NRC FORM 464 Part I (03-2017)

U.S. NUCLEAR REGULATORY COMMISSION

RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

FOIA	RESPONSE NUMBER
2018-0003	5

RESPONSE TYPE ☑ INTERIM ☐ FINAL

REQUESTER:	DATE:
Jack Kolar, Government Accountability Project	11/06/2017

DESCRIPTION OF REQUESTED RECORDS:

Records corresponding to items 26-29, 31-33, 35-37, 39-41, 50-51, and 55, as more fully described in the Comments Section, below

PART I. -- INFORMATION RELEASED

You have the right to seek assistance from the NRC's FOIA Public Liaison. Contact information for the NRC's FOIA Public Liaison is available at https://www.nrc.gov/reading-rm/foia/contact-foia.html

☑ Agency records subject to the request are already available on the Public NRC Website, in Public ADAMS or on microfiche in the NRC Public Document Room.

☑ 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*

*See Comments for details

☐ You will be billed by NRC for the amount listed.

☐ You will receive a refund for the amount listed.

☐ Fees waived.

NO FEES

☐ Minimum fee threshold not met.

☐ Due to our delayed response, you will not be charged fees.

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

☐ We did not locate any agency records responsive to your request. *Note*: Agencies may treat three discrete categories of law enforcement and national security records as not subject to the FOIA ("exclusions"). 5 U.S.C. 552(c). This is a standard notification given to all requesters; it should not be taken to mean that any excluded records do, or do not, exist.

☑ We have withheld certain information pursuant to the FOIA exemptions described, and for the reasons stated, in Part II.

☑ Because this is an interim response to your request, you may not appeal at this time. We will notify you of your right to appeal any of the responses we have issued in response to your request when we issue our final determination.

☐ You may appeal this final determination within 90 calendar days of the date of this response by sending a letter or e-mail to the FOIA Officer, at U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001, or FOIA.Resource@nrc.gov. Please be sure to include on your letter or email that it is a "FOIA Appeal." You have the right to seek dispute resolution services from the NRC's Public Liaison, or the Office of Government Information Services (OGIS). Contact information for OGIS is available at https://ogis.archives.gov/about-ogis/contact-information.htm

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

This fifth interim response addresses 16 additional records described in your request. Although these records have been removed from ADAMS, because the NRC was able to locate them by the accession numbers during the processing of several FOIA requests seeking the same records within the past year, we have processed the records as described below. We have processed these records, taking into account the privacy waiver furnished by Lawrence Criscione. Please note that our response should not be construed as our concurrence with the way in which you describe some of the records.

[continued on next page]

Signature - Freedom of Information Act Officer or Designee

Stephanie A. Blaney

Digitally signed by Stephanie A. Blaney
DN: c=US, o=U.S. Government, ou=U.S. Nuclear Regulatory Commission, ou=NRC-PIV, cn=Stephanie A. Blaney, 0.9.2342.19200300.100.1.1=200001997
Date: 2017.11.06 10:00:27 -05'00'

NRC FORM 464 Part I (03-2017) U.S. NUCLEAR REGULATORY COMMISSION	FOIA	RESPONSE NUMBER
RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST Continued	2018-0003	5
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REQUESTER:	DATE:
Jack Kolar, Government Accountability Project	11/06/2017

PART I.C COMMENTS (Continued)

ML16216A706 (item 26) is a copy of a FOIA appeal letter with enclosures. The letter itself is already publicly available as ML13189A005. Another copy of this letter, along with its enclosures, is enclosed with this response.

ML16216A707 (item 27) consists of a June 10, 2013 email from Mr. Criscione to various NRC staff and NTEU Chapter 208, which Mr. Criscione then forwarded to Chairman Macfarlane and her Legal Assistant on June 13, 2013. We have enclosed a redacted version of this record. Certain portions of the email have been redacted, and the attachment withheld in its entirety, on the basis of exemption 5, as it incorporates the deliberative process (DP) privilege. The portions of the email have been redacted to be consistent with the manner in which records responsive to FOIA-2015-0018/FOIA-2015-0019 were redacted; the attachment was previously denied in response to FOIA-2015-0020 (ML15113A611, ML15111A230, and ML15006A221, respectively). Please note that since this content was previously withheld on the basis of exemption 5 and the DP privilege, the NRC revisited that content before determining to continue asserting exemption 5 and the DP privilege.

ML16216A708 (item 28) is a June 13, 2013 letter from Patricia Hirsch to Mr. Criscione. ML16216A709 (item 29) is a copy of a May 24, 2013 email to various NRC officials, including the FOIA Officer at that time, attaching a letter, in which the sender raises concerns about the lack of a timely response to several pending FOIA appeals. Both records are enclosed.

ML16216A711 (item 31) is a copy of a briefing package prepared by David Lochbaum of the Union of Concerned Scientists, ahead of meetings scheduled with then-Chairman Burns and Commissioner Baran, which the Commission has confirmed was received. It is enclosed.

ML16216A712 (item 32) consists of a March 29, 2013 email, transmitting to the Chairman and various NRC staff, including in the FOIA Office, a letter in which Mr. Criscione seeks to appeal the failure to respond timely to three FOIA requests (FOIA-2013-0126, 2013-0127, and 2013-0128) that he, or other third party individuals, had filed. This appeal letter included 16 enclosures, many of which are already available to the public as noted below, or are enclosed herein:
Enclosure 1: Incoming request, FOIA-2013-0126 (ML13044A481)
Enclosure 2: Acknowledgment letter for FOIA-2013-0126 (enclosed)
Enclosure 3: Incoming request, FOIA-2012-0128 (ML12030A105)
Enclosure 4: Acknowledgment letter for FOIA-2012-0128 (ML12363A094)
Enclosure 5: Form 464 response to FOIA-2012-0128#1 (ML16216A712)
Enclosure 6: Incoming request, FOIA-2012-0325 (ML12263A087)
Enclosure 7: President Obama's Memorandum on the FOIA (https://www.dol.gov/dol/foia/2009 FOIA_memo.pdf)
Enclosure 8: Attorney General Holder's Memorandum on the FOIA (https://www.justice.gov/sites/default/files/ag/legacy/2009/06/24/foia-memo-march2009.pdf)
Enclosure 9: List of NRC Correspondence, Memos and Studies Regarding Failure of Jocassee Dam (this list has been attached to multiple documents that are publicly available, such as ML15128A609 (starting at p54).
Enclosure 10: Incoming request, FOIA-2013-0127 (ML13044A486)
Enclosure 11: Acknowledgment letter for FOIA-2013-0127 (enclosed)
Enclosure 12: Acknowledgment letter for FOIA-2013-0034 (enclosed)
Enclosure 13: Incoming request, FOIA-2013-0008 (ML12283A329)
Enclosure 14: Incoming request, FOIA-2013-0013 (ML12290A070)
Enclosure 15: Incoming request, FOIA-2013-0128 (ML091170104)
Enclosure 16: Acknowledgment letter for FOIA-2013-0128 (enclosed)

NRC FORM 464 Part I (03-2017)	U.S. NUCLEAR REGULATORY COMMISSION	FOIA	RESPONSE NUMBER
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Jack Kolar, Government Accountability Project	11/06/2017

PART I.C COMMENTS (Continued)

ML16216A713 (item 33) is a copy of a FOIA request, FOIA-2013-0262, to which the requester attached a copy of a page from the Commission's 2d Quarter Operating Plan FY-2013. The 2d Quarter Operating Plan was the subject of prior FOIA requests, FOIA-2013-0261(and its appeal, FOIA-2013-0021A) and FOIA-2016-0117. The Plan was denied in full pursuant to FOIA exemption 5. A copy of the FOIA request letter is enclosed with this response; however, the one-page attachment from the 2d Quarter Operating Plan FY-2013 (ML13149A079) (like the entire Operating Plan itself) continues to be withheld under FOIA exemption 5.

ML16236A018 (item 35) is an email exchange between staff members in the Offices of Nuclear Regulatory Research (RES) and New Reactors (NRO), to which a red-lined draft of a "Style Sheet", including personal advice and recommendations about writing style by its author, was attached. This draft was not finalized, although it is similar to NUREG-1379, NRC Editorial Style Guide. It is also noted that the focus of the email exchange was a particular template NRO used to write reviews of post-Fukushima Recommendation 2.1 Flood Hazard Reevaluation Reports, which is different altogether from the red-lined draft the originating RES staff member had attached to his email. A copy of the email exchange is enclosed.

ML16236A019 (item 36), which is described as 2014-Jan-9 mpg video of the flooding at St. Lucie, 043 MOV03976_MPG and ML16236A021 (item 37), which is described as 2014-May-27 and 2014-June-5 emails concerning the St. Lucie Jan 9 Reactor Auxiliary Building Flooding Video, are both enclosed.

Since all but one of the email exchanges included in ML16237A004 (item 39) are already publicly available as a result of our processing of FOIA-2013-0264, please refer to ML13226A261-ML13226A264, ML13123A204, and ML13226A259. We note that the redactions of personally identifiable information (PII) on the basis of exemption 6 were already applied in the emails as you requested them. We have enclosed the one additional email exchange that is not publicly available; the PII appearing in this record has been redacted under exemption 6. ML16237A005 (item 40) is also already publicly available as a result of our processing of FOIA-2013-0264; please refer to ML13226A259.

ML16237A006 (item 41) is an April 11, 2013 letter from Mr. Criscione to then-EDO Bill Borchardt and then-Chief FOIA Officer Darren Ash, following up on a pending FOIA appeal, FOIA-2013-009A, including seven enclosures. The enclosures consist of: (1) an acknowledgment letter; (2) a Form 464 response package to 2013-0126 (which is already publicly available as ML13106A167), including an appendix listing the already publicly available redacted records responsive to the request; (3) ML13099A247 (as redacted); (4) ML13039A084 (as redacted); (5) ML13039A0086 (as redacted); (5) a copy of the U.S. Army Corps of Engineers (ACE)'s Engineer Manual, "General Design and Construction Considerations for Earth and Rock-Fill Dams," (which is publicly available at ACE's website) and a Continuing Education & Development, Inc. cover sheet for a program on this subject; (which is also publicly available at its website); and (7) an unredacted copy of the cross-section diagram of the Jocassee Dam. With the exception of enclosure 7, the pages of this record are enclosed. As for enclosure 7, this diagram has already been addressed in interim response 3 (relating to items 2 and 7 of your request, wherein it was redacted on the basis of exemption 7F.

ML16238A013 (item 50) and ML16238A014 (item 51) are copies of a NRC Form 183, Report of Security Incident/ Infraction/Violation, and an undated memorandum from Mary Jane Ross-Lee to Richard Correia concerning the subject "Report of Security Incident (Information Spill)." Both are enclosed.

ML16242A344 (item 55) is a privacy waiver furnished by Mr. Criscione in conjunction with several third party FOIA requests submitted in the past year, which was subsequently revised and and later incorporated by reference in the privacy waiver he furnished with regard to your request. A copy is enclosed.

NRC FORM 464 Part II
(03-2017)

U.S. NUCLEAR REGULATORY COMMISSION

RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

FOIA: 2018-0003#5

DATE: 11/06/2017

PART II.A -- APPLICABLE EXEMPTIONS

Records subject to the request are being withheld in their entirety or in part under the FOIA exemption(s) as indicated below (5 U.S.C. 552(b)).

- ☐ Exemption 1: The withheld information is properly classified pursuant to an Executive Order protecting national security information.
- ☐ Exemption 2: The withheld information relates solely to the internal personnel rules and practices of NRC.
- ☐ Exemption 3: The withheld information is specifically exempted from public disclosure by the statute indicated.
  - ☐ Sections 141-145 of the Atomic Energy Act, which prohibits the disclosure of Restricted Data or Formerly Restricted Data (42 U.S.C. 2161-2165).
  - ☐ Section 147 of the Atomic Energy Act, which prohibits the disclosure of Unclassified Safeguards Information (42 U.S.C. 2167).
  - ☐ 41 U.S.C. 4702(b), which prohibits the disclosure of contractor proposals, except when incorporated into the contract between the agency and the submitter of the proposal.
- ☐ Exemption 4: The withheld information is a trade secret or confidential commercial or financial information that is being withheld for the reason(s) indicated.
  - ☐ The information is considered to be proprietary because it concerns a licensee's or applicant's physical protection or material control and accounting program for special nuclear material pursuant to 10 CFR 2.390(d)(1).
  - ☐ The information is considered to be another type or confidential business (proprietary) information.
  - ☐ The information was submitted by a foreign source and received in confidence pursuant to 10 CFR 2.390(d)(2).
- ☑ Exemption 5: The withheld information consists of interagency or intraagency records that are normally privileged in civil litigation.
  - ☑ Deliberative process privilege.
  - ☐ Attorney work product privilege.
  - ☐ Attorney-client privilege.
- ☑ Exemption 6: The withheld information from a personnel, medical, or similar file, is exempted from public disclosure because its disclosure would result in a clearly unwarranted invasion of personal privacy.
- ☑ Exemption 7: The withheld information consists of records compiled for law enforcement purposes and is being withheld for the reason(s) indicated.
  - ☐ (A) Disclosure could reasonably be expected to interfere with an open enforcement proceeding.
  - ☐ (C) Disclosure could reasonably be expected to constitute an unwarranted invasion of personal privacy.
  - ☐ (D) The information consists of names and other information the disclosure of which could reasonably be expected to reveal identities of confidential sources.
  - ☐ (E) Disclosure would reveal techniques and procedures for law enforcement investigations or prosecutions, or guidelines that could reasonably be expected to risk circumvention of the law.
  - ☑ (F) Disclosure could reasonably be expected to endanger the life or physical safety of an individual.
  - ☐ Other

PART II.B -- DENYING OFFICIALS

In accordance with 10 CFR 9.25(g) and 9.25(h) of the U.S. Nuclear Regulatory Commission regulations, the official(s) listed below have made the determination to withhold certain information responsive to your request.

DENYING OFFICIAL	TITLE/OFFICE	RECORDS DENIED	APPELLATE OFFICIAL	
			EDO	SECY
Rochelle Bavol	Exec Asst to Secy to the Commission	Item 33	☐	☑
Bernice C. Ammon	Asst Gen Counsel for LC, Leg & Spec Proj	Item 27	☐	☑
Stephanie A. Blaney	FOIA Officer	Items 35, 39, and 41	☑	☐

Appeals must be made in writing within 90 calendar days of the date of this response by sending a letter or email to the FOIA Officer, at U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001, or FOIA.Resource@nrc.gov. Please be sure to include on your letter or email that it is a "FOIA Appeal."

Public Employees for Environmental Responsibility

2000 P Street, NW • Suite 240 • Washington, D.C. 20036 • 202-265-PEER(7337) • fax: 202-265-4192
e-mail: info@peer.org • website: www.peer.org

July 5, 2013

Ms. Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

CC: Mr. Bill Borchardt, Executive Director for Operations
Ms. Linda Kilgore, FOIA/Privacy Act Specialist

RE: Appeal From Initial Decision; FOIA/PA-2013-00239

Dear Ms. Sealing:

Public Employees for Environmental Responsibility (PEER) hereby appeals the U.S. Nuclear Regulatory Commission's (NRC) June 10, 2013 response to PEER's Freedom of Information Act (FOIA) request submitted on May 7, 2013 and assigned reference number FOIA/PA-2013-00239 (see attachment A).

PEER's FOIA request seeks records relating to the risk of inundation from dam failure to operating commercial nuclear reactors. Specifically, we requested the following eleven records:

- ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures (Agency Response "Accession No. ML 13039A086");
- ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis (Agency Response "Accession No. ML13039A084");
- ML091170104, Oconee Nuclear Station, Units 1, 2 And 3 - Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding (Agency Response "Accession No. ML13106A168");
- ML101610083, Oconee Nuclear Station, Units 1, 2, and 3, - External Flood Commitments (Agency Response "Accession No. ML101610083");

- ML081640244, Information Request Pursuant to 10 CFR 50.54(F) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MD8224, MD8225, and MD8226) (Agency Response "Accession no. ML12363A132");

- ML081750106, Oconee, Units 1, 2 and 3 - Response to 10 CFR 50.54(f) Request[1] (Agency Response "Accession No. ML12363A129");

- ML090570779, Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolinas September 26, 2008, Response to External Flooding, Including Failure of the Jocassee Dam (Agency Response "Accession No. ML12363A133");

- ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011 (Agency Response "Accession No. ML13099A247");

- ML110740482, Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures;

- The 19- page letter from NRC employee Lawrence Criscione to the NRC Chairman dated September 18, 2012; and

- The email dated September 18, 2012 from Lawrence Criscione to the NRC Chairman.

NRC acknowledged receipt of PEER's FOIA request ("request") in a letter dated May 7, 2013 (see attachment B). NRC's partial response ("response"), dated June 10, 2013, includes one complete record, seven partial records, and a statement that three records "will be addressed in a later response" (see attachment C).

PEER hereby appeals the withholding of responsive material for the following reasons:

1. NRC fails to provide adequate justification for withholding the material or a *Vaughn* index of the withheld records (or withheld portions)[2];
2. NRC fails to satisfy the basic Exemption 7 thresholds;
3. NRC fails to satisfy the specific Exemption 7(F) threshold;
4. NRC fails to explain how a portion of a record could be "outside of scope" of PEER's request;
5. NRC fails to abide by statutory time limits;
6. NRC's previously disclosed records cannot be withheld; and
7. NRC fails to address segregability.

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[1] Original request listed "ML081750106." Upon review, PEER noticed a possible typo. The original request likely should have read "ML0821750106." However, PEER believes that the correct document was provided in the response.

[2] References to "withheld records" are to mean any record withheld in full or in part.

