

Dominion Nuclear Connecticut, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com



Dominion®

April 6, 2017

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

Serial No.: 17-131
NRAWDC: R0
Docket No.: 50-423
License No.: NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
REACTOR VESSEL STANDBY SURVEILLANCE CAPSULE Z DOSIMETRY
ANALYSIS AND STORAGE CONFIRMATION

As stated in a letter dated July 2, 2015, pursuant to the reactor vessel surveillance capsule program requirements of 10 CFR 50 Appendix H and consistent with the guidance of NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Revision 2, December 2010 (ADAMS Accession No. ML103490041), Dominion Nuclear Connecticut, Inc. is providing the results of the dosimetry analysis of the Millstone Power Station Unit 3 reactor vessel standby surveillance Capsule Z specimens. The attachment to this letter provides the dosimetry counting results for the dosimetry wire and dosimetry block materials completed by Pace Analytical Services. The analytical results conform to the current, applicable National Environmental Laboratory Accreditation Conference Institute (NELAC) standards and Pace's quality assurance manual, where applicable.

Standby Capsule Z was removed from the reactor vessel and the untested mechanical test specimens were placed into storage in accordance with the schedule previously approved in NRC letter dated March 15, 2016(ADAMS Accession No. ML116067A234).

If you should have any questions regarding this submittal, please contact Wanda Craft at (804) 273-4687.

Sincerely,

Mark D. Sartain
Vice President – Nuclear Engineering and Fleet Support

Attachment: Analytical Results for Millstone Unit 3 Capsule Z Specimens from Pace Analytical Services, Project No. 30211875

Commitments contained in this letter: None

ADD 1
NRR

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd
Suite 100
King of Prussia, PA 19406-2713

Richard V. Guzman
NRC Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop 08 C2
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT

ANALYTICAL RESULTS FOR MILLSTONE UNIT 3 CAPSULE Z SPECIMENS
FROM PACE ANALYTICAL SERVICES,
PROJECT NO. 30211875

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3



March 08, 2017

[REDACTED]
Westinghouse Electric Company
680 Waltz Mill Road
Madison, PA 15663

RE: Project: Millstone #3
Pace Project No.: 30211875

Dear [REDACTED]

Enclosed are the analytical results for sample(s) received by the laboratory on February 21, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

[REDACTED]
(724)850-5612
Project Manager

Enclosures

cc: [REDACTED]



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Millstone #3
Pace Project No.: 30211875

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Millstone #3
Pace Project No.: 30211875

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211875001	URANIUM CAPSULE #524	Other	02/21/17 00:01	02/21/17 13:00
30211875002	NEPTUNIUM CAPSULE #20-413	Other	02/21/17 00:01	02/21/17 13:00
30211875003	CO-AL-CD WIRE TOP	Other	02/21/17 00:01	02/21/17 13:00
30211875004	CU-WIRE TOP	Other	02/21/17 00:01	02/21/17 13:00
30211875005	NI-WIRE TOP	Other	02/21/17 00:01	02/21/17 13:00
30211875006	FE-WIRE TOP	Other	02/21/17 00:01	02/21/17 13:00
30211875007	CO-AL WIRE MID	Other	02/21/17 00:01	02/21/17 13:00
30211875008	CO-AL WIRE MID	Other	02/21/17 00:01	02/21/17 13:00
30211875009	CO-AL-CD WIRE MID	Other	02/21/17 00:01	02/21/17 13:00
30211875010	CU-WIRE MID	Other	02/21/17 00:01	02/21/17 13:00
30211875011	NI-WIRE MID	Other	02/21/17 00:01	02/21/17 13:00
30211875012	CO-AL WIRE BOT	Other	02/21/17 00:01	02/21/17 13:00
30211875013	CO-AL-CD WIRE BOT	Other	02/21/17 00:01	02/21/17 13:00
30211875014	CU WIRE BOT	Other	02/21/17 00:01	02/21/17 13:00
30211875015	NI WIRE BOT	Other	02/21/17 00:01	02/21/17 13:00
30211875016	FE WIRE BOT	Other	02/21/17 00:01	02/21/17 13:00

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SAMPLE ANALYTE COUNT

Project: Millstone #3
Pace Project No.: 30211875

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211875001	URANIUM CAPSULE #524	EPA 901.1	TTF	1
30211875002	NEPTUNIUM CAPSULE #20-413	EPA 901.1	TTF	1
30211875003	CO-AL-CD WIRE TOP	EPA 901.1	TTF	1
30211875004	CU-WIRE TOP	EPA 901.1	TTF	1
30211875005	NI-WIRE TOP	EPA 901.1	TTF	1
30211875006	FE-WIRE TOP	EPA 901.1	TTF	1
30211875007	CO-AL WIRE MID	EPA 901.1	TTF	1
30211875008	CO-AL WIRE MID	EPA 901.1	TTF	1
30211875009	CO-AL-CD WIRE MID	EPA 901.1	TTF	1
30211875010	CU-WIRE MID	EPA 901.1	TTF	1
30211875011	NI-WIRE MID	EPA 901.1	TTF	1
30211875012	CO-AL WIRE BOT	EPA 901.1	TTF	1
30211875013	CO-AL-CD WIRE BOT	EPA 901.1	TTF	1
30211875014	CU WIRE BOT	EPA 901.1	TTF	1
30211875015	NI WIRE BOT	EPA 901.1	TTF	1
30211875016	FE WIRE BOT	EPA 901.1	TTF	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Millstone #3
Pace Project No.: 30211875

