August 11, 2005

MEMORANDUM TO: John N. Hannon, Chief
Plant Systems Branch
Division of Systems Safety and Analysis

FROM: David Solorio, Chief /***RA***/
Balance of Plant Systems Section
Plant Systems Branch
Division of Systems Safety and Analysis

SUBJECT: PROJECT NUMBER 710:
TRIP REPORT ON STAFF OBSERVATION OF ALDEN RESEARCH LABORATORY INC. TESTING OF PERFORMANCE CONTRACTING, INC. PWR SUCTION STRAINER

The purpose of this trip was to observe test facilities and testing of Performance Contracting, Inc. (PCI) pressurized-water reactor (PWR) suction strainer at the Alden Research Laboratory, Inc. (ARL) on March 17 and 18, 2005. The trip was to the facilities of ARL located in Holden, Massachusetts, where Framatome ANP, Inc. (FANP) tested the stainers for PCI.

The Nuclear Regulatory Commission (NRC) staff present to observe testing were Section Chief David Solorio, Ralph Architzel, Hanry Wagage, and Shanlai Lu of SPLB/DSSA/NRR. Other attendees present included NRC contractor Clint Shaffer of ARES Corporation and a representative from Dominion Nuclear Connecticut, Inc. Attachment 1 lists attendees who conducted and observed testing.

The purpose of FANP tests was to (1) outline a test series to evaluate PCI Sure-Flow™ strainer performance with various debris mixes and (2) experimentally show under very low approach velocity conditions that most of the debris does not collect on the strainer itself but accumulates in the vicinity, thus not contributing to additional strainer head loss. FANP prepared a summary of the PCI Sure-Flow™ passive strainer testing and forwarded it to the NRC on July 25, 2005. FANP considered this summary, as given in Attachment 2, non-proprietary and available for public release. The conclusions of testing provided in Attachment 2 are FANP's.

CONTACT: Hanry Wagage
415-1840

The testing observed by the NRC showed that the PCI Sure-Flow™ passive strainer design had a low head loss with debris loads in the plume representative of a particular plant, according to FANP. The staff observed that major factors for the low head loss were that (1) low velocity of water at the screen intake which is a result of large strainer area and (2) a significant fraction of debris did not deposit on the strainer but settled in its vicinity. Without reviewing the scaling methodology used in designing the test facility and defining the test matrix the staff is unable to determine whether the tests showing a significant settling of debris at the vicinity of the strainer are representative of plant conditions.

Attachments:

1. Attendees for PCI Sure-Flow™ strainer testing by Framatome ANP, Inc. at Alden Research Laboratory Inc. on March 17 and 18, 2005.

2. PCI Sure-Flow™ Passive Strainer Testing Prepared by Framatome ANP, Inc.

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Attachments:

1. Attendees for PCI Sure-Flow™ strainer testing by Framatome ANP, Inc. at Alden Research Laboratory Inc. on March 17 and 18, 2005.

2. PCI Sure-Flow™ Passive Strainer Testing Prepared by Framatome ANP, Inc.

DISTRIBUTION:
SPLB R/F HWagage RArchitzel

ADAMS PACKAGE: ML052230269
Attachment 1: ML052060337 (Trip report memo)
Attachment 2: ML052060043 NRR-105

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|---|---|---|---|---|
| **OFFICE** | SPLB-A/DSSA | | SPLB-A/DSSA | |
| **NAME** | HWagage | | DSolorio | |
| **DATE** | 8/ 11 /05 | | 8/ 11 /05 | |

**OFFICIAL RECORD COPY**

Attendees for PCI Sure-Flow™ strainer testing by Framatome ANP, Inc.
at Alden Research Laboratory Inc. on March 17 and 18, 2005.

| No. | Name | Organization | Phone |
|---|---|---|---|
| 1 | Lee Williams | Framatome ANP, Inc. | 804-805-8065 |
| 2 | Jim Bleigh | Performance Contracting, Inc. | 913-441-0100 x3342 |
| 3 | Marty Legg | Dominion Nuclear Connecticut, Inc. | 860-447-1791 x2407 |
| 4 | Hanry Wagage | Nuclear Regulatory Commission | 301-415-1840 |
| 5 | Shanlai Lu | Nuclear Regulatory Commission | 301-415-2869 |
| 6 | Ralph Architzel | Nuclear Regulatory Commission | 301-415-2804 |
| 7 | Clint Shaffer | ARES Corporation | 505-272-7102 |
| 8 | M. Padmanabhan (“Padu”) | Alden Research Laboratory, Inc. | 508-829-6000 |
| 9 | Dan Kimball | Framatome ANP, Inc. | 804-273-2908 |
| 10 | Fariba Gartland | Framatome ANP, Inc. | 704-805-2288 |
| 11 | George E. Hecker | Alden Research Laboratory, Inc. | 508-829-6000 |
| 12 | Bert Mayer | Framatome ANP, Inc. | 978-568-2183 |
| 13 | Dean White | Alden Research Laboratory, Inc. | 508-829-6000 |
| 14 | David Solorio | Nuclear Regulatory Commission | 301-415-0149 |
| 15 | Stuart Cain | Alden Research Laboratory, Inc. | 508-829-6000 |

ATTACHMENT 1