1. **NRC fails to inform the requester of the reason(s) for denial, justify its withholding, and provide itemized descriptions or a *Vaughn* index of the withheld records.**[3]

As a fundamental matter, NRC withholds many pages of records without providing any context, explanation or description of the withheld information. NRC has simply failed to meet its heavy burden to justify redacting the information. A decision to deny a request must inform the requester of the reasons for denial. *See* 5 U.S.C. § 552(a)(6)(A)(i) (requiring agencies to "immediately notify the [requester] of such determination *and the reasons therefor*"). NRC's response is a boilerplate form that merely quotes the statutory language. Parroting the statutory language is not a justifiable "reason" for withholding records as it does not demonstrate how the records are properly exempt under FOIA.

Additionally, PEER's request clearly states:

> For any documents or portions of documents that you block release due to specific exemption(s) from the requirements of the [FOIA], please provide an index itemizing and describing the documents or portions of documents withheld. The index should, pursuant to the holding of *Vaughn v. Rosen*, 484 F.2d 820 (D.C. Cir. 1973) cert. denied, 415 U.S. 977 [1974]), provide a detailed justification for claiming a particular exemption that explains why each such exemption applies to the document or portion of a document withheld.

Despite PEER's written request for descriptions of the withheld information and the statutory requirement to provide "reasons" for withholding information, NRC makes no attempt to provide PEER with such information.

2. **NRC fails to satisfy basic Exemption 7 threshold requirements because NRC's response fails to indicate its "law enforcement purpose" and fails to identify a "law enforcement purpose" for which the records were "compiled."**[4]

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[3] Section 1 applies to all withheld records (or portions)

[4] Section 2 applies to all records withheld pursuant to Exemption 7(F)
- ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures (Agency Response "Accession No. ML 13039A086");
- ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis (Agency Response "Accession No. ML13039A084");
- ML091170104, Oconee Nuclear Station, Units 1, 2 and 3 - Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding (Agency Response "Accession No. ML13106A168");
- ML081640244, Information Request Pursuant to 10 CFR 50.54(F) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MD8224, MD8225, and MD8226) (Agency Response "Accession no. ML12363A132");
- ML081750106, Oconee, Units 1, 2 and 3 - Response to 10 CFR 50.54(f) Request (Agency Response "Accession No. ML12363A129");
- ML090570779, Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolinas September 26, 2008, Response to External Flooding, Including Failure of the Jocassee Dam (Agency Response "Accession No. ML12363A133"); and

Pursuant to 5 U.S.C. § 552(b)(7) ("Exemption 7"), NRC withholds portions of seven requested records. Exemption 7 allows an agency to withhold "records or information compiled for law enforcement purposes, but only to the extent that the production of such law enforcement records" fit within one of Exemption 7's six subparts. 5 U.S.C. § 552(b)(7)(A)-(F). Accordingly, as a preliminary matter, NRC "must meet the threshold requirements of Exemption 7 before withholding requested documents on the basis of any of its subparts." *Pratt v. Webster*, 673 F.2d 408, 416 (D.C. Cir. 1982). The Exemption 7 threshold requirements involve two steps.

First, an agency claiming Exemption 7 must demonstrate that the agency serves a "law enforcement purpose." *See Schoenman v. FBI*, 575 F. Supp. 2d 136, 163 (D.D.C. 2008) (finding that agency "failed to establish" its law enforcement purpose and consequently failed to meet the Exemption 7 threshold requirement). *Cf. Pratt*, 673 F.2d at 414 (stating that "law enforcement purpose" not only describes the type of agency, but also functions as a condition on the use of the exemption) (internal quotes omitted).

NRC's response fails to meet this threshold because the response makes no mention of the agency's "law enforcement purpose" let alone demonstrates that it has one. Even if NRC could demonstrate a legitimate law enforcement purpose under Exemption 7(F), it would still be subject to a more rigorous standard when evaluating this threshold requirement. *Tax Analysts v. IRS*, 294 F.3d 71, 77 (D.C. Cir. 2002). While an agency whose primary function is law enforcement must establish only a "rational nexus" between the records it seeks to withhold and "its authority to enforce a statute or regulation," *Abdelfattah v. U.S. Dep't of Homeland Sec.*, 488 F.3d 178, 186 (3d Cir. 2007), an agency with mixed functions is subject to a more "exacting standard" in showing the connection between the withheld documents and its law enforcement functions. *Tax Analysts*, 294 F.3d at 77. Such an agency "must demonstrate that it had a purpose falling within its sphere of enforcement authority in compiling the particular document." *Church of Scientology v. Department of the Army*, 611 F.2d 738, 748 (9th Cir. 1980). NRC has not demonstrated the fundamental requirement of Exemption 7 that it have a "law enforcement purpose," and therefore fails to meet its burden to justify redacting the information. It thus also cannot meet the heightened level of scrutiny applicable to mixed function agencies.

Second, an agency claiming Exemption 7 must show that the records at issue were *compiled* to *enforce* a statute or regulation within its law enforcement purpose. *See Birch v. USPS*, 803 F.2d 1206, 1210-11 (D.C. Cir. 1986) (explaining that threshold is met where the agency demonstrates that records were *compiled* pursuant to the *enforcement* of laws within the statutory authority of the agency) (emphasis added). NRC fails to satisfy this threshold requirement because it withholds information without any accompanying explanation as to how or why the information was *compiled* to *enforce* a statute or regulation within its law enforcement purpose. *See Antonelli v. ATF*, 555 F. Supp. 2d 16, 24 (D.D.C. 2008) (ruling in favor of plaintiff-requester where agency attempted to withhold information under Exemption 7 but failed to demonstrate that records were "*complied* for law enforcement purpose"); *United Am. Fin. v. Potter*, 531 F. Supp. 2d 29, 46 (D.D.C. 2008) (finding that, as threshold matter, agency must explain that records were *compiled* for law enforcement purposes). Indeed, since

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- ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011 (Agency Response "Accession No. ML13099A247").

NRC did not show that it had a law enforcement function, it would be hard to demonstrate that the sought records were specifically compiled for a law enforcement purpose.

Some of the sought records are from NRC's research department, which, by its nature is not an enforcement body and thus any records from it cannot be compiled for law enforcement purposes. Other records appear to be Office of Nuclear Reactor Regulation ("NRR") records, not the Office of Investigations or Office of Inspector General (the NRC arms with plausible law enforcement functions). It is doubtful that the records at issue here were compiled for a specific law enforcement purpose since NRR has not been shown to have a law enforcement purpose to which the records specifically relate. Moreover, the theoretical threat posed to reactors by natural disasters or structural failures outside of NRC jurisdiction are beyond the scope of any law enforcement proceeding.

In sum, to properly assert Exemption 7, NRC must provide a specific explanation as to the agency's law enforcement purpose and the specific law enforcement action for which the records were compiled. *See Miller v. DOJ*, 562 F. Supp. 2d 82, 118 (D.D.C. 2008) (finding Exemption 7 threshold cannot be satisfied when agency neither explains the "manner and circumstances" under which the records were compiled nor links the records to a law enforcement purpose). For its failure to meet, or even address, any of the Exemption 7 threshold requirements, NRC fails to justify withholding under Exemption 7 and all of its subparts.

3. NRC fails to satisfy the specific thresholds of Exemption 7(F) because it never shows that disclosure "could reasonably be expected to endanger the life or physical safety of any individual."[5]

If it satisfies the Exemption 7 threshold requirements, an agency asserting subpart (F) then must demonstrate that disclosure of the records "could reasonably be expected to endanger life or physical safety of any individual." 5 U.S.C. § 552(b)(7)(F). Neither NRC's response nor the records it produced even suggest that disclosure of the withheld records "could reasonably be expected to endanger the life or physical safety of any individual." *Id.*

For decades, agencies have been relying on the phrase "could reasonably be expected to endanger life or physical safety of any individual" to prevent disclosure of records containing information such as the names and identifying information of witnesses, informants, government agents, non-law enforcement federal employees, local law enforcement personnel, and other third persons in connection with particular law enforcement matters. It is difficult to imagine how the records NRC withholds are similar to these examples. Even the NRC website acknowledges that 7(F) does not protect the types of records PEER requests. The website reads as follows:

> Exemption 7(F): Disclosure could reasonably be expected to endanger life or physical security of any individual
>
> - Exemption has rarely been used by NRC
> - Records or information compiled for law enforcement purposes the disclosure of which could endanger the life or physical safety of an individual or individuals, ***for instance, where necessary to protect an individual (or group***

[5] Id. Section 3 applies to the same withheld records (or portions) listed in footnote 4.

of individuals) from possible harm by a requester who has threatened harm in the past [6] (emphasis added)

NRC's response fails to connect the withheld records with any "reasonably [] expected" danger to the "life or physical safety of any individual." 5 U.S.C. 552(b)(7)(F). NRC "does not need to identify [an endangered] individual by name," but the agency cannot simply "identify an individual only as being a member of a vast population." *American Civil Liberties Union v. Dep't of Defense*, 453 F.2d 59, 80 (2d Cir. 2008). NRC even fails to make a conclusory statement asserting that disclosure is reasonably expected endangered individuals. Indeed, PEER guesses that NRC's withholding appears to be based on speculative, abstract and unsubstantiated fears that disclosing the information will somehow aid in terrorist wrongdoing. This does not suffice to justify withholding the information. Furthermore, failing to publicly acknowledge the risks of dam failure and reactor flood inundation risks due to *natural hazards* puts individuals more at risk of harm. Because the issue has not been publically acknowledged, it is not getting the adequate level of attention to remedy the problems that may arise, putting the public more at risk.

4. NRC wrongfully withholds records as "outside of [the] scope" of PEER's request.[7]

NRC withholds portions of two records claiming that the redacted information is "outside of [the] scope" of PEER's request. Given the language in PEER's request, it is impossible for a record (or portion of a record) to be "outside of [the] scope." PEER's request seeks production of specific records in their entirety (see attachment A). PEER's request provides the "accession number" and title or brief description of each record. It is impossible for a portion of a document or record to "outside of [the] scope" of an entire record.

5. NRC fails to meet its statutory time limit.[8]

NRC's response fails to address three of the eleven records requested more than two months ago on May 7, 2013. NRC fails to meet the twenty-business day response time that FOIA imposes on agencies. FOIA states that agencies "shall make records promptly available" upon request. 5 U.S.C. § 552(a)(3)(A). Under FOIA's administrative appeal provision, a requester may administratively appeal an agency's adverse determination (including agency's

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[6] http://www.nrc.gov/reading-rm/foia/foia-request.html#appeals

[7] Section 4 applies to the following records with redactions claimed to be "outside of scope"
- ML081640244, Information Request Pursuant to 10 CFR 50.54(F) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MD8224, MD8225, and MD8226) (Agency Response "Accession no. ML12363A132") (Outside of Scope redaction of page 3); and
- ML090570779, Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolinas September 26, 2008, Response to External Flooding, Including Failure of the Jocassee Dam (Agency Response "Accession No. ML12363A133") (Outside of Scope, redaction of page 5).

[8] Section 5 applies to the three records to which NRC has yet to address:
- ML110740482, Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures;
- The 19- page letter from NRC employee Lawrence Criscione to the NRC Chairman dated September 18, 2012; and
- The email dated September 18, 2012 from Lawrence Criscione to the NRC Chairman.

failure to address requested records). 5 U.S.C. § 552(a)(2). PEER appeals NRC's constructive denial of these records.

6. NRC wrongfully withholds records previously made public.[9]

Under FOIA, release to one is release to all. *NARA v. Favish*, 541 U.S. 157,174 (2004) (explaining that "once there is disclosure, the information belongs to the general public"). Since filing its request, PEER learned that the NRC fully released record "ML101900305" (Agency Response "Accession No. ML 13039A086") in response to a previous FOIA request to another organization.

Compare record "ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures" (Agency Response "Accession No. ML 13039A086") with "ML13066A429, Email from F. Ferrante, NRR to J. Mitman, NRR on NRR Submittal to GIP - External Flooding Issue (Dam Failures)." Record ML13066A429, the latter, was released to Greenpeace's Jim Riccio on February 6, 2013 in response to FOIA 2012-0325 and remains available on NRC's public website. PEER requests record ML101900305 (Agency Response "Accession No. ML 13039A086"), but NRC provides PEER with a redacted version. Although the documents appear slightly different, ML13066A429 is an unredacted version of ML101900305 (Agency Response "Accession No. ML 13039A086"), the memorandum PEER requests but that NRC fails to produce in full.[10] This record should be fully produced.

7. NRC fails to address segregability.[11]

NRC's response fails to make any mention of segregability. FOIA requires that "[a]ny reasonably segregable portion of a record shall be provided to any person requesting such a record after deletion of the portions which are exempt." 5 U.S.C. § 552(b) (sentence immediately following exemptions). "The segregability requirement applies to all . . . documents and all" FOIA Exemptions. *Judicial Watch, Inc. V. DOJ*, 432 F.3d 366, 371 (D.C. Cir. 2005). When responding to FOIA requests, agencies are to determine and explain to the requester whether "any intelligible portion of the contested" redactions can be "segregated for release." *Mays v. DEA*, 234 F.3d 1324, 1328 (D.C. Cir. 2000). Agencies are required to address segregability "with reasonable specificity" and cannot make assumptions as to the value of withheld information to the requester, no matter how seemingly insignificant the redacted portions may be in the eyes of the agency. *Stolt-Nielsen Transp. Group Ltd. V. United States*, 534 F.3d 728, 734 (D.C. Cir. 2008). Furthermore, an agency cannot rely on conclusory assertions to satisfy the segregability requirement. The agency must demonstrate that all reasonably segregable, nonexempt information is properly disclosed. *United Am. Fin., Inc. v. Potter*, 531 F. Supp. 2d

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[9] Section 6 applies to record ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures (Agency Response "Accession No. ML 13039A086").

[10] The only differences are:

1. the first page (i.e. the email from Ferrante to Mitman);
2. the missing July 19, 2010 date at the top of the second page; and
3. the fact that every page is offset by about five lines due to the added date to the final version.

From an information standpoint, all the information redacted from ML13039A036 to PEER was provided to Greenpeace in ML13066A429.

[11] Section 7 applies to all withheld records.

29, 41 (D.D.C. 2008). Without any explanation or discussion of segregability, the responsive records appear to contain arbitrarily deleted swaths of information.

Missing Attachment

NRC produced 33 pages of record ML081750106, Oconee, Units 1, 2 and 3 - Response to 10 CFR 50.54(f) Request (Agency Response "Accession No. ML12363A129"). Record ML081750106 should contain four attachments (see attachment D at page 1: "Attachment 4 is a listing of regulatory commitments."), but NRC's production includes only three of the attachments. The final page of the record is a cover sheet for "attachment 4." It is not clear from the production whether attachment 4 was provided, and just did not contain any more information than is there, or whether it was omitted from the production. If it was omitted, NRC fails to cite a FOIA exemption for the missing attachment. NRC appears to be withholding a requested record without justification. NRC is required to clearly mark all redacted portions (all partially disclosed records) so that the claimed exemption, amount of information, and location of information is readily apparent to the requester. 5 U.S.C. § 552(b) (paragraph immediately following exemptions).

If NRC mistakenly omitted "attachment 4" from production, PEER requests that NRC produce the missing pages at this time. If NRC is withholding "attachment 4" pursuant to FOIA Exemption 7(F), PEER appeals the withholding.

Fee Waiver

Finally, PEER appeals NRC's assessment of our fee waiver request as "non-excepted" and appeals the assertions that "although your justification for fee waiver is not adequate, it is unlikely that you will incur any fees" and "your request for a fee waiver is moot." (see attachment C). NRC failed to explain how PEER's fee waiver was not adequate. PEER believes that its justification is adequate and fee waiver should be granted.

The request explains that PEER, a 501(c)(3) non-profit and tax exempt organization, meets the statutory requirements for a fee waiver. The request dedicates three pages of text to address all eight fee waiver factors listed in 10 CFR 9.41. The request clearly demonstrates that disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not in the commercial interest of the requester. (see attachment A).

Conclusion

In his January 21, 2009 memo, President Barack Obama declared the following policy for the Executive Branch:

> "The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails. The Government should not keep information confidential merely because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears.

> Nondisclosure should never be based on an effort to protect the personal interests of Government officials at the expense of those they are supposed to serve... All agencies should adopt a presumption in favor of disclosure, in order to renew their commitment to the principles embodied in FOIA, and to usher in a new era of open Government. The presumption of disclosure should be applied to all decisions involving FOIA."

NRC's claim that the records PEER requests are exempt from full disclosure falls short of meeting the requirements for any FOIA exemption, including 5 U.S.C. § 552 (b)(7). Consequently, PEER maintains that NRC fails to adequately or properly respond to its FOIA request and is in violation of the Freedom of Information Act for wrongfully withholding properly requested records.

Thank you for the consideration of this appeal.

