



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST

2008-0046

1

RESPONSE TYPE FINAL PARTIAL

REQUESTER

JONATHAN K. TYCKO

DATE

JAN 10 2008

PART I. -- INFORMATION RELEASED

- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments section.
- APPENDICES A** Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.
- APPENDICES B** Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.
- Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD 20852-2738.
- APPENDICES** Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Comments.

PART I.A -- FEES

AMOUNT *
\$

- You will be billed by NRC for the amount listed.
- None. Minimum fee threshold not met.
- You will receive a refund for the amount listed.
- Fees waived.

* See comments for details

PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

- No agency records subject to the request have been located.
- Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.
- This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

PART I.C COMMENTS (Use attached Comments continuation page if required)

The incoming FOIA/PA-2008-0046 is located in ADAMS at ML073190589.

Records with an ML accession number are available in the NRC'S Public Electronic Reading Room at www.nrc.gov/reading-rm/adams/html. For assistance in obtaining any records, please contact the NRC'S Public Document Room (PDR) at 1-800-397-4209 or email at pdr@nrc.gov

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Russell A. Nichols

**APPENDIX A
RECORDS ALREADY PUBLICLY AVAILABLE**

<u>NO.</u>	<u>DATE</u>	<u>ACCESSION NUMBER</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	06/02/2000	ML003721347	Submittal of Crossflow Topical Report "-A" Approved Version (6 pages)
2.	06/02/2000	ML003721447	Submittal of Crossflow Topical Report "-A" Approved Version and Enclosure Contains Proprietary Information (6 pages)
3.	01/18/2002	ML020230131	Description of CrossflowXT Ultrasonic Flow Measurement System (Enclosure 1-P Contains Westinghouse Proprietary Class 2 and Material) (11 pages)
4.	07/31/2003	ML032170565	Extension of Crossflow Signal Conditional Unit Re-Calibration Period (9 pages)
5.	09/15/2003	ML032720938	Westinghouse - Affidavit & Non-Proprietary Meeting Slides - Crossflow root cause meeting September 26, 2003 (TAC No. MB1365) (44 pages)
6.	09/05/2003	ML032521438	Westinghouse - Technical Bulletin TB-03-6, Crossflow Ultrasonic Flow Measurement System Signal Issues, dtd 09/05/2003 (4 pages)
7.	12/05/2003	ML033421289	Westinghouse - NSAL 03-12 - 12/05/03 Crossflow Ultrasonic Measurement System (7 pages)
8.	02/02/2004	ML040350592	Crossflow Ultrasonic Flow Measurement System, X-Beam Modification (Proprietary/Non-Proprietary) (9 pages)
9.	06/29/2004	ML041840089	Westinghouse Review of Information Contained in NRC Letter and Attachment Regarding the Westinghouse/AMAG Crossflow Ultrasonic Flow Meter (Proprietary Final Report) (1 page)

- | | | | |
|-----|------------|-------------|---|
| 10. | 06/29/2004 | ML041840090 | Westinghouse Review of Information Contained in NRC Letter and Attachment Regarding the Westinghouse/AMAG Crossflow Ultrasonic Flow Meter (Proprietary Final Report) (1 page) |
| 11. | 10/20/2004 | ML043000155 | Westinghouse Owners Group - Comparison of Crossflow and ASME Flow Section Feedwater Flow Measurement at Kewaunee Nuclear Power Plant |
| 12. | 12/10/2004 | ML043520132 | Westinghouse Owners Group - Assurance that Crossflow Technology, Installation, and Operation Maintain Design and Licensing Basis (Proprietary) (27 pages) |
| 13. | 07/19/2005 | ML052070341 | Westinghouse Owners Group - Cover Letter and Affidavit - Information Copy of Crossflow Ultrasonic Flow Meter User Guidelines - WCAP - 16437-P (TAC No. MC1913) (10 pages) |
| 14. | 09/12/2005 | ML052560455 | Westinghouse - Non-Proprietary Meeting Slides 9/12/05. Crossflow (TAC No. MC1913) |
| 15. | 03/29/2006 | ML061010244 | LTR-NRC-06-13 NP-Attachment "Crossflow Ultrasonic Flow Measurement System - NRC Status Meeting," March 29, 2006, Rockville, MD (54 pages) |
| 16. | 05/24/2006 | ML061510102 | Presentation Materials Used at April 28, 2006 Crossflow Meeting (7 pages) |
| 17. | 05/30/2006 | ML061570128 | "Projected Content for Crossflow Topical Report Revision" (Proprietary/Non-proprietary) (7 pages) |
| 18. | 05/31/2006 | ML061570129 | CENPD-397-P-A, Rev 1, Project Content for Crossflow Topical Report Revision (11 pages) |