Sample: URANIUM CAPSULE #524 Lab ID: 30211875001 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cesium-137	EPA 901.1	2.19E+03 ± 1.5E+02 (NA)	dps/mg	02/25/17 11:59	10045-97-3	

Sample: NEPTUNIUM CAPSULE #20-413 Lab ID: 30211875002 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cesium-137	EPA 901.1	1.23E+04 ± 7.7E+02 (NA)	dps/mg	02/26/17 08:25	10045-97-3	

Sample: CO-AL-CD WIRE TOP Lab ID: 30211875003 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.09E+04 ± 1.1E+03 (2.4E+01)	dps/mg	02/27/17 11:27	10198-40-0	

Sample: CU-WIRE TOP Lab ID: 30211875004 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.25E+02 ± 1.0E+01 (2.7E-01)	dps/mg	02/26/17 08:28	10198-40-0	

Sample: NI-WIRE TOP Lab ID: 30211875005 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-58	EPA 901.1	2.10E+03 ± 1.3E+02 (1.3E+00)	dps/mg	02/25/17 11:18	13981-38-9	

Sample: FE-WIRE TOP Lab ID: 30211875006 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Manganese-54	EPA 901.1	1.34E+03 ± 8.3E+01 (1.5E+00)	dps/mg	02/25/17 10:09	13966-31-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Millstone #3
Pace Project No.: 30211875

Sample: CO-AL WIRE MID Lab ID: 30211875007 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	3.95E+04 ± 2.0E+03 (4.5E+01)	dps/mg	02/27/17 10:52	10198-40-0	

Sample: CO-AL WIRE MID Lab ID: 30211875008 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	3.91E+04 ± 2.0E+03 (4.5E+01)	dps/mg	02/27/17 10:11	10198-40-0	

Sample: CO-AL-CD WIRE MID Lab ID: 30211875009 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.03E+04 ± 1.0E+03 (3.3E+01)	dps/mg	02/27/17 09:35	10198-40-0	

Sample: CU-WIRE MID Lab ID: 30211875010 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.01E+02 ± 8.9E+00 (2.3E-01)	dps/mg	02/26/17 20:34	10198-40-0	

Sample: NI-WIRE MID Lab ID: 30211875011 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-58	EPA 901.1	1.86E+03 ± 1.1E+02 (6.9E-01)	dps/mg	02/26/17 18:58	13981-38-9	

Sample: CO-AL WIRE BOT Lab ID: 30211875012 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	3.90E+04 ± 2.0E+03 (4.5E+01)	dps/mg	02/27/17 14:14	10198-40-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Millstone #3
Pace Project No.: 30211875

Sample: CO-AL-CD WIRE BOT Lab ID: 30211875013 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.05E+04 ± 1.0E+03 (3.3E+01)	dps/mg	02/27/17 14:49	10198-40-0	

Sample: CU WIRE BOT Lab ID: 30211875014 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-60	EPA 901.1	2.04E+02 ± 9.1E+00 (2.5E-01)	dps/mg	02/26/17 09:32	10198-40-0	

Sample: NI WIRE BOT Lab ID: 30211875015 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Cobalt-58	EPA 901.1	1.96E+03 ± 1.2E+02 (9.1E-01)	dps/mg	02/26/17 18:53	13981-38-9	

Sample: FE WIRE BOT Lab ID: 30211875016 Collected: 02/21/17 00:01 Received: 02/21/17 13:00 Matrix: Other
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Manganese-54	EPA 901.1	1.31E+03 ± 8.6E+01 (4.4E+00)	dps/mg	02/27/17 15:22	13966-31-9	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Millstone #3
Pace Project No.: 30211875

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 30211875
[1] Decay date corrected to 2/13/17 @ 12:00.

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Pittsburgh



Client Name: WESTINGHOUSE Project # 30211875

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: N/A

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C

Temp should be above freezing to 6°C

REC'D 2-21-17

Date and Initials of person examining contents: NYF 3-7-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:		X		1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:			N/A	3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:			N/A	5.
-Includes date/time/ID Matrix: <u>FOILS/CHAIN</u>				
Samples Arrived within Hold Time:			X	6.
Short Hold Time Analysis (<72hr remaining):			X	7.
Rush Turn Around Time Requested:			X	8.
Sufficient Volume:	X			9.
Correct Containers Used:			X	10.
-Pace Containers Used:			X	
Containers Intact:			X	11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.			X	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			X	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:			X	17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr				Initial when completed: <u>NYF</u> Date: <u>3-7-17</u>

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.