Sincerely,

Kathryn Douglass
Staff Counsel

Enclosed Attachments:

A. PEER's Original Request

B. NRC's Acknowledgement Letter

C. NRC's Response

D. NRC's Production of Requested Record ML081750106

Attachment A

4 pages

(not including this cover page)

FOIA Resource

From: Kit Douglass <kdouglas@peer.org>
Sent: Tuesday, May 07, 2013 1:00 PM
To: FOIA Resource
Subject: FOIA request

FOIA/PA REQUEST
Case No.: 2013-0239
Date Rec'd: 5/7/13
Specialist: KDouglass
Related Case:

U.S. Nuclear Regulatory Commission
FOIA/Privacy Officer
Mailstop: T-5 F09
Washington, DC 20555-0001

May 7, 2013

RE: Freedom of Information Act Request

VIA EMAIL

Dear FOIA Officer:
Pursuant to the Freedom of Information Act, 5 U.S.C. 552, as amended, Public Employees for Environmental Responsibility (PEER) requests information in the possession of the Nuclear Regulatory Commission (NRC) regarding the risk of inundation from dam failure to operating commercial nuclear reactors. Specifically, we request the following:

1. ML110740482, Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures;

2. ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures;

3. ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis;

4. ML091170104, Oconee Nuclear Station, Units 1, 2 And 3 - Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding;

5. ML101610083, Oconee Nuclear Station, Units 1, 2, and 3, - External Flood Commitments;

6. ML081640244, Information Request Pursuant to 10 CFR 50.54(F) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MD8224, MD8225, and MD8226);

7. ML081750106, Oconee, Units 1, 2 and 3 - Response to 10 CFR 50.54(f) Request;

8. ML090570779, Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolinas September 26, 2008, Response to External Flooding, Including Failure of the Jocassee Dam;

9. ML091170104, Oconee Nuclear Station, Units 1, 2 And 3 - Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding;

10. ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011;

11. The 19- page letter from NRC employee Lawrence Criscione to the NRC Chairman dated September 18, 2012; and

12. The email dated September 18, 2012 from Lawrence Criscione to the NRC Chairman.

PEER requests that all records be provided electronically, preferably via ADAMS, so there should be no duplication necessary.

In a January 21, 2009 memo, President Barack Obama declared the following policy for the Executive Branch:

> "The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails. The Government should not keep information confidential merely because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears. Nondisclosure should never be based on an effort to protect the personal interests of Government officials at the expense of those they are supposed to serve... All agencies should adopt a presumption in favor of disclosure, in order to renew their commitment to the principles embodied in FOIA, and to usher in a new era of open Government. The presumption of disclosure should be applied to all decisions involving FOIA."

For any documents or portions of documents that you block release due to specific exemption(s) from the requirements of the Freedom of Information Act, please provide an index itemizing and describing the documents or portions of documents withheld. The index should, pursuant to the holding of Vaughn v. Rosen (484 F.2d 820 [D.C. Cir. 1973] cert. denied, 415 U.S. 977 [1974]), provide a detailed justification for claiming a particular exemption that explains why each such exemption applies to the document or portion of a document withheld.

PEER requests that all fees be waived because "disclosure of the information is in the public interest . . . and is not primarily in the commercial interest of the requestor" (5 U.S.C. 552 (a) (4)(A)). We address the eight factors laid out in 10 CFR 9.41 to clearly demonstrate that disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester, as follows:

(1) Purpose for which the requester intends to use the requested information;

PEER seeks the requested information solely to contribute to and help shape the public debate concerning the NRC's role in the regulation of the nuclear industry. The information provided by the NRC will be analyzed to evaluate the NRC's effectiveness for responding to flooding concerns at the Oconee Nuclear Station and similarly vulnerable reactors.

(2) Extent to which the requester will extract and analyze the substantive content of the agency record;

The requested information and the requesters' analysis of the NRC's response to flooding concerns at Oconee and other sites will greatly contribute to the public's understanding of the Commission's role in regulating the nuclear industry. The requested documents detail the NRC's knowledge of these inundation risks as well as its response to those risks. As such, these documents are the most meaningful indices of how this vital public agency is addressing this extremely serious issue.

(3) Nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding;

PEER is national alliance of local state and federal resource professionals. PEER's environmental work is solely directed by the needs of its members. As a consequence, we have the distinct honor of serving resource professionals who daily cast profiles in courage in cubicles across the country. Public employees are a unique force working for environmental enforcement. In the ever-changing tide of political leadership, these front-line employees stand as defenders of the public interest within their agencies and as the first line of defense against the exploitation and pollution of our

environment. Their unmatched technical knowledge, long-term service and proven experiences make these professionals a credible voice for meaningful reform.

PEER is working with government scientists, engineers and other agency specialists to obtain and analyze what we believe are important agency documents which should – but have not yet – reached the public domain.

4) The likely impact on the public's understanding of the subject as compared to the level of public understanding of the subject before disclosure;

The vast majority of the documents PEER is requesting have not yet been released outside the NRC and thus the public has little idea of their content. With the context provided by PEER, these documents would help the public understand in a new, far more detailed way –

- The extent of flood inundation risks to American reactors –what reactors are at what level of risk;
- What has the NRC done about known risks – especially severe risks whose existence has been known for years; and
- The options available for minimizing or eliminating these risks.

These issues are important planks in a larger public debate about the safety and reliability of nuclear-generated power and the professionalism and judgment exercised by the key regulatory agency.

(5) The size and nature of the public to whose understanding a contribution will be made;

The bulk of the requested document consists of a formal screening evaluation conducted by a federal regulator (i.e. the NRC) on a potentially serious public safety concern (i.e. the vulnerability of nuclear power plants to flooding due to the failure of upstream dams). Thus, the most directly affected segment of the public will be those living within the evacuation zones of at-risk reactors. Since it is our understanding that the portion of at-risk reactors may be as large as one-third of the nation's nuclear capacity, several to tens of millions of the American public will be vitally concerned with the information contained in the requested documents.

Given the potential magnitude of worst-case-scenario consequences outlined in the requested documents, it would not be an exaggeration to say that all U.S. residents will have their understanding of the vulnerabilities outlined within these documents heightened.

(6) Intended means of dissemination to the general public;

PEER intends to provide the requested information to the general public through —

- Release to the news media;
- Posting on the PEER web page which draws between 1,000 and 10,000 viewers per day; and
- Publication in PEER's newsletter that has a circulation of approximately 20,000, including 1,500 environmental journalists.

Through these methods, PEER generates an average of 1.5 mainstream news articles per day. Moreover, PEER has repeatedly demonstrated the ability to generate nationwide news coverage concerning activities occurring within federal agencies, such as the NRC.

In addition, this topic –without the benefit of all the documents PEER is requesting – has already been the subject of national media coverage. We would anticipate even greater coverage once the requested documents are disclosed.

(7) Public access to information will be provided free of charge; and

As indicated above, the requested documents will be available to the general public without charge and in the most accessible manner possible.

(8) PEER has no commercial or private interest in the agency records sought.

Disclosure is in no way connected with any commercial interest of the requestors in that PEER is a nonprofit, nonpartisan public interest organization concerned with upholding the public trust through responsible management of our nation's resources and with supporting professional integrity within public land management and pollution control agencies. To that end, PEER is designated as a tax-exempt organization under section 501 (c) (3) of the Internal Revenue code.

As detailed above, these documents concern the activities of a federal agency, the NRC; will contribute significantly to public understanding of this agency's operations and activities; and the requestor has no commercial interest in their release. Unquestionably, the public interest strongly militates for their full disclosure.

If you have any questions about this FOIA request, please contact me at (202) 265-PEER. I look forward to receiving the agency's final response within 20 working days.

Sincerely,

Kathryn Douglass
Staff Counsel
Public Employees for Environmental Responsibility (PEER)
2000 P Street, NW Suite 240
Washington, DC 20036
Tel: (202) 265-7337; Fax: (202) 265-4192
Website: www.peer.org

Attachment B

1 page

(not including this cover page)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 7, 2013

FOIA/PA-2013-00239

Kathryn Douglass
Public Employees for Environmental Responsibility
2000 P Street, NW, Suite 240
Washington, DC 20036

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on May 7, 2013.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA-2013-00239**

To ensure the most equitable treatment possible of all requesters, the NRC processes requests on a first-in, first-out basis, using a multiple track system based upon the estimated time it will take to process the request. Based on your description of the records you are seeking, we estimate completion of your request will take more than 20 working days. We will advise you of any change in the estimated time to complete your request.

Due to the unexpected events in Japan in March 2011, the NRC is processing a larger than normal volume of FOIA requests including some that have qualified for expedited processing and have therefore been placed at the front of the queue. We are doing our best to process all requests in a timely manner but our response times are being affected. We appreciate your understanding.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: **Non-Excepted.** If applicable, you will be charged appropriate fees for: **Search and Duplication of Records.** Although your justification for a fee waiver is not adequate, it is unlikely that you will incur any fees. Therefore, your request for a fee waiver is moot.

The following person is the FOIA/PA Specialist who has been assigned responsibility for your request: **Linda Kilgore at 301-415-5775.**

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Specialist or me at (301) 415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosures:
Incoming Request

Attachment C

3 pages

(not including this cover page)

NRC FORM 464 Part I (10-2012)	U.S. NUCLEAR REGULATORY COMMISSION	FOIA/PA	RESPONSE NUMBER
	RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST	2013-239	1
		RESPONSE TYPE ☐ FINAL ☑ PARTIAL	
REQUESTER: Kit Douglass		DATE: JUN 10 2013	

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: — 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* $ ____ * See comments for details

☐ 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.

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

☐ No agency records subject to the request have been located. For your information, Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA. See 5 U.S.C. § 552(c) (2006 & Supp. IV (2010). This response is limited to those records that are subject to the requirements of the FOIA. This is a standard notification that is given to all our requesters and should not be taken as an indication that excluded records do, or do not, exist.

☑ 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 request will be available in ADAMS at ML13127A295. Records with an ML accession number are available in the NRC Library at www.nrc.gov/reading-rm/adams.html. For assistance in obtaining any public records, please contact the NRC's Public Document Room (PDR) at 1-800-397-4209 or by e-mail at PDR.Resource@nrc.gov.

Items 1, 11 and 12 of your request will be addressed in a later response. Please note that items 4 and 9 of your request are duplicates.

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Donna L. Sealing

NRC FORM 464 Part I (10-2012)

NRC FORM 464 Part II (4-2011) U.S. NUCLEAR REGULATORY COMMISSION	FOIA/PA	DATE
RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST	2013-0239	JUN 10 2013

PART II.A – APPLICABLE EXEMPTIONS

APPENDICES: A

Records subject to the request that are described in the enclosed Appendices are being withheld in their entirety or in part under the Exemption No.(s) of the PA and/or the FOIA as indicated below (5 U.S.C. 552a and/or 5 U.S.C. 552(b)).

- ☐ Exemption 1: The withheld information is properly classified pursuant to Executive Order 12958.
- ☐ Exemption 2: The withheld information relates solely to the internal personnel rules and practices of NRC.
- ☐ Exemption 3: The withheld information is specifically exempted from public disclosure by statute indicated.
  - ☐ Sections 141-145 of the Atomic Energy Act, which prohibits the disclosure of Restricted Data or Formerly Restricted Data (42 U.S.C. 2161-2165).
  - ☐ Section 147 of the Atomic Energy Act, which prohibits the disclosure of Unclassified Safeguards Information (42 U.S.C. 2167).
  - ☐ 41 U.S.C., Section 253b, subsection (m)(1), prohibits the disclosure of contractor proposals in the possession and control of an executive agency to any person under section 552 of Title 5, U.S.C. (the FOIA), except when incorporated into the contract between the agency and the submitter of the proposal.
- ☐ Exemption 4: The withheld information is a trade secret or commercial or financial information that is being withheld for the reason(s) indicated.
  - ☐ The information is considered to be confidential business (proprietary) information.
  - ☐ The information is considered to be proprietary because it concerns a licensee's or applicant's physical protection or material control and accounting program for special nuclear material pursuant to 10 CFR 2.390(d)(1).
  - ☐ The information was submitted by a foreign source and received in confidence pursuant to 10 CFR 2.390(d)(2).
  - ☐ Disclosure will harm an identifiable private or governmental interest.
- ☐ Exemption 5: The withheld information consists of interagency or intraagency records that are not available through discovery during litigation. Applicable privileges:
  - ☐ Deliberative process: Disclosure of predecisional information would tend to inhibit the open and frank exchange of ideas essential to the deliberative process. Where records are withheld in their entirety, the facts are inextricably intertwined with the predecisional information. There also are no reasonably segregable factual portions because the release of the facts would permit an indirect inquiry into the predecisional process of the agency.
  - ☐ Attorney work-product privilege. (Documents prepared by an attorney in contemplation of litigation)
  - ☐ Attorney-client privilege. (Confidential communications between an attorney and his/her client)
- ☐ Exemption 6: The withheld information is exempted from public disclosure because its disclosure would result in a clearly unwarranted invasion of personal privacy.
- ☑ Exemption 7: The withheld information consists of records compiled for law enforcement purposes and is being withheld for the reason(s) indicated.
  - ☐ (A) Disclosure could reasonably be expected to interfere with an enforcement proceeding (e.g., it would reveal the scope, direction, and focus of enforcement efforts, and thus could possibly allow recipients to take action to shield potential wrong doing or a violation of NRC requirements from investigators).
  - ☐ (C) Disclosure could constitute an unwarranted invasion of personal privacy.
  - ☐ (D) The information consists of names of individuals and other information the disclosure of which could reasonably be expected to reveal identities of confidential sources.
  - ☐ (E) Disclosure would reveal techniques and procedures for law enforcement investigations or prosecutions, or guidelines that could reasonably be expected to risk circumvention of the law.
  - ☑ (F) Disclosure could reasonably be expected to endanger the life or physical safety of an individual.
- ☐ OTHER (Specify)

PART II.B – DENYING OFFICIALS

Pursuant to 10 CFR 9.25(g), 9.25(h), and/or 9.65(b) of the U.S. Nuclear Regulatory Commission regulations, it has been determined that the information withheld is exempt from production or disclosure, and that its production or disclosure is contrary to the public interest. The person responsible for the denial are those officials identified below as denying officials and the FOIA/PA Officer for any denials that may be appealed to the Executive Director for Operations (EDO).

DENYING OFFICIAL	TITLE/OFFICE	RECORDS DENIED	APPELLATE OFFICIAL		
			EDO	SECY	IG
Victor McCree	Regional Administrator	See Appendix A-8	☑	☐	☐
Eric J. Leeds	Director, NRR	See Appendix A-1,3,5,6,7	☑	☐	☐
			☐	☐	☐

Appeal must be made in writing within 30 days of receipt of this response. Appeals should be mailed to the FOIA/Privacy Act Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, for action by the appropriate appellate official(s). You should clearly state on the envelope and letter that it is a "FOIA/PA Appeal."

Re: FOIA-2013-0239

APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR

NO.	ACCESSION NO.	DATE	DESCRIPTION/(PAGE COUNT)
1	ML13039A086	07/19/10	Memorandum to Benjamin Beasley, RES from Lois James, NRR, Subject: Identification of a Generic External Flooding Issue Due to Potential Dam Failures (9 pages) Exemption 7F
2	ML13039A084	03/15/10	Generic Failure Rate Evaluation for Jocassee Dam (15 pages) Exemption 7F
3	ML13106A168	04/27/09	Non-Concurrence Process on Evaluation of Duke September 26, 2008 Response Related to External Flooding at Oconee (19 pages) Exemption 7F
4	ML101610083	06/03/10	Oconee Nuclear Station – External Flood Commitments (5 pages)
5	ML12363A132	08/15/08	Information Request Pursuant to 10 CFR 50.54(f) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (5 pages) Exemption 7F
6	ML12363A129	09/26/08	Oconee, Units 1, 2, and 3 - Response to 10 CFR 50.54(f) Request (33 pages) Exemption 7F
7	ML12363A133	04/30/09	Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolina September 26, 2008, Response to 10 CFR 50.554(f), Letter (5 pages) Exemption 7F
8	ML13099A247	04/29/11	Oconee Nuclear Site, Units 1, 2, 3, Response to Confirmatory Action Letter (CAL) 2-10-003 (16 pages) Exemption 7F

Attachment D

(pages 2 – 32 omitted)

2 pages

(not including this cover page)

2

Duke Energy.

DAVE BAXTER
Vice President
Oconee Nuclear Station

Duke Energy Corporation
ON01VP/7800 Rochester Highway
Seneca, SC 29672

864-885-4460
864-885-4208 fax
dabaxter@dukeenergy.com

Attachments 1-4 contain confidential information
Withhold from public disclosure under 10 CFR 2.390

September 26, 2008

Information in this record was deleted in accordance with the Freedom of Information Act. Exemptions 7E FOIA/PA 2012-0127

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555-0001

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Site, Units 1, 2, and 3
Renewed Facility Operating License, DPR-38, DPR-47, and DPR-55;
Docket Numbers 50-269, 50-270, and 50-287
Response to 10 CFR 50.54(f) Request

Reference: NRC Letter from Joseph G. Giitter to Dave Baxter, "INFORMATION REQUEST PURSUANT TO 10 CFR 50.54(f) RELATED TO EXTERNAL FLOODING, INCLUDING FAILURE OF THE JOCASSEE DAM, AT OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3, (TAC NOS. MD8224, MD8225, MD8226)", dated August 15, 2008

Duke Energy Carolinas, LLC (Duke) hereby provides our response to the referenced letter received on August 15, 2008. This letter requested information be provided to the NRC pursuant to the provisions of 10 CFR 50.54(f) regarding external flood consequences at the Oconee site resulting from a failure of the Jocassee dam. The letter focused on three specific questions to be addressed in writing within 45 calendar days following its receipt.

Attachment 1 provides general information related to the design, construction, and operation of the Jocassee Project along with a discussion of the Oconee external flooding licensing basis history. Attachment 2 provides the Duke response to the three specific questions posed in the August 15 letter. Attachment 3 discusses current and planned actions, while Attachment 4 is a listing of regulatory commitments being made as a result of this response.

A001
NRR
Non-Public Sensitive
Per PM

B-2

ATTACHMENT 4

REGULATORY COMMITMENTS

Criscione, Lawrence

From:	Criscione, Lawrence
Sent:	Thursday, June 13, 2013 10:30 AM
To:	Macfarlane, Allison
Cc:	Vrahoretis, Susan
Subject:	Your Reputation
Attachments:	POP for Dam Related FOIA Releases.doc

Chairman Macfarlane,

(b)(5)

As far as the public is concerned, these individuals are nameless bureaucrats. Yours is the name on the letter. Any redactions applied to it will be assumed to have been made with your blessing. Any delay in the release of that letter (which is already 7 months overdue) will be assumed to have come from your indecision. These things might not be fair, but they are some of the costs which come with the burdens and privileges of leadership.