- | | | | |
|-----|------------|-------------|---|
| 20. | 05/31/2006 | ML06150162 | LTR-PS-06-24 NP-Attachment Statistical Comparison of Crossflow Test Data to Other High Precision Flow Instrumentation (22 pages) |
| 21. | 05/31/2006 | ML061570145 | LTR-NRC-06-35 NP-Attachment, "Crossflow Ultrasonic Flow Measurement System Standard and Non-Standard Installations" (7 pages) |
| 22. | 05/31/2006 | ML061570114 | Crossflow Ultrasonic Flow Measurement System Standard and Non-Standard Installations (Proprietary/Non-proprietary) (7 pages) |
| 23. | 06/01/2006 | ML061570161 | Statistical Comparison of Crossflow Test Data to Other High Precision Flow Instrumentation (Proprietary/Non-proprietary) (7 pages) |
| 24. | 06/01/2006 | ML061570168 | Transmittal of Applied Research Laboratory/Pennsylvania State University Investigations Concerning the Crossflow Technology (Proprietary) (7 pages) |
| 25. | 06/02/2006 | ML061580091 | Transmittal of Response to NRC Draft Status Report on Crossflow Ultrasonic Flowmeter (Proprietary) (7 pages) |
| 26. | 01/31/2007 | ML040350598 | WCAP-16163-NP, Revision 0, "Improved Flow Measurement Accuracy Using Crossflow Ultrasonic Flow Measurement Technology" (20 pages) |
| 27. | 05/01/2007 | ML071280797 | Discussion of the Crossflow Ultrasonic Flow Measurement System Topical Report Safety Evaluation (25 pages) |
| 28. | 05/01/2007 | ML071280804 | Crossflow Utility Users' Perspective on NRC Review (3 pages) |
| 29. | 06/04/2007 | ML071580119 | Proposed Alternate Approach to Complete Suspension of Crossflow Topical Report Approval (9 pages) |
| 30. | 06/04/2007 | ML071770313 | Y20070139 - Proposed Alternate Approach to Complete Suspension of Crossflow Topical Report Approval (11 pages) |

**APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY**

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	Undated	Flow error calculation explanation (1 page)
2.	Undated	Byron Unit 1 (3 pages)
3.	Undated	An AMAG Analogy - Attachment 1 (5 pages)
4.	Undated	AMAG Time Line (1 page)
5.	Undated	Perform Disposition Review of RIS 2007-24 (8 pages)
6.	Undated	AMAG Loop Corrosion Factor vs. date for Byron Unit 2 (1 page)
7.	Undated	AMAG Corrosion Factor for reactor coolant loop vs. date for Byron Unit 1 (1 page)
8.	Undated	AMAG Feedwater Measurement Primer (11 pages)
9.	Undated	Apparent Cause Evaluation Quality Check (1 page)
10.	Undated	RIS 2007-24 AMAG/Crossflow Issue (16 pages)
11.	Undated	Licensee Analysis Report (35 pages)
12.	12/27/99	10 CFR 50.59 Safety Evaluation Form Tracking No. 6G-00-0079 Rev. 1 for Byron Units 1 & 2 (24 pages)
13.	12/27/99	10 CFR 50.59 Safety Evaluation Form Tracking No. 6G-00-0079 for Byron Units 1 & 2 (23 pages)
14.	9/28/07	AR 659060, "Trending on Unit 1 FW Flow Ratio," (5 pages)
15.	08/08/2001	Startup Report for Byron Station, Units 1 and 2 - Mid-Cycle Power Uprate (19 pages)
16.	1/17/02	AR 91771, "Unexplained Differences between Byron & Braidwood," 1/17/02 (5 pages); Assignments 1-10 for AR 91771 (35 pages) (Attachment)
17.	1/22/02	AR 0091771 Unexplained Differences between Byron & Braidwood (4 pages)

