDI and that the NRC will receive the information from CDI under privilege and in confidence.
2. The Information sought to be withheld, as transmitted to Exelon Corporation as attachment to CDI Letter No. 16036 dated 21 April 2016, CDI White Paper No. 16-05P "Significance of Steam Dryer Fluid-Structural Interaction – CDI Perspective In Response to Nine Mile Point Unit 2 Audit," Revision 0. The proprietary information is identified by its enclosure within pairs of double square brackets ("[[ ]]"). In each case, the superscript notation <sup>(3)</sup> refers to Paragraph 3 of this affidavit that provides the basis for the proprietary determination.
3. The Information summarizes:
  - (a) a process or method, including supporting data and analysis, where prevention of its use by CDI's competitors without license from CDI constitutes a competitive 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 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 paragraphs 3(a), 3(b) and 3(c) above.

4. The Information has been held in confidence by CDI, its owner. The Information has consistently been held in confidence by CDI and no public disclosure has been made and it is not available to the public. All disclosures to third parties, which have been limited, have been made pursuant to the terms and conditions contained in CDI's Nondisclosure Secrecy Agreement which must be fully executed prior to disclosure.

5. The Information is a type customarily held in confidence by CDI and there is a rational basis therefore. The Information is a type, which CDI considers trade secret and is held in confidence by CDI because it constitutes a source of competitive advantage in the competition and performance of such work in the industry. Public disclosure of the Information is likely to cause substantial harm to CDI's competitive position and foreclose or reduce the availability of profit-making opportunities.

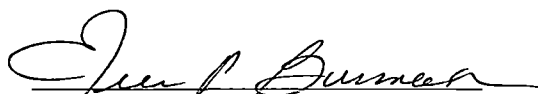
I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to be the best of my knowledge, information and belief.

Executed on this 21 day of April 2016.



Alan J. Bilanin  
Continuum Dynamics, Inc.

Subscribed and sworn before me this day: 4/21/16

  
Eileen P. Burmeister, Notary Public

**EILEEN P BURMEISTER**  
**NOTARY PUBLIC**  
**STATE OF NEW JERSEY**  
**My Commission Expires May 06, 2017**

## **Attachment 7**

Inspection results of the SRs < 2.0 without VIL locations.

CDI TN 16-03 Table 2 Nodes on welds with SR-a<2 without VII, assembled into representative groups.

Group	Description	No. of Nodes	N2R15 Inspection results (Inspections achieved 100% coverage of SR-a locations)
1	Welds involving outer end plate	78	-NRI (No Relevant Indications)
2	Bottom 3 inches of hood support welds	27	-NRI
	Vane banks A & F (outer): hood support / outer hood		-NRI (EPU repair and stress reduction mod)
	Vane banks A & F (outer):hood support / vane bank		-NRI
	Vane banks B & E (middle):hood support / middle hood		-No Change (pre-existing non service induced cracks justified for EPU without repair)
	Vane banks B & E (middle):hood support / vane bank		-NRI
	Vane banks C & D (inner):hood support / inner hood		-No Change (pre-existing non fatigue service induced cracks justified for EPU without repair)
	Vane banks C & D (inner):hood support / vane bank		-NRI
3	Bottom 10 inches of drain channel attachment welds	17	NRI
4	Tie bar attachment welds	24	No change (pre-existing IGSCC cracks justified for EPU service without repair)
5	Bottom lifting rod brace	8	NRI
6	Attachment welds of inner vane bank end plate	34	NRI
7	Bottom of inner hood underneath or outboard of closure plate.	5	NRI
8	Outer closure plate weld near upper lifting rod brace	2	NRI
9	Inner base plate/USR welds (underneath dryer)	8	NRI
10	Horizontal weld at bottom of inner side plate	1	NRI
11	Bottom of outer vane bank end plate (near base of lifting rod)	3	NRI
12	Bottom of middle hood, near closure plate	1	NRI
13	Bottom horizontal weld of middle vane bank end plate.	1	NRI
14	USR/skirt attachment weld, near support lugs.	2	NRI
15	USR/support/earthquake block weld	1	NRI