You have a duty to keep the American public openly informed about potential liabilities to their health and safety from commercial nuclear reactor plants. You also have a duty to safeguard sensitive information that might be damaging to the security of our nation's reactor plants. Sometimes these duties might conflict.

(b)(5)

Hopefully you recognize that the above information is vitally important for the American public to make an informed decision as to whether or not the risks posed to nuclear reactor plants by upstream dam failures is being adequately evaluated and addressed. And hopefully you recognize that this information should be shared with the American public.

There are some within NRR and RES who agree with me that the above information should be shared with the public. However, there are some who disagree. These people claim that the above three items could be helpful to terrorists.

If we must withhold any and all information that might be helpful to a terrorist, then we will fatally impact our ability to be an open and transparent regulator. A terrorist wishing to fly a plane into the Empire State Building would find the flight schedules posted on Southwest Airline's website to be beneficial in determining the optimum plane to hi-jack for their mission, but hopefully you recognize it as ludicrous for the FAA to demand that Southwest Airlines pull down their flight schedules. A line must be drawn somewhere.

With regard to nuclear reactor plants, a line has been drawn. It was drawn with Sections 141-145 of the Atomic Energy Act, which prohibits the disclosure of Restricted Data or Formerly Restricted Data (42 U.S.C. 2161-2165). And it was drawn with Section 147 of the Atomic Energy Act, which prohibits the disclosure of Unclassified Safeguards Information (42 U.S.C. 2167). The above three items (i.e. dam failure probabilities, specifics of nuclear power events caused by dam failure, and flood elevations resulting from dam failure) fall outside of that line. That is, there is no legal requirement for withholding the above three items from the American public.

It is my position that some personnel in NRR, RES and NSIR are caving in to what President Obama termed "*speculative or abstract fears*" in his January 21, 2009 memo on the Freedom of Information Act. That is, they are allowing speculative or abstract fears regarding terrorist targeting concerns of dams to prevent the NRC from openly sharing with the American public grave safety concerns regarding the vulnerability of NRC regulated nuclear reactor plants to dam failures from natural disasters.

It is your decision as to how my 2012-09-18 letter to you is redacted. I believe you have no legal requirement to redact anything from it and, under the Freedom of Information Act and under President Obama's inauguration day memo on the FOIA, you have an obligation to release the letter unredacted. Whatever decision you make will reflect on your personal reputation and will have no bearing on the reputations of the nameless (i.e. nameless to the public) bureaucrats in NRR, RES, NSIR and OGC who advised you.

If you would like to meet with me to discuss these matters, I am open to meet with you any time this week or next.

Very respectfully,
Larry Criscione
Reliability & Risk Engineer
RES/DRA/OEGIB

From: Criscione, Lawrence
Sent: Monday, June 10, 2013 9:35 AM
To: Monninger, John; Correia, Richard; Beasley, Benjamin
Cc: Kim, Grace; Pearson, Laura; Rothschild, Trip; Donnell, Tremaine; Albert, Michelle; Hirsch, Pat; Wilson, George; Boska, John; Ammon, Bernice; Kilgore, Linda; Cook, Christopher; Coe, Doug; Kauffman, John; NTEU, Chapter 208; Sullivan, Randy; Ferrante, Fernando; Mitman, Jeffrey; ODonnell, Edward; Perkins, Richard
Subject: (b)(5)

Rich/John,

(b)(5)

(b)(5) I do not expect my input to have much weight on your decisions. But for what it's worth, my opinion on how to address my outstanding appeals is to follow the President's (i.e. January 21, 2009) and Attorney General's (i.e. March 19, 2009) guidance that "*The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails*" and, recognizing the doubt inherent by the necessity of requiring (b)(5), let openness prevail and release the documents I seek without redaction.

The purpose of this email, however, is not to suggest to you how to handle currently (b)(5) (b)(5), but rather to provide you my input regarding (b)(5).

In its wisdom, Congress provided within the Freedom of Information Act a solution for the withholding of information which the NRC believes to be useful to enemies of the United States. That solution is Exemption 3:

> *(3) specifically exempted from disclosure by statute (other than section 552b of this title), if that statute—*
> *(A) (i) requires that the matters be withheld from the public in such a manner as to leave no discretion on the issue; or*
> *(ii) establishes particular criteria for withholding or refers to particular types of matters to be withheld; and*
> *(B) if enacted after the date of enactment of the OPEN FOIA Act of 2009, specifically cites to this paragraph.*

What Congress intended for the NRC to do with regard to *"dam failure probabilities, specifics of nuclear power events caused by dam failure, and flood elevations resulting from dam failure"* was NOT for mid level public servants (e.g. Boska and Wilson) to subjectively decide that this important information (i.e. important for the public to assess the risks associated with their local nuclear power plant) cannot be released to the public, but rather for the NRC to come to the Congress with the request for a specific statute authorizing the withholding of the supposed security sensitive information. Then, through open legislative processes, for the Congress to decide the merits of withholding the security sensitive information against the benefits from having open access to this important SAFETY related information. Congress would undoubtedly put some restriction on the withholding of the information (e.g. very specifically defining what falls under the statute, clear criminal penalties for the unauthorized release of the information) which would ensure that it is well understood as to precisely what must be withheld under the statute and by whose authority.

My suggesting for going forward is for the NRC to petition Congress to provide an "Exemption 3 statute" regarding (1) Dam failure probabilities, (2) Specifics of nuclear power events caused by dam failure, and (3) Flood elevations resulting from dam failure. If the NRC is unwilling to do this, then I believe we must ask ourselves "why?". If this information truly affects public safety and security, then it deserves a specific statute. If we are unwilling to request a statute, it might be because the real reason we are withholding this information is *"because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears"*.

My other suggestion going forward is to require portion marking on all documents designated "Official Use Only" or some other designation limiting public disclosure. It is unfair to the NRC staff to have to sort through OUO documents and, individually with fractured guidance (see ML12313A059 for examples) decide what is and what is not OUO. Rather what should be occurring is the person designating the document OUO should portion mark each paragraph which contains OUO and each paragraph which does not contain any OUO. Documents should be designated so that it is precisely clear to the reader what paragraphs cannot be released and what paragraphs are fully releasable.

I am available to (b)(5) if you believe my input would be beneficial.

V/r,

Larry

Lawrence S. Criscione
Reliability & Risk Engineer
RES/DRA/OEGIB
Church Street Building
Mail Stop 2A07
(301) 251-7603


(b)(5)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

OFFICE OF THE
GENERAL COUNSEL

June 13, 2013

Lawrence S. Criscione
Sent electronically to LSCriscione@hotmail.com

Dear Mr. Criscione:

Thank you for your recent correspondence. The General Counsel referred your letter, dated May 24, 2013, to me for a response. I am the Assistant General Counsel for the division within the Office of the General Counsel that is responsible for providing legal advice on the Freedom of Information Act (FOIA).

We appreciate hearing your concerns regarding the agency's obligations under FOIA and with regard to your FOIA requests and appeals. The U.S. Nuclear Regulatory Commission (NRC) and the NRC's Office of the General Counsel take very seriously the agency's responsibilities under FOIA. We strive to respond to FOIA requests and appeals within the prescribed time limits, and to promote the principles of transparency and openness in response to FOIA requests and appeals.

The NRC as a whole is putting forth significant efforts to respond to the many related FOIA requests and appeals that you have submitted, and this requires coordinating among multiple offices within the NRC to ensure that we are taking a consistent approach.

If you need any additional information, please contact me or the member of my staff most familiar with this matter, Michelle Albert, at 301-415-1607.

Sincerely,

Patricia K. Hirsch

cc: Allison M. Macfarlane, Chairman
Hubert T. Bell, Inspector General
Margaret M. Doane, General Counsel
Annette Vietti-Cook, Secretary of the Commission
R. William Borchardt, Executive Director for Operations
Darren Ash, Chief Freedom of Information Act Officer
James Flanagan, Director of the Office of Information Services
Donna Sealing, FOIA/Privacy Act Officer

Criscione, Lawrence

From:	Lawrence Criscione <lscriscione@hotmail.com>
Sent:	Friday, May 24, 2013 2:24 AM
To:	CHAIRMAN Resource; Bell, Hubert; Doane, Margaret; Vietti-Cook, Annette; Borchardt, Bill; Ash, Darren; Sealing, Donna; Zobler, Marian; Grodin, Maryann; Lee, David; Vrahoretis, Susan; FOIA Resource
Cc:	Billie Garde; Scott Hodes; Louis Clark; jruch@peer.org; Dave Lochbaum; Jim Riccio; paul@times.org; Tom Zeller; Carl Stelzer; Paul Blanch; Kay Drey; Joe Carson; Sullivan, Randy; clerner@osc.gov; cmcmullen@osc.gov; Galloway, Melanie; Ferrante, Fernando; Mitman, Jeffrey; Perkins, Richard; Bensi, Michelle; Philip, Jacob; Sancaktar, Selim; NTEU, Chapter 208; tomd@whistleblower.org; sshepherd@cliffordgarde.com; kdouglas@peer.org
Subject:	Inquiry Regarding Overdue FOIA Appeals 2013-004A, 006A, 009A, 010A, 011A & 013A
Attachments:	Inquiry for FOIA Appeal 2013-004A, 006A, 009A, 010A, 011A and 013A.pdf

Dear Dr. Macfarlane, Mr. Bell, Ms. Doane, Ms. Vietti-Cook, Mr. Borchardt, Mr. Ash and Ms. Sealing:

The NRC has not been living up to its legal obligations under the Freedom of Information Act. All of you have a role in ensuring the NRC staff meets it obligations under the FOIA so please do not ignore the attached letter by merely panning it off to the Inspector General as a so-called "allegation". I know you are busy individuals who have much more on your plate than my concerns, but the Freedom of Information Act is federal law and this issue is worthy of review by someone on your staff. If you or any of your staff would like to discuss these matters with me, I would welcome the opportunity to schedule an "open door" meeting.

V/r,

Larry Criscione
573-230-3959

"*If responsibility is rightfully yours, no evasion, or ignorance, or passing the blame can shift the burden to someone else.*"

From: lscriscione@hotmail.com
To: donna.sealing@nrc.gov; bill.borchardt@nrc.gov; darren.ash@nrc.gov
CC: bpgarde@cliffordgarde.com; sshepherd@cliffordgarde.com; louisc@whistleblower.org; linda.kilgore@nrc.gov; gerald.mcclellan@nrc.gov; laura.pearson@nrc.gov; paul@times.org; dlochbaum@ucsusa.org; tom@huffingtonpost.com
Subject: RE: Inquiry Regarding FOIA Appeals 2013-004A, 005A, 006A & 007A
Date: Fri, 5 Apr 2013 16:31:01 -0400

Donna,

Thank you for the reply below and for the release of ML101730329 earlier today.

I am in the process of looking for an attorney to assist me in my attempts to get the following documents released in their entirety:

- ML081640244
- ML090570779
- ML091170104
- ML100780084
- ML101610083
- ML101900305
- ML110740482
- ML111460063
- My 2012-09-18 letter to the NRC Chairman
- My 2012-09-18 email to the NRC Chairman

The above documents were provided by me to several congressional offices in 2012 in failed attempts to get the NRC Chairman and our oversight committees interested in questioning the NRC's effectiveness in addressing the flooding issues posed by Jocassee Dam. I am currently being investigated by the Office of the Inspector General to determine if enough evidence exists to indict me for felony charges under 18 USC §1030 for providing the above "Official Use Only" documents to Congressional staffers. It is unfathomable to me that the NRC's OIG would threaten me with a felony indictment while engaging in the protected activity of bringing safety concerns to members of Congress just because the documents delivered were designated "Official Use Only" by mid-level staffers in NRR - but that is the position where I currently find myself.

I have significant concerns with the commitment the NRC has to Open Government. I would like the NRC to formally admit that the documents listed above should be publicly released (formally admit by either releasing these documents via a FOIA request or voluntarily). If I cannot get the NRC to release the above listed documents publicly, then I intend to have a federal judge rule that these documents should be publicly released.

I believe that, to a large extent, the NRC has been "stonewalling" on this issue. I believe that the documents listed above were inappropriately marked "Official Use Only" and withheld from the public for years. I believe these documents were then inappropriately delayed and withheld when requested by Paul Koberstein under FOIA 2012-0106, FOIA 2012-0127 and FOIA 2012-0128. Similarly, I believe that Dave Lochbaum (FOIA 2013-0008) and Tom Zeller (FOIA 2013-0013) have experienced inappropriate delays. Based on your assurance in the email below that Appeals 2013-004A, 005A and 006A are in process, I will forgo filing a Federal suit until May 13, 2013.

I recognize that the FOIA staff has limited control over what is released and its timeliness and I appreciate the efforts being made by your staff to respond to requests in a timely manner. But I can no longer accept continued tardiness on the part of the Office of the General Counsel, the Office of Chairman, the Office of Nuclear Reactor Regulation and the Office of the Inspector General. Open Government is part of our mission and dedicating resources to review and release documents is something we must do.

Again, based on your assurances below, I am willing to wait until May 13, 2013 before filing a suit in Federal District Court in accordance with the appeals process outlined in 10 CFR §9.29(c). Please, however, do not delay in processing my appeals. I currently meet the requirements to continue to federal court (20 working days) and am agreeing to delay that step in an attempt to be agreeable. Please also attempt to be agreeable

with me and have my appeals processed as quickly as possible and not arbitrarily wait until May 13th. I am far from the only person interested in these documents and NRR should have been releasing them all along.

Thank you,

Larry

From: Donna.Sealing@nrc.gov
To: lscriscione@hotmail.com; Bill.Borchardt@nrc.gov; Darren.Ash@nrc.gov
CC: bpgarde@cliffordgarde.com; sshepherd@cliffordgarde.com; louisc@whistleblower.org; Linda.Kilgore@nrc.gov; Gerald.McClellan@nrc.gov; Laura.Pearson@nrc.gov
Date: Fri, 5 Apr 2013 15:15:36 -0400
Subject: RE: Inquiry Regarding FOIA Appeals 2013-004A, 005A, 006A & 007A

Good Afternoon Mr. Criscione,

I would like to provide you an update on the status of your FOIA appeals:

2013-004A – the records are being re-reviewed by the program office. We anticipate receiving them today or Monday. Following our review and action the records will be sent to OGC for concurrence.
2013-005A – the records have been re-reviewed by the program office and OGC. Further coordination is ongoing.
2013-006A – the records have been re-reviewed by the program office and OGC. Further coordination is ongoing.
2013-007A – Complete. The response was sent to you today.

Please know that the FOIA office is processing your appeals as quickly as possible.

Donna Sealing

From: Lawrence Criscione [mailto:lscriscione@hotmail.com]
Sent: Wednesday, April 03, 2013 12:38 AM
To: Borchardt, Bill; Sealing, Donna; Ash, Darren
Cc: Billie Garde; sshepherd@cliffordgarde.com; Louis Clark; Kilgore, Linda; McClellan, Gerald
Subject: Inquiry Regarding FOIA Appeals 2013-004A, 005A, 006A & 007A

Please see the attached letter.

It has been 26 working days since the NRC acknowledged receipt of FOIA Appeals 2013-004A, 2013-005A, 2013-006A and 2013-007A.

To my knowledge, I have neither received a response to these appeals nor received notice that the NRC would need longer than 20 working days to provide a response.

The next step in the process provided in 10 CFR §9.29(c) is to sue in Federal District Court in order to obtain the requested documents in an unredacted form.

I intend to retain an attorney and file a lawsuit in Federal District Court. Please confirm for me that the NRC has neither responded to the FOIA Appeals mentioned above nor provided me notice that you require more

than 20 working days due to exceptional circumstances. If you have either responded to these FOIA Appeals or sent me notice of exceptional circumstances, then please provide me those letters via email.

Thank you,
Larry Criscione
573-230-3959

Friday, May 24, 2013

1412 Dial Court
Springfield, IL 62704

Allison Macfarlane, Chairman
Hubert Bell, Inspector General
Margaret Doane, General Counsel
Annette Vietti-Cook, Secretary of the Commission
Bill Borchardt, Executive Director for Operations (EDO)
Darren Ash, Chief Freedom of Information Act Officer
Donna Sealing, FOIA/Privacy Act Officer
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Overdue FOIA Appeals 2013-004A, 2013-006A, 2013-009A, 2013-010A, 2013-011A, and 2013-013A

Dear Dr. Macfarlane, Mr. Bell, Ms. Doane, Ms. Vietti-Cook, Mr. Borchardt, Mr. Ash and Ms. Sealing:

As of today the NRC is overdue on providing me a response to six separate Freedom of Information Act appeals encompassing 13 specific documents and, in the case of appeal FOIA 2013-013A, an as yet unspecified amount of correspondence between the NRC and other federal agencies.

On February 23, 2013 I submitted appeals for the following FOIA requests:

- FOIA 2013-0107 regarding ML081640244, ML082750106, ML090570779, ML091380424, ML092020480
- FOIA 2013-0109 regarding ML110740482

On February 26, 2013 the NRC assigned the following tracking numbers to my appeals:

- FOIA 2013-004A for the appeal for FOIA request 2013-0107
- FOIA 2013-006A for the appeal for FOIA request 2013-0109

As of today, I have been waiting over twelve weeks (63 working days) for a response.

On March 29, 2013 I submitted appeals for the following FOIA requests:

- FOIA 2013-0126 regarding ML111460063, ML100780084, ML101610083, ML101900305
- FOIA 2013-0127 regarding my 19-page 2012-09-18 letter and email to the NRC Chairman
- FOIA 2013-0128 regarding ML091170104

That same day, the NRC assigned the following tracking numbers to my appeals:

- FOIA 2013-009A for the appeal for FOIA request 2013-0126
- FOIA 2013-010A for the appeal for FOIA request 2013-0127
- FOIA 2013-011A for the appeal for FOIA request 2013-0128

As of today, I have been waiting nine weeks (45 working days) for a response.