18. 1/30/02 Apparent Cause Evaluation Content (2 pages)
19. 01/08/2003 Email From P. Rebstock to M. Chawla; RE: Byron TP (4 pages)
20. 1/22/03 Letter from J. Zwolinski to J. Skolds dated 1/22/03,
Subject: Licensed Thermal Power - Byron Station, Unit 1
(4 pages)
21. 1/24/03 Byron Thermal Power Measurement (7 pages)
22. 02/05/2003 Byron Station, Unit 1, Licensed Thermal Power Limit Verification
(18 pages)
23. 2/26/03 Byron Station, Unit 1 - Summary of Meeting held on
January 24, 2003, with Exelon Generation Company, LLC to
discuss the license power limit (TAC No. MB 7319) (4 pages)
24. 3/10/03 Agenda for Steve Reynolds' visit to Byron (2 pages)
25. 07/08/2003 Licensed Thermal Power, Byron Station, Unit 1 - Request for
Additional Information (TAC No. MB7378) (5 pages)
26. 8/11/03 Byron Station Unit 1 Licensed Thermal Power Limit Verification
(3 pages)
27. 8/20/03 Timeline on Byron Thermal Power Issue from P. Lougheed (RIII)
to A. Stone (RIII), et al (1 page)
28. 8/27/03 Byron Unit 1 Power/AMAG Issue Update from P. Snyder (NRR) to
A. Stone (RIII), et al (1 page)
29. 8/28/03 U1 Overpower? from P. Snyder (RIII) to A. Stone (RIII) (1 page)
30. 8/28/03 Re: U1 Overpower? from A. Stone (RIII) to Branch Inspectors
(RIII) (1 page)
31. 8/29/03 Event Number: 40117 (1 page)
32. 9/2/03 Bwd AMAG-addtl info from N. Shah (RIII) to A. Stone (RIII), et al
(1 page)
33. 9/2/03 Email from P. Snyder (RIII) to N. Shah (RIII), Subject: Re: Bwd
AMAG-addtl info (1 page)
34. 9/3/03 Byron overpower?/Westinghouse Letter NSAL 03-6 from
P. Snyder (NRR) to A. Stone (RIII), et al (1 page)
35. 9/5/03 TB-03-00, CROSSFLOW Ultrasonic Flow Measurement System
Signal Issues from charles.m.molnar@us.westinghouse.com to
bjb@nrc.gov, et al, no attachment (1 page)

36. 9/5/03 CROSSFLOW Ultrasonic Flow Measurement System Signal issues (4 pages)
37. 9/9/03 Byron Public Meeting Notice (6 pages)
38. 9/11/03 FWD: OR Events Prebriefing/Briefing - September 16 & 17, 2003 from A. Stone (RIII) to Branch Inspectors (RIII) (1 page)
39. 9/18/03 Byron Station Thermal Power Measurement (30 pages)
40. 9/22-10/27/03 Braidwood/Byron AMAG Investigation of Organizational Effectiveness and Decision Making (34 pages)
41. 10/16/03 FYI: New Westinghouse NSAL from Nirodh Shah (RIII) to R. Skokowski (RIII), P. Snyder (NRR) (1 page)
42. 10/17/03 Assignment Report 00173510 CAPR to revise procedure and initiate new procedure (2 pages)
43. 10/20/2003 Public Meeting to Discuss Operation Above the Licensed Thermal Power Limits at the Byron Station (6 pages)
44. 10/28/03 Re: Information you requested during Friday's visit from A. Stone (RIII) to R. Skokowski (RIII), et al (1 page)
45. 11/18/03 Byron Public Meeting notice (6 pages)
46. 12/12/03 NRC Question regarding AMAG common header installation (2 pages)
47. 12/23/03 CR 19852- AMAG-Westinghouse Letter CAE-03-107 not accurate (3 pages)
48. 12/29/03 Email from A. Stone (RIII) to S. Ray (RIII) Subject: Re: AMAG status at Braidwood (1 page)
49. 01/14/04 Email from A. Stone (RIII) to Peter Snyder; R. Skokowski (RIII), Subject: Followup from visit (1 page)
50. 01/14/04 Email from Ann Marie Stone (RIII) to Richard Skokowski (RIII) Subject: Re: Follow up from Visit (1 page)
51. 1/28/04 Email from G. Dick (NRR) to R Skokowski (RIII) Fwd: Conference Call with IEMA re: AMAG issues at Bryon and Braidwood
52. 10/01/07 AR 00678322: NRC Suspends Topical Report for use of CROSSFLOW (AMAG) (2 pages)

53. 1/30/04 50.59 on sodium tracer test from S. Ray (RIII) to R. Skokowski (RIII), et al (1 page)
54. 2/4/04 Byron Bulletin: Feedwater Tracer Test Planned with Safety as Top Priority (2 pages)
55. 2/10/04 AR 00200745 - Feedwater Flow Tracer Test Preliminary Results (6 pages)
56. 2/10/04 AMAG at Braidwood from S. Ray (RIII) to Skokowski, R. (RIII), et al (1 page)
57. 2/10/04 Re: AMAG at Braidwood from A. Stone (RIII) to G. Dick (NRR), et al (1 page)
58. 2/10/04 AMAG at Braidwood from P. Snyder to S. Ray (1 page)
59. 2/12/04 Westinghouse Technical Bulletin: Information Regarding Recent CROSSFLOW Ultrasonic Flow Measurement System Performance Observations, TB-04-4 (5 pages)
60. 2/17/04 Actions from initial Byron tracer test results (2 pages)
61. 2/23/04 Re: Review of Exelon's Implementation of the AMAG UFM's from G. Dick (NRR) to W. Lyon, et al (2 pages)
62. 2/24/04 Latest on AMAG at Braidwood (1 page)
63. 2/24/04 Re: Latest at AMAG at Braidwood from A. Stone (RIII) to C. Pederson (RIII), et al (1 page)
64. 2/24/04 Unit 2 FW Flow Indication as a result of 1996 AMAG Cal Test (3 pages)
65. 2/26/04 Synopsis of PORC Review of FW Tracer Test Results (1 page)
66. 03/31/2004 Supplemental One to Licensee Event Report (LER) 454-2003-003-00, "Licensed Maximum Power Level Exceeded Due to Inaccuracies in Feedwater Ultrasonic Flow Measurements Caused by Signal Noise Contamination" (5 pages)
67. 4/8/04 Letter from Chris Crane, Exelon Chief Nuclear Officer to Exelon Employees, dated 4/8/04, "INPO Classifies Overpower Condition as Significant," (1 page)
68. 06/18/2004 Y020040131 - Westinghouse Conclusions Regarding Recent Crossflow Ultrasonic Flow Measurement System Performance Events (4 pages)
69. 7/15/04 FYI: Palo Verde's UFM Problem (2 pages)

70. 7/16/04 Fwd: FYI: Palo Verde's UFM Problem from G. Dick (NRR) to P. Snyder (NSIR) (1 page)
71. 7/16/04 UFM saga continues... From P. Snyder to G. Dick (NRR), et al (1 page)
72. 7/16/04 Email from S. Shields (NRR) to OPEX Daily Report - Braidwood, et al, Subject: DIER - Daily Industry Event Report for Monday, July 19, 2004 (1 page)
73. 11/24/04 Closeout of TIA on Byron 1 Overpower from George Dick (NRR) to Rich Skokowski (RIII) (1 page)
74. 12/23/2004 Closure memo for Byron overpower issue (2 pages)
75. 01/11/2005 Email from D. Passehl (RIII) to R. Skokowski (RIII); Subject: OI Report 3-2003-034 Byron (unsubstantiated) (1 page)
76. 2/28/05 Re: Do you have any violations drafted on the AMAG issue at Byron? from: A. Stone (RIII) to D. Passehl (RIII) (1 page)
77. 3/1/05 Fwd: Re: Do you have any violations drafted on the AMAG issue at Byron? from D. Passehl to R. Skokowski (1 page)
78. 03/07/2005 Email from D. Passehl (RIII) to T. Tongue (RIII); Subject: Tom, please check the allegation files on the AMAG issue for draft NCV writeups (1 page)
79. 4/12/05 EA-ELECOS-001; Uncertainty Calculation for Secondary Calorimetric Heat Balance (23 pages)
80. 4/27/05 Re: AMAG from N. Shah (RIII) to R. Skokowski (RIII) (1 page)
81. 08/18/2005 Application for Withholding Proprietary Information from Public Disclosure, Supporting Material for NRC Meeting Regarding Crossflow Ultrasonic Flow Measurement System Status (Proprietary) (6 pages)
82. 5/18/06 CAO23795 GAP analysis needed for AMAG CROSSFLOW User Guidelines (4 pages)
83. 5/18/06 CAO23796 GAP analysis needed for AMAG CROSSFLOW User Guidelines (4 pages)
84. 8/30/06 Caldon Experience in Nuclear Feedwater Flow Measurement (23 pages)
85. 10/18/06 CAO27407 Due to AMAG accuracy concerns, Reactor power should be limited to 99.7% (2 pages)

86. 2/1/07 Email from N. Shah (RIII) to D. Kimble, et al (RIII), Subject: Jim C. Is interested in LaSalle flowrate and Bwd/By AMAG background info with Attachment (Attachment has excerpts from multiple documents) (5 pages)
87. 4/2/07 CAP048767 "Feedwater Correction Factor not able to be updated" (2 pages)
88. 4/7/07 CAP048900 "Feedwater Correction Factor cannot be put into service" (1 page)
89. 6/1/07 CAP050122 - p.1 check at 75% power exceeded mismatch limits in 2 of the 5 calculations (2 pages)
90. 9/26/07 AR 676460, "Caldon/FW Ratio Reaches 0.999," (4 pages)
91. 9/27/07 NRC RIS 2007-24 (5 pages)
92. 9/27/07 Email from Caldwell to Anne Boland et al Re: Fwd: Press Release -NRC Publishes Regulatory Issue Summary on Feedwater Flow Meter Issues (4 pages)