On April 25, 2013 I submitted an appeal for the following FOIA request:

> FOIA 2013-0129 regarding correspondence between the NRC and other federal agencies concerning the redactions made to the GI-204 Screening Analysis Report

That same day, the NRC assigned my appeal the following tracking number:

> FOIA 2013-013A for the appeal for FOIA request 2013-0129

Per 10 CFR §9.29(c) the NRC was supposed to provide me a response within 20 working days. As of today it has been 21 working days (over four weeks) and yet I have not received a response. Under exceptional circumstances, the NRC is allowed to take 30 working days to answer my appeals. I have not heard from the NRC invoking any exceptional circumstances and I do not believe any exceptional circumstances apply.

On April 5, 2013 I received the following updates from the NRC concerning some of my appeals:

- *FOIA 2013-004A – the records are being re-reviewed by the program office. We anticipate receiving them today or Monday* [April 8, 2013]. *Following our review and action the records will be sent to OGC for concurrence.*
- *FOIA 2013-006A – the records have been re-reviewed by the program office and the Office of General Counsel (OGC). Further coordination is ongoing.*

It has now been seven weeks (35 working days) since I received the update above, yet I have not had my appeal answered. Why is the NRC's Office of the General Counsel stonewalling my attempts to get records through the FOIA appeals process? It is the job of the NRC's General Counsel to advise the agency on following the law, not on how to skirt our legally mandated requirements.

Today, I have reached the point where, under the NRC's regulations and pursuant to the Freedom of Information Act, my next step is to sue in federal court to obtain unredacted copies of the following documents:

- ML081640244, *Information Request Pursuant to 10 CFR 50.54(F) Related to External Flooding, Including Failure of the Jocassee Dam at Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MD8224, MD8225, and MD8226)*
- ML082750106, *Oconee, Units 1, 2 and 3 – Response to 10 CFR 50.54(f) Request*
- ML090570779, *Oconee Nuclear Station Units 1, 2, and 3, Evaluation of Duke Energy Carolinas September 26, 2008, Response to External Flooding, Including Failure of the Jocassee Dam*
- ML091380424, *Oconee Nuclear Station, Slides for Closing Meeting May 11, 2009 with Duke on the Oconee Flooding Issue*

- ML092020480, *Oconee, Units 1, 2, & 3, Final 60-Day Response to Reference 2*
- ML110740482, *Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures*
- ML111460063, *Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011*
- ML100780084, *Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis*
- ML101610083, *Oconee Nuclear Station, Units 1, 2, and 3, - External Flood Commitments*
- ML101900305, *Identification of a Generic External Flooding Issue Due to Potential Dam Failures*
- ML091170104, *Oconee Nuclear Station, Units 1, 2 And 3 – Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding*
- ML12312A402, my 19-page 2012-09-18 letter to the NRC Chairman
- my 2012-09-18 email to the NRC Chairman
- all written correspondence and the notes of any phone calls or meetings between the NRC and other federal agencies (DHS, FERC USACE, TVA, and FEMA) concerning the redactions which were done to ML112430114 to enable it to be released publicly as ML113500495

On April 23, 2013 I met with a FOIA attorney, Scott Hodes, regarding the feasibility of suing the NRC in order to obtain the release of unredacted versions of the documents above. After reviewing my appeals, he informed me that I had a strong case in terms of getting the requested documents released without redactions. But he also informed me that it was unlikely I would be found to be "Entitled" to recovery of attorney's fees since I am a mere private citizen. And he estimated his fees at between $3,000 and $9,000.

Last year, my wife endured $193,000 in medical treatments combating breast cancer. Although I am only liable for a fraction of that, I am in no way flush with cash. $3,000 is twice the amount my wife would like to spend on a new sofa – something we've put off due to medical bills. $9,000 is the estimate we received for a new roof. How do you think my wife feels about me spending $3k to $9k on a FOIA lawsuit in the name of Open Government and the greater public good? How do you think she feels about me suing the NRC – my employer whom I rely on for healthcare? We have kids in private high school, college and medical school who require our money. I am sure you have calculated that, like most Americans, I can ill afford to squander my meager resources on a FOIA lawsuit. And, although I might have a strong case, since I am unwilling to spend the money pursuing it, you have nothing to fear from your abuse of federal law. But that does not make it right. You have a duty under the Freedom of Information Act to promptly either release unredacted versions of the documents requested or to provide the rationale for the exemptions you have cited as the bases for your redactions.

In September 2012 I provided ten of the documents listed above (ML081640244, ML090570779, ML091170104, ML100780084, ML101610083, ML101900305, ML110740482, ML111460063, my 19-page 2012-09-18 letter, and my 2012-09-18 email to the Chairman) to the US Special Counsel and to the staffs of about two dozen members of Congress. Since these ten documents are considered by the NRC to contain "Official Use Only – Security-Related Information" I am currently being investigated by the NRC's Office of the Inspector General to determine if there is evidence which warrants charging me with a federal felony[1] for gathering these documents and releasing them outside of the agency.

[1] 18 USC § 1030, The Computer Fraud and Abuse Act of 1984 as modified by the USA PATRIOT Act

It should be noted that, according to the NRC, "Official Use Only" *is an unofficial administrative marking that has no legal import, and only serves as an alert that the document should be reviewed before release in response to a FOIA request or other public disclosure* and it is *not indicia of any national security classification.*[2] Yet the NRC's Office of the Inspector General is nonetheless seeking who in the US Congress released the ten "Official Use Only" documents mentioned above to Green Peace.

"Transparency" is not merely a word in the NRC's mission statement; "Transparency" is a vital ingredient for the credible regulation of our nation's national nuclear enterprise. It is important to me that the NRC recognizes the documents I gave to the Congressional staffers – and which subsequently ended up on a public web-page of the *Huffington Post* – were documents which should have always been available to the public. It is important to me that the NRC recognizes that our correspondence with licensees concerning significant safety hazards (e.g. a "Fukushima-style" accident in South Carolina due to a catastrophic dam failure) is something the American public should have been made aware of. For that reason, I have requested these documents under the Freedom of Information Act and, when I received redacted versions of the documents, I have filed appeals.

The NRC has a duty to ensure truly security sensitive information does not inadvertently get disclosed to the public. In this letter I am not writing you to appeal your decision to make redactions to the information you released to me under my FOIA requests. I am writing to you to criticize your stonewalling. By law, you have a right to exempt from release material which you believe is exempted under the Freedom of Information Act. And by NRC regulations, I have a right to administratively appeal your decisions and, within 20 working days, either be provided the documents sought or be notified *of the denial, explaining the exemptions relied upon and how the exemptions apply to the agency records withheld.*[3] I am writing you to bring it to your attention that the NRC has not, within the time frame prescribed by the Freedom of Information Act and our own regulations, provided me an explanation for the exemptions applied to my Freedom of Information Act requests.

There are some who will claim that the time frames prescribed by the Freedom of Information Act are unrealistic. There is certainly some truth to this when one considers large FOIA requests. However, exceptional circumstances do not apply to my FOIA requests or their appeals since the number of documents requested are within a reasonable scope to be located and reviewed within the 20 working days prescribed in the Freedom of Information Act. There is no reason that my appeals have not yet been closed. Consider the following:

> **FOIA Appeal 2013-004A:** This appeal was submitted 63 working days ago and entails five documents. Two of the documents (ML081640244 and ML090570779) are correspondence from the NRC to Duke Energy. ML081640244 was released as ML12363A132 and had partial redactions in four paragraphs. ML090570779 was released as ML12363A133 and had full or partial redactions in seven paragraphs.
>
> Two of the documents (ML082750106 and ML092020480) are correspondence from Duke Energy to the NRC. Although Duke Energy requested that this correspondence be withheld per 10 CFR § 2.390, none of the redactions in these documents pertained to proprietary information (Exemption 4) but rather all the redactions concerned information thought to be security

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[2] November 15, 2012 response from the NRC to the Union of Concerned Scientists denying FOIA request 2013-0034.

[3] 10 CFR § 9.29

related. Therefore, the decision to release this information on appeal did not need to be re-confirmed with Duke Energy since it was already determined that none of the redactions contained proprietary information. ML082750106 was released as ML12363A129 and had five paragraphs redacted. ML092020480 was released as ML12363A135 and had redactions in three paragraphs.

One of the documents (ML091380424) is a slide show presented by Duke Energy to the NRC. As they do with all their correspondence, Duke Energy requested that the slide show be withheld per 10 CFR § 2.390. And as with the correspondence, the NRC did not find anything in the slide show that was proprietary. All the exemptions concerned information thought to be security related (i.e. Exemption 7(f) was the only exemption claimed). ML091380424 was released as ML12363A134 and had redactions on seven of the slides.

For all the redactions mentioned in the paragraphs above, Exemption 7(f) was claimed. So appeal FOIA 2013-004A concerned just one exemption applied to five documents in 25 separate places. Had the NRC been willing to take the time to review just one redaction every working day, we would have only taken 25 working days to process my appeal; as of today it has been 62 working days. It is not a lack of manpower or time which has caused FOIA 2013-004A to be 8 weeks overdue; it is a lack of respect at the NRC for the legal requirements of the Freedom of Information Act.

FOIA Appeal 2013-006A: This appeal was submitted 63 working days ago and entails one document: ML110740482, the initially-routed version of the *Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures* which was authored by Richard Perkins, Shelby Bensi, Jake Philip and Selim Sancaktar. The minimally-revised final version of this report (ML112430114) was released publicly as ML113500495 in March 2012 and was released under FOIA request 2012-0106 to Paul Koberstein on July 2, 2012 as ML12188A239.

Whether or not this report could be released publicly was the subject of multiple meeting in 2011 and 2012. The redacted version released in March 2012 was the result of a decision by several NRC offices as well as other federal agencies and much thought and analysis was placed into it. It contains redactions on 15 pages. Assuming it takes a month to arrange a two day meeting with the concerned parties (e.g. TVA, FERC, DHS, USACE) and then an hour to discuss each redacted page, the NRC could have easily met our 30 working day time limit for processing appeal FOIA 2013-006A. It is not a lack of manpower or time which has caused FOIA 2013-006A to be 8 weeks overdue; it is a lack of respect at the NRC for the Freedom of Information Act.

FOIA Appeal 2013-009A: This appeal was submitted 45 working days ago and entails four documents (ML111460063, ML100780084, ML101610083, and ML101900305). Two of the documents (ML111460063 and ML101610083) are correspondence from Duke Energy to the NRC. As they do with all their correspondence, Duke Energy requested that ML111460063 and ML101610083 be withheld per 10 CFR § 2.390.

ML111460063 was requested by Paul Koberstein (FOIA 2012-0128) on January 27, 2012 (333 working days ago), by Jim Riccio (FOIA 2012-0325) on September 18, 2012 (171 working days ago), by Carl Stelzer (FOIA 2013-0116) on February 11, 2013 (73 working days ago) and by myself on February 12, 2013 (71 working days ago). ML111460063 is only 16 pages long but still

has not yet been reviewed and released. Although Duke Energy needs to review this document before its release, the NRC has had at least a full quarter to have Duke Energy perform this review. Why, in over 14 weeks, has the NRC not been able to coordinate with Duke Energy to review these 16 pages? It is due to a lack of respect at the NRC for the time limits prescribed in the Freedom of Information Act.

ML101610083 was released as ML13051A896 in response to FOIA 2013-0113 by Joe Carson. It had two paragraphs redacted. Both redactions were under Exemption 7(f). As with all the documents thus far that Duke Energy has claimed to be proprietary, Exemption 4 was not used for any of the redactions. Appeal 2013-009A has been open for nine weeks, yet in nine weeks the NRC has been unable to review these two paragraphs.

One of the documents (ML100780084) is a NRC generic failure rate evaluation for Jocassee Dam risk analysis prepared by Jim Vail, Fernando Ferrante and Jeff Mitman. This document was released as ML13039A084 to Paul Blanch under FOIA 2013-0110. This redacted document contained only one redaction: a figure detailing a generic cross section of Jocassee Dam. This same figure was presented in a March 25, 2013 Duke Energy slide show that was made publicly available on the NRC's website as ML13084A022. I pointed this out to the NRC in an April 11, 2013 update to FOIA 2013-009A and, instead of releasing ML100780084 without redactions, the NRC removed ML13084A022. I take it by NRR's removal of ML13084A022 that the NRC has decided the redacted figure from ML100780084 was a necessary redaction of security related information. Yet, despite this reaffirmation of our redaction (a redaction we felt so confident in that we removed ML13084A022 from the public domain), FOIA 2013-009A remains open.

One of the documents (ML101900305) is an internal NRC memo identifying a generic external flooding issue due to potential dam failures. This document was released to Kay Drey under FOIA 2013-0133 as ML13039A086 and contained redactions in two paragraphs. A virtually identical document was released to Jim Riccio under FOIA 2012-0325 with no redactions.

So, the processing of appeal FOIA 2013-009A involves the review of five redacted paragraphs encompassing just one FOIA exemption (Exemption 7(f)) and 16 pages of an as yet unreviewed document. Yet in nine weeks the NRC has not yet been able to process FOIA 2013-009A. It is not a lack of manpower or time which has caused FOIA 2013-009A to be 5 weeks overdue; it is a lack of respect at the NRC for the Freedom of Information Act.

FOIA Appeal 2013-010A: This appeal was submitted 45 working days ago and involves two documents which are both in the possession of the NRC Chairman: my 19-page 2012-09-18 letter and the email to which it was attached. My letter was originally requested by Dave Lochbaum on October 9, 2012 (FOIA 2013-0008) and by Tom Zeller on October 15, 2012 (FOIA 2013-0013). Tom Zeller requested expedited processing since at the time he was preparing a story on the NRC's handling of the Oconee flooding concerns. After 152 working days, Mr. Zeller has yet to receive the letter through the NRC's FOIA process, although he was able to obtain it through other channels.

On February 13, 2013 I requested my 19-page letter and the accompanying email when I noticed that it had not yet been released to Zeller and Lochbaum. At the time, Dave's request was 18 weeks old. It has now been more than 32 weeks since Dave made his request and 14 weeks since my request (156 and 72 working days respectively). That is, after waiting 32 weeks for a

19-page letter, Mr. Lochbaum has still not received even a redacted copy. There is no excuse for this. The NRC Chairman is, for some reason, stonewalling Mr. Zeller and Mr. Lochbaum. If the Chairman's office had reviewed a mere one page a day, we could have met our legally required 20 working day limit for releasing the letter under the FOIA.

FOIA Appeal 2013-011A: This appeal was submitted 45 working days ago and involves one document: ML091170104, the Non-Concurrence submitted by Melanie Galloway on the NRC's response to Duke Energy's 2008-09-26 letter. On April 16, 2013 I received a redacted copy of Ms. Galloway's request; the version I received had redactions in 3 paragraphs and Exemption 7(f) was used for all redactions. So, once again, only one exemption to review applied to just three paragraphs – yet this appeal is 25 working days overdue. It is not a lack of manpower or time which has caused FOIA 2013-011A to be 5 weeks overdue; it is a lack of respect at the NRC for the Freedom of Information Act.

FOIA Appeal 2013-013A: This appeal was submitted 21 working days ago and involves correspondence between the NRC and other federal agencies regarding the Generic Issue 204 screening analysis report. The NRC informed me in February 2013 that it was going to cost me $112.72 to pay for four hours of search fees in order to locate the documents requested. I agreed to pay these fees on March 13, 2013. It has been more than ten weeks (52 working days) since I agreed to pay for the documents requested and I have still not received them. I estimate that the FOIA package consists of less than ten emails. If the NRC took four hours to find the 10 emails and then reviewed one email a week for the past ten weeks, I would have my requested documents by now. Can the NRC not find the time to review one email a week? It is not a lack of manpower or time which has caused FOIA 2013-013A to go overdue; it is a lack of respect at the NRC for the Freedom of Information Act.

Again, although I do not agree with the supposed security concerns surrounding the documents I have requested, this letter is not about security. It is about straight-forward FOIA requests taking unacceptably long times to be answered. It is about the NRC having a lack of respect for our commitments under the Freedom of Information Act. It is about the office of the NRC Chairman stonewalling on the release of a letter which, after 8 months, she still does not know how to address.

In the President's 2009-01-21 memorandum on the Freedom of Information Act he states:

> *The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails.*

There is obviously much doubt at the NRC regarding the redactions appealed under FOIA 2013-004A, 2013-006A, 2013-009A, 2013-010A, 2013-011A and 2013-013A. If there was not a great amount of doubt, then these FOIA appeals would not be, respectively, 63, 63, 45, 45, 45 and 21 working days old. As shown in the indented paragraphs above, these appeals are not overdue because of lack of resources or time; these appeals are overdue solely either because of doubt regarding whether the material should be withheld or because of nefarious stonewalling. If the NRC did not doubt the basis for the redactions, then the appeals could have easily been closed by now. But our President has given us a simple solution: *In the face of doubt, openness prevails.* I urge you to take the President's direction to heart, and release in their entirety all the documents discussed above. It is what the President expects you to do. Please do not require me to sue the NRC in order for you to perform your legal obligations under the Freedom of Information Act; it is not right that you place that financial burden upon myself

and my family in order to force the release of documents which should have all along been publically available. If you do not wish to release unredacted versions of the documents, then at least please follow the law and meet your time obligations under the Freedom of Information Act for providing me explanations for the FOIA exemptions applied to justify the redactions. The time limits prescribed in the Freedom of Information Act have also been incorporated into the NRC's regulations. Should we not be setting an example for our licensees by following our own regulations?

I am writing those addressed on this letter in the hopes that you will take this information to heart and ensure the agency lives up to our legal obligations under the Freedom of Information Act. Please do not pass this letter off to the NRC's Office of the Inspector General as yet another allegation. If I have an allegation to make, I will submit an OSC Form 12 to the United States Office of the Special Counsel.

Although I live in Springfield, IL, I work in Rockville, MD and thus requested of you that you please do not send documents to my home in Springfield, IL as I will not get them in a timely manner. Other than the Office of the Inspector General, the NRC has thus far done well at following that request. If you have actually already responded to my FOIA Appeals through the US mail, then please send me the responses via email so that I have an electronic record of them.

Please continue to send all written correspondence to me via email at LSCriscione@hotmail.com. If your processes will not allow you to do this, then please contact me via phone or email and I will come by the FOIA desk to pick up the correspondence.

Very respectfully,

Lawrence S. Criscione, PE
(573) 230-3959

Cc: Billie Garde, Clifford & Garde
Iryll Robbins-Umel, National Treasury Employees Union
Scott Hodes, attorney
Louis Clark, Government Accountability Project
Jeff Ruch, Public Employees for Environmental Responsibility
David Lochbaum, Union of Concerned Scientists
Jim Riccio, Green Peace
Paul Koberstein, Cascadia Times
Tom Zeller, Huffington Post
Carl Stelzer, reporter
Paul Blanch, consultant
Kay Drey, citizen
Joe Carson, citizen
Randy Sullivan, steward
Carolyn Lerner, US Special Counsel
Catherine McMullen, US Office of Special Counsel

Union of Concerned Scientists
ucsusa.org Two Brattle Square, Cambridge, MA 02138-3780 t 617.547.5552 f 617.864.9405
1825 K Street NW, Suite 800, Washington, DC 20006-1232 t 202.223.6133 f 202.223.6162
2397 Shattuck Avenue, Suite 203, Berkeley, CA 94704-1567 t 510.843.1872 f 510.843.3785
One North LaSalle Street, Suite 1904, Chicago, IL 60602-4064 t 312.578.1750 f 312.578.1751

MARCH 13, 2015

MATERIALS FOR MEETINGS WITH

CHAIRMAN STEPHEN G. BURNS

AND

COMMISSIONER JEFF BARAN

DAVID LOCHBAUM
DIRECTOR, NUCLEAR SAFETY PROJECT

A G E N D A

① Lying to the American Public about Nuclear Safety

② Improperly Withholding Information from the Public

③ Lessons from Fort Calhoun

④ UCS Annual Report on the NRC and Nuclear Plant Safety

Lying to the American Public about Nuclear Safety

Background

On April 19, 2011, the NRC staff conducted the annual assessment meeting for the Oconee nuclear station in Seneca, South Carolina (ML1111707829). The first of two bullets on slide 2 of the NRC staff's slideshow indicated that a purpose of the meeting was to provide:

- *"A public forum for discussion of the licensee's performance in 2010"*

With Slide 15, the NRC staff summarized a yellow and a white finding by NRC inspectors during 2010.

But at a public meeting conducted 5 weeks after flooding caused three reactor meltdowns at Fukushima, the NRC staff failed to mention to the public that it had issued a Confirmatory Action Letter (ML12363A086) to Duke on June 22, 2010, requiring the company to take 15 measures to better protect the three reactors at Oconee from meltdown from flooding damage should the upriver Jocassee Dam fail.

The NRC staff had a tremendous opportunity to inform the public that, nine months prior to Fukushima, the NRC had identified similar flood protection vulnerabilities at Oconee and had taken steps to ensure those vulnerabilities were addressed. In fact, several of the 15 measures had already been implemented while several others were far down the road to implementation.

But instead the NRC staff opted to play "duck and cover" and lie to the public.

The stated purpose of the meeting was to discuss licensee performance in 2010.

The licensee's performance in 2010 prompted the NRC to issue a Confirmatory Action Letter (CAL) in June 2010. CALs are rarely issued – the NRC staff issued more white findings in 2010 than CALs. The NRC staff chose to discuss its white finding at Oconee but remain silent about its CAL.

That incredibly poor judgment by the NRC staff undermined my trust and confidence in the agency. I now find it harder to believe it when the NRC staff says some condition is okay or that a problem has been resolved.

Given the staff's demonstrated propensity for hiding relevant information from the public and instead providing the public with a distorted, misleading version of nuclear plant safety, how can UCS and the public trust this agency to tell the whole truth and not just selective sub-truths?

Improperly Withholding Information from the Public

Background

In October 2004, the NRC staff sought and obtained Commission permission to withhold all incoming documents from licensees about fire protection and emergency planning (ML042310663). Since then, the NRC developed guidance documents and revised regulations (10 CFR 2.390 in 2008) for licensees to ask NRC to withhold all or portions of documents they submit that contain sensitive security information. Despite this process being available for years, the NRC staff continues to withhold incoming fire protection and emergency planning documents, even when licensees do not request such withholding.

Many of the withheld documents involved license amendment requests. By improperly withholding these documents, the NRC staff deprived the public of rights under federal regulations to contest requested actions.

The NRC staff has been handling submissions of Updated Safety Analysis Reports (USAR) oddly. Some USARs are placed into public ADAMS in their entirety (e.g., Beaver Valley Unit 2 at ML14339A408, Byron and Braidwood at ML1436A393, and Watts Bar Unit 2 at ML14155A256). Some USARs are withheld from public ADAMS in their entirety (e.g., Diablo Canyon per NRC memo at ML14022A120). The NRC staff has told the Senate EPW staff, the NRC OIG staff, and me three different stories last fall on why USARs may or may not be publicly available.

The USARs are key licensing documents, perhaps the single most important licensing document in existence. The USARs are heavily relied upon by licensees and NRC staff in preparing, reviewing, and approving operating license amendments. By improperly depriving the public of access to these vital documents, the NRC staff is unfairly impeding the public's ability to participate in licensing proceedings in a meaningful way.

That so many USARs are publicly available in ADAMS strongly suggests there is no legitimate reason for withholding the other USARs.

UCS and others frequently request NRC Communication Plans via the Freedom of Information Act. The NRC staff typically provides the requested plans with only personal privacy information (i.e., home telephone numbers) redacted (e.g., Salem/Hope Creek Safety Concious Work Environment issues at ML060620540, Oconee flood protection 50.54 letter at ML12326A389, Indian Point CST pipe leak at ML110030931, Seabrook concrete degradation at ML14161A638, Davis-Besse concrete degradation at ML14171A271, etc.). But the NRC staff has also provided plans with all information, except page numbers, redacted contending the withheld information was "deliberative process" (Diablo Canyon seismic re-analysis at ML15033A280).

The NRC staff is playing games. The issues at Indian Point and Seabrook involved aging issues at a time when the reactors were seeking operating license renewals. The NRC staff provided essentially unredacted Communication Plans.

But the NRC staff redacted virtually the entire Communications Plan for Diablo Canyon's seismic issues. True, the seismic issues are currently being monitored by the State and the NRC within an operating license renewal application proceeding, but again that was also the case at Indian Point and Seabrook.

UCS Recommendation

UCS wrote to the NRC Chairman last November asking that the Commission reverse the policy of blanket withholding all incoming fire protection and emergency planning records.

UCS wrote to the NRC Inspector General asking that OIG investigate whether the agency violated federal regulations by approving licensing requests about fire protection and emergency planning while denying the public access to the underlying documents.

The NRC should suspend issuing all operating licenses and approving all amendments to operating licenses until the agency has made publicly available all the documents it has been improperly withholding the past decade.

Withholding license amendment requests and USARs deprived the public its rights under federal regulations to participate in these licensing actions in a meaningful way. By improperly withholding these documents, the NRC staff is essentially giving its licensees uncontested proceedings and transforming purportedly open processes into closed, secret negotiations between the NRC staff and licensees.

The NRC cannot contest the "cozy" label by being "cozy" with licensees and denying the public its legal rights.

NOTE: UCS does not challenge the fact that certain information needs to be withheld. When information satisfies one or more of the criteria for withholding, then by all means withhold it. But when information does not meet any of the criteria for withholding, then don't withhold it.

NOTE: UCS also recognizes that given the sheer volume of documents handled by the NRC staff, there will be occasional mistakes made withholding some that should not be and disclosing others that should be. UCS's concerns are not with the exceptions to the rule. UCS's concern is when the rule is mis-applied allowing many documents to be handled improperly.

Lessons from Fort Calhoun

Background

Fort Calhoun restarted in December 2013 following a 30-month outage to fix many longstanding safety problems.

It marked the 52nd time that a U.S. reactor remained shut down longer than a year to correct safety problems.

Fort Calhoun's outage began in April 2011, about a month after Fukushima.

The NRC formed a task force to extract lessons learnable from Fukushima and currently has a range of activities underway to implement those lessons.

The NRC did nothing to formally extract lessons learnable from Fort Calhoun.

Many of the safety problems that had to be fixed before NRC allowed Fort Calhoun to restart existed since 1996 or before.

Why had all the licensee's testing and NRC's inspections missed these safety problems?

Four times since the Reactor Oversight Process (ROP) was initiated, the NRC staff retuned Fort Calhoun to Action Matrix Column 1. Each time, the many safety problems that were finally fixed in 2011-2013 had existed but were overlooked.

Twice since the ROP was initiated, the NRC staff returned Fort Calhoun to Action Matrix Column 2 from Column 3. Each time, the many safety problems that were finally fixed in 2011-2013 had existed but were overlooked.

UCS Recommendation

The NRC should formally evaluate Fort Calhoun's year-plus outage to identify lessons that enhance the effectiveness of its oversight efforts.

For example, the evaluation could take the safety issues on the NRC staff's Confirmatory Action Letter and reported to the NRC via Licensee Event Reports (LERs) from 2010 to 2014 and identify the NRC inspection procedures that examined these areas. These applicable inspection procedures could then be assessed to see whether changes in what gets examined or how it gets examined could have detected these problems. Similarly, the evaluation might identify changes to the process used by the NRC staff to return Fort Calhoun to Action Matrix Columns 1 and 2 despite numerous safety problems that kept the reactor shut down for safety problems for 30 month. These might have been missed opportunities to have detected and corrected at least some of the many safety problems sooner.

Reference Document

UCS Issue Brief "No More Fukushimas; No More Fort Calhouns," February 2015.

UCS Annual Report on the NRC and Nuclear Plant Safety

Background

UCS initiated a series of annual reports on the NRC and nuclear power plant safety in March 2011. Each report summarizes the events the prior year that prompted the NRC to dispatch special inspection teams (SITs) or augmented inspection teams (AITs). Each report summarizes positive outcomes achieved by the NRC the prior year as well as negative outcomes.

This year's report noted that both the number and the severity of events triggering SITs/AITs continues a declining trend and acknowledges that NRC's efforts very likely factored in these positive trends.

This year's report commends the NRC for undertaking two pro-active measures: the Reactor Oversight Process self-assessments and the Knowledge Management Program.

This year's report criticizes the NRC for improperly withholding documents from the public that denied meaningful participation in NRC's regulatory decision-making processes, for tolerating safety culture metrics that it found unacceptable when observed at nuclear plant sites and for subjecting two NRC engineers to recurring investigations because they voiced safety concerns.

UCS Recommendation

The NRC instituted its Lessons Learned Program a decade ago. SECY-14-0101 (ML14175A780) is the most recent annual report on that program. It is a well-intended program gone terribly awry.

A total of merely seven items were presented to the Lessons-Learned Oversight Board between August 2013 and May 2014. That list included only two reports from the NRC's Office of the Inspector General (OIG), no reports from the Government Accountability Office (GAO), none from the US Congress, and none from any external entity other than one classified, non-public DOE report.

It's virtually impossible to draw meaningful insights about trends and emerging problem areas from such paltry inputs. To be effective, the NRC's Lessons Learned Program must consider more inputs. For example, all OIG reports and GAO should be entered into the program. Materials from external organizations should be reviewed for possible inclusion in the program.

The proliferation of inputs to the Lessons Learned Program would not require a linear increase in the full-time equivalents needed to implement the program. The NRC staff responds to OIG and GAO reports. Thus, the additional work load for the Lessons Learned Program would be to monitor the findings and recommendations from the inputs seeking to identify common themes and whether a problem found here might also exist there.

Reference Documents

UCS report dated March 2015, "The NRC and Nuclear Power Plant Safety in 2014: Tarnished Gold Standard."

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 25, 2011

Mr. T. Preston Gillespie, Jr.
Site Vice President
Duke Energy Carolinas, LLC
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: PUBLIC MEETING SUMMARY – OCONEE NUCLEAR STATION – DOCKET NOS. 50-269, 50-270 AND 50-287

Dear Mr. Gillespie:

This refers to the meeting conducted on April 19, 2011, in Seneca, SC. The purpose of this meeting was to discuss the NRC's Reactor Oversight Process (ROP) and the NRC's annual assessment of plant safety performance for the period of January 1, 2010, to December 31, 2010. The major topics addressed were the NRC's assessment program and the results of the assessment. A listing of meeting attendees and information presented during the meeting are enclosed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room (PDR) or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact me at (404) 997-4607.

Sincerely,

/RA/

Jonathan H. Bartley, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 50-269, 50-270, 50-287
License Nos.: DPR-38, DPR-47, DPR-55

Enclosures: 1. List of Attendees
2. Powerpoint Presentation

cc w/encls: (See page 2)

Oconee Annual Public Meeting

April 19, 2011

NAME	AFFILIATION
DICK MANGRUM	WGOG Walhalla
Bill Pitesa	Duke Energy
David A. Solley	resident
Jim Mouw	RESIDENT
John R. Murray	LEPC / Council
David Bronnenberg	resident
Anna Simon	Greenville News
Patrick Collard	Greenville News
Thomas J. Sefcik	Contractor @ Oconee
Michael Seaman-Huynh	SC ORS
Lynn Tortora	resident
Angie Tortora	TCDNR
Ricky L. Hening	Greenville Hospital System
Scott Bateman	DUKE
Thomas Ray	Duke
Terry Patterson	Duke
Peggy Gillespie	DUKE
Ron Hernandez	resident
Jessica Genoble	Clemson student
Lee Genoble	Engineer

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Oconee Annual Public Meeting

April 19, 2011

NAME	AFFILIATION
(2) Jim & Marguerite Mosw	
Karen Lindsay	
Mary N. Bright	
Jim McQuillan	
Paul Wilkie Jr	SCDHEC - Region I
Eric Lutz	Oconee County Emergency Services
R. Otto	Resident
C. Otto	"
[illegible]	"
[illegible]	"
Scott McLaughlin	The Journal
David Wittnebert	Shelter Cove Subdivision
2 George & Sherrill Hernandez	Keowee Key
2 Frederick LaFontaine	Waterside
Florence P. Belser	SC ORS
[illegible] F	Duke
Ayms' Black	Oconee County Emer. SVCS.
Rick Black	Citizen
Mandy Gaulter	WYFF
Michael Stone	WYFF

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Oconee Annual Public Meeting

April 19, 2011

NAME	AFFILIATION
Jonathan Powell	resident/property owners
Robert Cook	Duke Energy
Sandra Masee	"
Bruce Clinkscales	Furman
Gary Cecil	WHNS-TV
Anna Mitchell	Anderson Ind. Mail
Robert Carrion	NRC
Jonathan Bartley	NRC
Andrew Sabisch	
Joyce Hannan	
Geoff Ottenberg	
Kevin Ellis	
Bill Jones	
Roger Hannah	
Lee Harrison	

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Oconee Nuclear Station Annual Assessment Meeting

Reactor Oversight Program - 2010

Nuclear Regulatory Commission - Region II

Seneca, SC

April 19, 2011

Enclosure 2

Purpose of Today's Meeting

- A public forum for discussion of the licensee's performance in 2010
- Address the performance issues identified in the annual assessment letter

Oconee Assessment Results

January 1 - December 31, 2010

Oconee Units 1, 2, and 3 were in the Degraded Cornerstone Column for all four quarters due to a Yellow Finding (Units 1, 2, and 3) and a White Finding (Units 2 and 3).

Safety Significant Findings or PIs

- Yellow Violation of TS 3.10.1 for SSF reactor coolant makeup subsystem inoperable for greater than allowed by technical specifications (Units 1, 2, and 3)

- White Violation of Criterion XVI, Corrective Action, for a failure to promptly identify and correct an adverse condition affecting operability of the Unit 2 and Unit 3 standby shutdown facility (Units 2 and 3)

~~OFFICIAL USE ONLY – SECURITY RELATED INFORMATION~~

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

June 22, 2010

CAL 2-10-003

Mr. David A. Baxter
Site Vice President
Duke Energy Carolinas, LLC
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: CONFIRMATORY ACTION LETTER - OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 COMMITMENTS TO ADDRESS EXTERNAL FLOODING CONCERNS (TAC NOS. ME3065, ME3066, AND ME3067)

Dear Mr. Baxter:

This letter confirms commitments made by Duke Energy Carolinas, LLC (the licensee) in your June 3, 2010, letter. Specifically, the June 3, 2010, letter listed compensatory measures the licensee will implement at the Oconee Site and Jocassee Dam to mitigate potential external flooding hazards resulting from a potential failure of the Jocassee Dam. The compensatory measures listed in the enclosure shall remain in place until final resolution of the inundation of the Oconee site from the failure of the Jocassee Dam has been determined by the licensee and agreed upon by the U.S. Nuclear Regulatory Commission (NRC), and all modifications are made to mitigate the inundation. The compensatory measures and implementation dates are set forth in the enclosure to this letter.

In addition to implementing the compensatory measures, pursuant to my telephone conversation with Mr. Bill Pitesa of your company on June 22, 2010, you shall submit to the NRC by August 2, 2010, all documentation necessary to demonstrate to the NRC that the inundation of the Oconee site resulting from the failure of the Jocassee Dam has been bounded. Also, you shall submit by November 30, 2010, a list of all modifications necessary to adequately mitigate the inundation, and shall make all necessary modifications by November 30, 2011.

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, you are required to:

1) Notify me immediately if your understanding differs from that set forth above;

2) Notify me if for any reason you cannot complete the actions within the specified schedule and advise me in writing of your modified schedule in advance of the change; and

3) Notify me in writing when you have completed the actions addressed in this Confirmatory Action Letter.

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Issuance of this Confirmatory Action Letter does not preclude issuance of an Order formalizing the above commitments or requiring other actions on the part of the licensee; nor does it preclude the NRC from taking enforcement action for violations of NRC requirements that may have prompted the issuance of this letter. In addition, failure to take the actions addressed in this Confirmatory Action Letter may result in enforcement action.

This Confirmatory Action Letter will remain in effect until the NRC has concluded that all modifications necessary to adequately mitigate the inundation of the Oconee site from the failure of the Jocassee Dam has been completed.

Sincerely,

/RA/

Luis A. Reyes
Regional Administrator

Docket Nos. 50-269, 50-270, 50-287
License Nos.: DPR-38, DPR-47, DPR-55

Enclosure: Compensatory Measures

cc w/encl: (See next page)

COMPENSATORY MEASURES

NUMBER	COMPENSATORY MEASURES	IMPLEMENTATION STATUS
1	Perform flooding studies using the Hydrologic Engineering Center -- River Complete Analysis System (HEC-RAS) model for comparison with previous DAMBRK models to more accurately represent anticipated flood heights in the west yard following a postulated failure of the Jocassee Dam.	Complete
2	Maintain plans, procedures (Jocassee and Oconee) and guidance documents implemented (Oconee) to address mitigation of postulated flood events which (b)(7)(F) (b)(7)(F) and are consistent with current perspectives gained following the HEC-RAS sensitivity studies and the subsequent 2D inundation studies. To the extent practical, the mitigation strategy is similar to existing extensive plant damage scenario (B.5.b) equipment, methods and criteria.	Implemented
3	Duke Energy Hydro Generation will create a guidance document to consolidate river management and storm management processes. (Includes the Jocassee Development and the Keowee Development.)	Implemented
4	Maintain a dam safety inspection program that includes: (1) weekly dam safety inspections of the Jocassee Dam by Duke Energy personnel, (2) dam safety inspections following any 2-inch or greater rainfall or felt seismic event, (3) annual dam safety inspections by Duke Energy, (4) annual dam safety inspections by FERC representatives, (5) five year safety inspections by FERC approved consultants, and (6) five year underwater inspections.	Implemented
5	Maintain a monitoring program that includes: (1) continuous remote monitoring from the Hydro Central Operating Center in Charlotte, NC, (2) monthly monitoring of observation wells, (3) weekly monitoring of seepage monitoring points, and (4) annual surveys of displacement monuments.	Implemented
6	Assign an Oconee engineer as Jocassee Dam contact to heighten awareness of Jocassee status.	Implemented
7	Install ammeters and voltmeters on Keowee spillway gates for equipment condition monitoring.	Complete
8	Ensure forebay and tailrace level alarms are provided for Jocassee to support timely detection of a developing dam failure.	Complete
9	Add a storage building adjacent to the Jocassee spillway to house the backup spillway gate operating equipment (e.g., compressor and air wrench).	Complete

Enclosure

NUMBER	COMPENSATORY MEASURES	IMPLEMENTATION STATUS
10	Obtain and stage a portable generator and electric drive motor near the Jocassee spillway gates to serve as a second set of backup spillway gate operating equipment.	Complete
11	Conduct Jocassee Dam failure Table Top Exercise with Oconee participation to exercise and improve response procedures.	06/30/2010
12	Instrument and alarm selected seepage monitoring locations for timely detection of degrading conditions.	08/31/2010
13	Provide additional video monitoring of Jocassee Dam (e.g., dam toe, abutments, and groin areas) for timely assessment of degrading conditions.	08/31/2010
14	Obtain and stage a second set of equipment (including a B.5.b-type pump) for implementation of the external flood mitigation guidance.	11/30/2010
15	Conduct Jocassee Dam/Oconee Emergency Response Organization Drill to exercise and improve response procedures.	12/31/2010

NOTES:

1. The word "complete" is used in the status column if the commitment regards a specific one-time equipment-related or analysis-related action that has been completed.

2. The word "implemented" is used in the status column if the commitment describes an on-going action that has been implemented.

POLICY ISSUE
(Notation Vote)

October 19, 2004 SECY-04-0191

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations /RA/

SUBJECT: WITHHOLDING SENSITIVE UNCLASSIFIED INFORMATION CONCERNING NUCLEAR POWER REACTORS FROM PUBLIC DISCLOSURE

PURPOSE:

To obtain Commission approval of guidance to be issued to the Nuclear Regulatory Commission (NRC) staff, power reactor licensees, and other agency stakeholders for withholding sensitive unclassified (nonsafeguards) information from public disclosure.

SUMMARY:

In a staff requirements memorandum dated May 7, 2004, the Commission directed the NRC staff to develop guidance to ensure information that could reasonably be expected to be useful to potential adversaries is withheld from public disclosure. In determining whether information should be withheld or released, the NRC staff must attempt to appropriately balance our desire to maintain the openness of NRC's regulatory processes with the need to protect the public from possible terrorist threats. This paper provides for Commission review and approval the NRC staff's proposed approach for determining the appropriate handling of information and more specific guidance for withholding or releasing information about nuclear power reactors (Attachment 1).

CONTACTS: William D. Reckley, NRR/IRT
301-415-1323

Margie Kotzalas, NRR/IRT
301-415-2737

Subject	Discussion and/or typical controls
Test Program (Initial and Inservice Inspections and Testing)	Uncontrolled
Accident Analysis	Uncontrolled - Accident analyses typically included in licensing-related correspondence involve conservative models to demonstrate a plant's ability to respond to design basis transients (i.e., nonsecurity related events), and is not treated as sensitive.
Technical Specifications (including Bases)	Uncontrolled
Quality Assurance	Uncontrolled
Fire Protection	Incoming documents are initially profiled as nonpublic - staff will review for release upon request. Most information related to fire protection will not need to be designated as sensitive. Drawings showing details such as the specific location of equipment, doorways, stairways, etc. are to be withheld under 10 CFR 2.390.
Emergency Planning	Incoming documents are initially profiled as nonpublic - staff will review for release upon request. Most information related to emergency planning will not need to be designated as sensitive. Special attention is needed to determine if information relates to the response by a licensee or government agency to a terrorist attack. Note that some State and local governments consider parts of their emergency plans to be sensitive.
Security	Information related to security programs at nuclear reactors is generally designated as SGI and is protected in a manner similar to classified confidential information. Security-related information within the inspection program and reactor oversight process is withheld from public disclosure under 10 CFR 2.390.
Risk-Informed Decisionmaking (e.g., documents related to risk-informed licensing actions, accident sequence precursor (ASP) analyses, significance determination process (SDP) notebooks, design certifications)	Uncontrolled - exceptions include information related to security activities (e.g., vulnerability assessments) and information related to uncorrected configurations or conditions that could be useful to an adversary. Special attention should be applied to this area and information should be withheld if it describes a vulnerability or plant-specific weakness that is more helpful to an adversary than are the insights provided in open source literature. Detailed computer models have been and will continue to be withheld from public disclosure.

FENOC™
FirstEnergy Nuclear Operating Company

Beaver Valley Power Station
P.O. Box 4
Shippingport, PA 15077

Eric A. Larson
Site Vice President

724-682-5234
Fax: 724-643-8069

November 24, 2014
L-14-360

10 CFR 50.71(e)
10 CFR 50.54(a)
10 CFR 54.37(b)

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001

SUBJECT:
Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
Submittal of the Updated Final Safety Analysis Report, Revision 21

In accordance with the requirements of 10 CFR 50.71(e), the FirstEnergy Nuclear Operating Company (FENOC) is hereby submitting to the Nuclear Regulatory Commission (NRC) the Beaver Valley Power Station (BVPS), Unit No. 2, Updated Final Safety Analysis Report (UFSAR) Revision 21 in CD-ROM format. This submittal reflects facility and procedure changes implemented between November 2, 2012 (the end of Refueling Outage 16), and May 23, 2014 (the end of Refueling Outage 17), along with several changes implemented after Refueling Outage 17.

In accordance with NRC guidance for electronic submissions, Attachment 1 provides a listing of the document components that comprise the enclosed CD-ROM. In addition to the UFSAR, the CD-ROM includes the BVPS, Unit No. 2 Licensing Requirements Manual, Revision 81, and the Technical Specification Bases, Revision 27. The Technical Specification Bases are submitted in accordance with Technical Specification 5.5.10.d, "Technical Specifications (TS) Bases Control Program."

In accordance with 10 CFR 50.54(a), FENOC is hereby submitting a copy of the current revision of the FENOC Quality Assurance Program Manual (QAPM). The QAPM, Revision 19, is included in the enclosed CD-ROM.

Attachment 2 includes a summary of information removed from the BVPS, Unit No. 2 UFSAR in accordance with Appendix A to Nuclear Energy Institute (NEI) 98-03, "Guidelines for Updating Final Safety Analysis Reports," Revision 1.

A053
NRR

FENOC conducted a review of BVPS, Unit No. 2 plant changes for 10 CFR 54.37(b) applicability. No components were determined to meet the criteria for newly identified components as clarified by Regulatory Issue Summary (RIS) 2007-16, Revision 1, "Implementation of the Requirements of 10 CFR 54.34(b) for Holders of Renewed Licenses."

There are no regulatory commitment changes to be submitted in accordance with NEI 99-04, "Guidelines for Managing NRC Commitment Changes."

This certifies, to the best of my judgment and belief, that Revision 21 of the BVPS, Unit No. 2 UFSAR accurately presents changes made since the previous submittal that are necessary to reflect information and analysis submitted to the Commission or pursuant to Commission requirements.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-315-6810.

Sincerely,

Eric A. Larson

Attachments:
1. Document Components on CD-ROM
2. Information Removed from the BVPS, Unit No. 2 UFSAR

Enclosures:
Beaver Valley Power Station, Unit No. 2 UFSAR, Licensing Requirements Manual, Technical Specification Bases, and QAPM (on CD-ROM)

cc: NRC Region I Administrator
NRC Resident Inspector
NRC Project Manager
Director BRP/DEP (without Enclosures)
Site BRP/DEP Representative (without Enclosures)

Exelon Generation

Byron/Braidwood Nuclear Stations

Updated
Final Safety Analysis Report

(UFSAR)

Revision 15

December 2014

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454, STN 50-455, and 72-68

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456, STN 50-457, and 72-73

Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

May 30, 2014

10 CFR 50.4
10 CFR 50.34(b)
10 CFR 2.390(d)(1)

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

Watts Bar Nuclear Plant, Unit 2
Docket No. 50-391

Subject: **WATTS BAR NUCLEAR PLANT (WBN) – UNIT 2 – FINAL SAFETY ANALYSIS REPORT (FSAR), AMENDMENT 112**

References:
1. TVA letter to NRC dated February 13, 2014, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Safety Analysis Report (FSAR), Amendment 111"
2. TVA letter to NRC dated May 8, 2014, "Watts Bar Nuclear Plant (WBN) Unit 2 – Inservice Test (IST) Program/Preservice Test (PST) Program"

This letter transmits WBN Unit 2 FSAR Amendment 112 (A112), which reflects changes made since the issuance of Amendment 111 on February 13, 2014 (Reference 1).

Enclosure 1 contains a summary listing of FSAR sections and corresponding Unit 2 change package numbers associated with the A112 FSAR changes.

FSAR A112 is contained on the enclosed Optical Storage Media (OSM #1) (Attachment 1). The FSAR contains security-related information identified by the designation "Security-Related Information - Withhold Under 10 CFR 2.390." TVA hereby requests this information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390. A redacted version of the FSAR is contained on OSM #2 (Attachment 2), which is suitable for public disclosure.

Enclosure 2 contains a listing of the FSAR pages that have been redacted. Enclosure 3 lists the files and file sizes on the security-related OSM (OSM #1), and Enclosure 4 lists the files and file sizes on the publicly available OSM (OSM #2).

In regard to Supplemental Safety Evaluation Report (SSER), Appendix HH Open Items, the following can be stated to address three open items:

A053
NRR

For Open Item No. 1, involving power assisted cable pulls, WBN Unit 2 construction has not made nor will not be making any such power assisted cable pulls in the completion of WBN Unit 2. A112 addresses Open Item No. 35, involving Component Cooling System (CCS), and Open Item No. 91, involving Feedwater Purity.

In addition, FSAR Change Package 2-112-10 addresses a clarification to the IST Program code of record as committed to in Reference 2.

Attachment 3 provides replacement disks for Amendment 111 provided in Reference 1. During the course of Amendment 112 preparation, it was discovered that the discs containing the Amendment 111 files previously provided by Reference 1 did not contain Section 6.2.6. Enclosures 5 and 6 have been updated to reflect this addition for file sizes related to the security-related and the publicly available OSMs for Amendment 111.

There are no new commitments made in this letter. This letter does not close any "Generic Communications." If you have any questions, please contact Gordon Arent at (423) 365-2004.

I declare under the penalty of perjury that the foregoing is true and correct. Executed on the 30th day of May, 2014.

Respectfully,

R. A. Hruby, Jr.

Raymond A. Hruby, Jr.
General Manager, Technical Services
Watts Bar Unit 2

Enclosures:

1. WBN Unit 2 FSAR A112, "Summary Listing of A112 FSAR Changes"
2. WBN Unit 2 FSAR A112, "Summary of Redacted Pages"
3. WBN Unit 2 FSAR A112, "List of files and file sizes on the security-related OSM (OSM #1)"
4. WBN Unit 2 FSAR A112, "List of files and file sizes on the publicly available OSM (OSM #2)"

Attachments:

1. OSM #1: WBN Unit 2 FSAR Amendment 112 - Security-Related Information - Withhold Under 10 CFR 2.390
2. OSM #2: WBN Unit 2 FSAR Amendment 112 - Publicly Available Version
3. OSM #1: WBN Unit 2 FSAR Amendment 111 - Security-Related Information - Withhold Under 10 CFR 2.390
   OSM #2: WBN Unit 2 FSAR Amendment 111 - Publicly Available Version

cc: See Page 3

June 23, 2014

MEMORANDUM TO: Michael T. Markley, Chief
Plant Licensing IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Peter J. Bamford, Project Manager ***/RA/***
Plant Licensing IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - REVIEW OF FINAL SAFETY ANALYSIS REPORT UPDATE, REVISION 21 (TAC NOS. MF2945 AND MF2946)

This memorandum documents the in-office review of Revision 21 to the Final Safety Analysis Report (FSAR) Update for Diablo Canyon Power Plant (DCPP), Units 1 and 2, dated September 16, 2013 (not publicly available). The FSAR Update was submitted by Pacific Gas and Electric Company (PG&E, the licensee), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.71(e). PG&E follows the guidance of Nuclear Energy Institute (NEI) 98-03, Revision 1, "Guidelines for Updating Final Safety Analysis Reports," and NEI 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes."

The time requirements for FSAR submittals are stated in 10 CFR 50.71(e)(4). Revisions must be filed annually or 6 months after each refueling outage provided the interval between successive updates does not exceed 24 months. In its letter dated December 8, 1997, the licensee requested an exemption from the time requirements stated in 10 CFR 50.71(e)(4) for DCPP, Units 1 and 2. As discussed in the licensee's exemption request, DCPP, Units 1 and 2, have a common FSAR. The rule would require FSAR updates within 6 months of each refueling outage, resulting in required FSAR updates every 12 months. As such, the licensee requested an exemption to allow the updates of the FSAR to be submitted within 6 months after each DCPP, Unit 2, refueling outage, but not to exceed 24 months from the last update. The Nuclear Regulatory Commission (NRC) staff approved the exemption in a letter dated March 12, 1998 (ADAMS Accession No. ML022400141). DCPP, Unit 2, completed its last refueling outage on March 23, 2013. The previous update of the DCPP FSAR, Revision 20, was submitted on November 16, 2011 (ADAMS Accession No. ML11332A181). Therefore, the September 16, 2013, submittal date for Revision 21 of the DCPP FSAR meets the requirements approved in the exemption since the submittal was within 6 months of the last DCPP, Unit 2, refueling outage and does not exceed 24 months from the last FSAR update.

As stated in the licensee's letter dated September 16, 2013, Revision 21 of the DCPP FSAR contains changes to reflect the plant configuration as of March 23, 2013. This meets the requirement in 10 CFR 50.71(e)(4) which states that the revisions must reflect all changes up to a maximum of 6 months prior to the date of filing.

Amendments

Revision 21 covered changes to the FSAR Update during the period June 6, 2011, through September 16, 2013. Each of the license amendments issued during the period were reviewed for impacts on the FSAR Update and included Amendment Nos. 211/213 through 216/218 (for Units 1 and 2, respectively). The following three amendments were identified which resulted in impacts on the FSAR Update:

- Amendment Nos. 211/213, dated March 29, 2012 (ADAMS Accession No. ML120790338), modified FSAR Update Sections 8.1.4.3, "Regulatory Guides," and 8.3.1.1.13.1, "Diesel Generator Unit Description," to identify an exception to Revision 0 of Regulatory Guide 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants";

- Amendment Nos. 212/214, dated October 31, 2012 (ADAMS Accession No. ML120300114), modified FSAR Update Sections 15.2.7.3, "Results," and 15.2.16, "References," to adopt a new analysis methodology for establishing the reduced power range neutron flux high setpoint for one inoperable main steam safety valve; and

- Amendment Nos. 214/216, dated January 9, 2013 (ADAMS Accession No. ML12345A379), modified FSAR Update Section 4.3.2.2, "Power Distribution," to allow the use of the Best Estimate Analyzer for the Core Operations-Nuclear (BEACON) Power Distribution Monitoring System methodology, as described in Westinghouse Electric Company LLC's WCAP-12472-P-A, Addendum 1-A, "BEACON Core Monitoring and Operation Support System," January 2000.

The FSAR Update changes for Amendment Nos. 211/213 were not apparent in Revision 21. The licensee had reorganized the FSAR Update, removing the numbered Sections 8.1.4.3 and 8.3.1.1.13.1. However, the licensee included the amendment's language in Section 8.3.1.1.6.3.13, "Safety Guide 9, March 1971 – Selection of Diesel Generator Set Capacity for Standby Power Supplies," and Section 8.3.1.1.6.1.13, "Safety Guide 9, March 1971 – Selection of Diesel Generator Set Capacity for Standby Power Supplies." With the inclusion of this exception in these two sections, the NRC staff concludes that the FSAR Update is consistent with the updates stated in Amendment Nos. 211/213.

Inspection Reports

The inspection reports (IR) for the appropriate period were reviewed. The first, IR 2012004, involved a non-cited violation of Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after PG&E failed to promptly evaluate the operability of plant structures, systems, and components (SSCs) after a newly discovered local fault line. The IR, dated February 14, 2012 (ADAMS Accession No. ML120450843), indicated a need to update the FSAR Update with the new seismic information. The second, IR 2011005, dated November 13, 2012 (ADAMS Accession No. ML12318A385), involved a Severity Level IV violation where the licensee failed to update the FSAR Update with information describing how plant SSCs meet 10 CFR Part 50,

Appendix A. In both cases, the NRC staff confirmed that Revision 21 of the FSAR Update incorporated the corrective actions to address both these IRs.

Licensee Event Reports

The licensee event reports (LERs) for the appropriate period were reviewed. One LER documented events that listed corrective actions including updating the FSAR Update. This LER, dated June 3, 2013 (ADAMS Accession No. ML13155A238), documented an event in which the licensee identified an unanalyzed condition due to a nonconservative change in the FSAR Update Chapter 15, "Accident Analyses," which would have resulted in a higher received radiological dose received by control room operators during an accident, but would not exceed General Design Criteria 19. The LER described the corrective actions taken to address the event and NRC staff confirmed that Revision 21 of the FSAR Update incorporated the corrective actions described in the LER.

The NRC staff's sampling review of the FSAR Update, Revision 21 included the applicable amendments, IRs, and LERs. The staff did not find any commitments to modify the FSAR Update in its review. Based on the review, the staff concludes that the FSAR Update, Revision 21 was submitted consistent with the requirements in 10 CFR 50.71(e).

Docket Nos. 50-275 and 50-323

DISTRIBUTION:
PUBLIC
LPL4-1 R/F
RidsNrrDorlLpl4-1 Resource
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RidsNrrPMDiabloCanyon Resource
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ADAMS Accession No. ML14022A120

OFFICE	NRR/DORL/LPL4-2/PM	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM
NAME	MOrenak	PBamford	JBurkhardt	MMarkley	PBamford
DATE	6/17/14	6/17/14	6/17/14	6/23/14	6/23/14

OFFICIAL RECORD COPY

RELEASE IN ENTIRETY

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COMMUNICATIONS PLAN

Davis-Besse Nuclear Power Plant
Steam Generators Replacement Inspection

January 2014
Point Of Contact: Atif Shaikh, RIII
630-829-9824

GOALS

- Be prepared to answer public questions on the steam generators replacement inspection
- Be prepared to answer internal questions on the steam generators replacement inspection

KEY MESSAGES

- The NRC's oversight of the steam generator replacement process at Davis-Besse is comprehensive to ensure the safety of the plant and the public.
- Inspections started on December 2, 2013, and these inspections will continue through the actual replacement installation work beginning in February 2014 the post installation tests performed by the licensee, and the plant's subsequent return to power. The results of this NRC inspection will be documented in a publically available report that will be issued by the NRC within 45 days of the conclusion of this inspection.
- NRC inspectors will conduct direct observations along with reviews of records, calculations, and procedures to provide adequate assurance that the plant modifications associated with the replacement steam generators meet applicable regulatory requirements.
- Inspections will be conducted by a team of inspectors with expertise in metallurgy, structural design, heavy loads, radiation protection, security, and other relevant areas.
- NRC inspectors will review the licensee's evaluation of relevant steam generator replacements operating experience (OpEx) to determine whether the licensee has adequately evaluated the OpEx potentially relevant to the Davis-Besse steam generators replacement.
- NRC inspectors will ensure that any safety concerns identified during the inspection are adequately addressed by the licensee.
- The NRC staff invited the public to listen in via conference call to its initial inspection planning meeting with the licensee during which the licensee provided a presentation and NRC staff answered questions from the public. That presentation remains available to the public in the NRC's ADAMS document system (ML No. 13078A249) via the NRC public web site.

DC

- NRC staff also discussed inspection plans with the public during the last end-of-cycle meeting near the plant and provided information in a meeting with local government officials. In addition, the NRC staff also plans to conduct a webinar to answer questions from the public related to the replacement steam generators at Davis-Besse.

BACKGROUND

Davis-Besse is a Babcock and Wilcox (B&W) designed plant. It is a two loop plant and has two steam generators. The original steam generators are B&W designed once-through steam generators (OTSGs). The new replacement steam generators are also B&W designed OTSGs.

There are two basic types of steam generators used in the United States: recirculating steam generators (RSGs) and OTSGs. RSGs have tubes that are shaped like an inverted "U" while OTSGs have straight tubes. There are currently 59 units in the U.S. with RSGs and 6 units with OTSGs.

All steam generators are designed to limit the possibility of tube-to-tube contact since such a condition can result in the tubes rubbing against each other and leading to tube thinning. The thinning of the tube wall due to the interaction of two structures (e.g., tube-to-tube or tube-to-support) is commonly referred to as tube wear.

In Early 2012, the licensee for San Onofre Nuclear Generating Station Unit 3, which has recirculating steam generators, detected hundreds of tubes with wear attributed to tube-to-tube contact caused by a fluid-elastic instability. Some of these indications were significant including one that leaked during normal operation and led to the plant shutting down. These indications occurred after approximately 20 months of operation. In total, eight tubes were found that did not meet the structural integrity performance criteria specified in the plant's technical specifications. The steam generators at San Onofre were designed and fabricated by Mitsubishi Heavy Industries (MHI).

In early 2010, Three Mile Island, Unit 1 (TMI-1), completed the replacement of both its original OTSGs with new OTSGs that were fabricated by AREVA (France). The first inservice inspection of the TMI-1 replacement steam generators took place in fall 2011. During these inspections at TMI-1, the licensee detected several tubes with indications. A more detailed investigation led the licensee to conclude that these indications were a result of tube wear due to tube-to-tube contact.

In fall of 2013 the licensee for TMI-1 conducted their second inservice inspection of the replacement steam generators. The licensee reviewed their testing data and concluded that tube-to-tube wear was progressing slowly "as predicted" based on first cycle wear data from fall of 2011.

In spring 2006, Oconee, Unit 3 conducted the first inservice inspection of the replacement OTSGs that were installed in 2004. The inservice inspection results revealed widespread wear degradation of the tubing at tube support plant (TSP) locations. Oconee, Units 1 and 2, have also experienced this widespread tube wear degradation at TSP locations following the first cycle of operation since installation in 2004. In spring of 2012 the licensee for Oconee, Unit 3 also detected wear attributed to tube-to-tube contact in the replacement OTSGs. The Oconee replacement OTSGs were designed and fabricated by B&W Canada and are similar to the design of the Davis-Besse replacement OTSGs.

RELEASE IN ENTIRETY

The licensees for Oconee and TMI evaluated the severity of the tube-to-tube wear indications in their replacement steam generators. These evaluations concluded that the wear indications did not compromise tube integrity (i.e., the tubes could still perform their intended function consistent with their original design and licensing basis). In addition, this tube-to-tube contact did not involve high energy fluid-elastic instability such as that experienced at SONGS. NRC staff reviewed the licensees' evaluations and did not identify any safety issues that would affect plant restart.

Q&As FOR DAVIS-BESSE STEAM GENERATORS REPLACEMENT

1. **Will this be a like for like replacement?**

   No, this will not be a like for like replacement. Although the replacement steam generators (SGs) are manufactured by the same vendor as the original SGs, there are some differences in the design of these replacement SGs. Hence, the licensee is required to perform an evaluation consistent with Section 50.59 of Title 10 to the *Code of Federal Regulations* (10 CFR) for the proposed modifications associated with the replacement SGs.

2. **What are the differences between the old and new steam generators?**

   The differences between the original SGs and the replacement SGs all relate to physical design aspects such as the material, component dimensions, number of tubes per generator, etc. The required design and safety functions of the SG remain the same. The NRC staff will be reviewing the 50.59 analyses supporting the design changes to ensure that plant safety is not impacted by the changes and to evaluate licensee's conclusions regarding whether NRC approval is needed for the changes.

3. **Can you explain the 50.59 process?**

   The 50.59 process involves implementation of the requirements set forth in 10 CFR 50.59, a federal regulation. Essentially, whenever a licensee decides to implement a physical change to its facility or change how the facility is operated, used or controlled, including changes to safety analyses or documentation (e.g., a calculation, evaluation, methodology), then the 50.59 regulation allows a licensee to implement that change without prior NRC approval only if the change meets criteria pertaining to the safety implications of the proposed change. Generally, if a change would place the plant outside of the safety boundaries established by the NRC and reflected in the plant's licensing basis (e.g., NRC regulations, licensing documents, and plant safety analyses report), then prior NRC approval would be needed.

4. **Can you explain the license amendment process?**

   In general, the license amendment application review process has 5 steps: 1) Conducting an acceptance review to determine if there is sufficient technical information for the NRC staff to begin a detailed technical review of the application; 2) Publishing a *Federal Register* notice that describes the application and gives members of the public an opportunity to comment on the proposed determination of No Significant Hazards Consideration (NSHC) and request permission to be a party in a hearing; 3) Conducting a technical review to determine the safety of, and the environmental impacts of, the proposed amendment, including, if needed, sending requests for additional information (RAIs) to obtain additional information needed to make an informed regulatory decision; 4) Completing the NRC staff's safety evaluation (SE), which provides the technical,

safety, and legal basis for the NRC's decision on the amendment application; and 5) If the amendment is approved, issuing the amendment and publishing a *Federal Register* notice that indicates when the amendment issued and whether the NRC staff made a final NSHC determination.

5. **How do 50.59 analyses and license amendments assure safety?**

   Both processes provide assurance that changes at operating reactors are not made until the safety significance of the change is considered. As noted above, the 50.59 process can lead to a determination that a 50.90 license amendment application, and thus prior NRC approval, is required.

6. **What changes would require a license amendment?**

   If a proposed change is not consistent with a technical specification or places the plant outside of the safety boundaries established in the plant's licensing basis, then the change would require a license amendment.

7. **Why not require a license amendment for the whole replacement?**

   NRC inspectors review samples of licensee 50.59 evaluations and decisions during the SG replacement inspections. If the Agency determines that a license amendment is required, the Agency can take appropriate enforcement action.

8. **Are any license amendments needed for the SG replacements at Davis-Besse?**

   Davis-Besse submitted a license amendment request for Technical Specifications (TS) changes related to the replacement steam generators. The NRC staff is currently reviewing this amendment request.

9. **Have any concerns been raised regarding the steam generator replacement?**

   A request for hearing and petition to intervene on the Technical Specification (TS) license amendment request was filed in May 2013. The petitioners challenged the 10 CFR 50.59 analyses on the steam generators replacement, contending that the steam generator replacement activities required an additional license amendment request. On August 12, 2013, the Atomic Safety Licensing Board (ASLB) denied the petition. The ASLB ruled that petitioners cannot challenge 10 CFR 50.59 analyses done to support steam generator replacement activities in a proceeding on a license amendment request to change TS related to operation with the new steam generators replacement. The ASLB also ruled that a challenge to adequacy of 10 CFR 50.59 analyses for replacement of the steam generators can only be made by filing a petition under 10 CFR 2.206.

10. **Will the NRC staff conduct an inspection concerning the steam generator replacement activities?**

    Yes. The NRC staff will inspect the licensee's SG replacement activities during inspections which began on December 2, 2013. During the inspection, the NRC staff will review10 CFR 50.59 analyses done to support the steam generator replacement, as well as monitor steam generator replacement activities. An inspection report will be issued to document the results of the NRC staff's review.

11. Will the NRC's review of the new steam generators/50.59 evaluations be complete before the plant can start up with the new steam generators?

It is the licensee's responsibility to ensure changes associated with the new steam generators are thoroughly evaluated and are safe and implemented appropriately. While the NRC staff will complete its inspection review as expeditiously as possible, we can't guarantee we will reach final conclusions prior to plant restart. The NRC staff will take the time it needs to do a thorough and rigorous inspection and to arrive at supportable conclusions. However, if at any time the NRC staff concludes that the changes are not safe, the NRC would take appropriate enforcement action, including ensuring the plant stays in or is placed in a safe condition.

12. Will there be an NRC inspection report for the DB steam generators? Will the inspection results be publicly available before restart?

The inspection results for the SG replacement inspection will be documented in a publicly available NRC inspection report which will be issued within 45 days after the completion of the inspection. The NRC inspection is extensive and includes evaluation of licensee activities that occur throughout the replacement outage and subsequent startup. Hence, the inspection report will not be available prior to startup.

13. Has the NRC incorporated lessons learned from previous SG replacements in inspections for the Davis-Besse replacements?

Recent operating experience at facilities where SGs have been replaced is being incorporated (or was incorporated) into the inspection effort for the Davis-Besse SG replacements. Region III staff closely coordinates with NRC headquarters to identify areas for a rigorous review of 50.59 evaluations. For the Davis-Besse steam generator replacement inspection, the NRC will be reviewing the licensees' evaluation of previous operating experience, key design differences between original and replacement steam generators, and if they exist, design change challenges discussed between the licensee and its vendor.

14. Has Davis-Besse licensee reviewed the SONGS or other SG replacement operating experience such as at TMI-1 and Oconee Unit 3 in preparation for their steam generator replacements?

Yes, Davis-Besse described in a public meeting how they have considered the SONGS, TMI, and Oconee SG tube degradation operating experience in their steam generator design and replacement activities. The NRC inspectors will review this information and the 50.59 evaluations supporting these design modifications as part of the SG replacement inspection activities.

15. Are these new steam generators considered an experimental design?

No, these new replacement SGs are not considered an experimental design. They are similar in basic design to the original SGs. There is also operating experience available regarding replacement steam generators of a similar design as those being installed at Davis-Besse. The NRC inspectors will be reviewing the licensee's evaluation of the operating experience available as it pertains to the specific design.

RELEASE IN ENTIRETY

16. What are the main differences between the steam generators at Davis-Besse and SONGS?

- The Davis-Besse and SONGS SGs are different designs.
  The steam generators at SONGS are recirculating steam generator design. They are designed for a Combustion Engineering plant which requires larger steam generators, averaging close to 9,000 tubes per steam generator. The SONGS SGs were manufactured by MHI and are one of the largest steam generators used in the industry. The SONGS replacement SGs were modeled for vibration using MHI's proprietary modeling code.

- The Davis-Besse Steam generators are a completely different design from SONGS in that they are once through steam generators (they do not have a U-bend tube region, instead they consist of straight tubes) and were manufactured by B&W Canada. The Davis-Besse replacement SGs were modeled for vibration using an industry accepted EPRI modeling code.

17. Will DB cut a hole in the shield building for these replacement steam generators? What impact will that cutting and opening process have on the existing shield building cracking?

In order to remove the old steam generators and install the new steam generators, the licensee will cut another hole in the reinforced concrete shield building. The hole will be located entirely within the boundaries of a previous hole that was cut for replacement of the reactor pressure vessel closure head, and hence will be in new concrete that was poured in 2012. Thus, the licensee does not expect there to be any impact on previously identified cracking in the older portions of the shield building wall.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

September 11, 2014

MEMORANDUM TO: Wayne Walker, Chief
Division of Reactor Projects, Branch A

FROM: Multiple Addressees, as listed below

SUBJECT: COMMUNICATIONS PLAN – DIABLO CANYON POWER PLANT TOPICS OF INTEREST

The purpose of this memo is to transmit and request comments/concurrence on the enclosed Communications Plan for Diablo Canyon Power Plant (DCPP). The enclosed document is based on several iterations of informal communication plans, Q&A documents, and responses to congressional questions developed primarily by Region IV, NRR, OPA, and OCA over the last several years.

This communication plan describes the methods and resources that NRC staff will use to communicate with internal and external stakeholders regarding the DCPP seismic history and ongoing seismic evaluations being conducted in response to the Japan Lessons Learned Near-Term Task Force recommendations. Additionally, as applicable to current issues of interest to DCPP stakeholders, this communications plan integrates key messages related to spent fuel/dry cask storage and waste confidence issues (primarily by referencing other active communication plans).

This revision also incorporates Q&As for the most recent issues of concern including the licensee's AB-1632 Report to the State of California and the "Sewell Report."

Once finalized, the Communications Plan will be posted on the OEDO Communications website for use by the communications team and more broadly across the agency as necessary.

Most of those on concurrence have each provided significant input to iterations of this document (or documents from which this Plan was developed). As such, we are **requesting your review/comments/concurrence in the next few days (due by COB, Monday, September 15)**. Please forward your comments/concurrence on the document to Theresa Buchanan (Theresa.Buchanan@nrc.gov and/or ph: (817) 200-1503) of my staff.

The concurrence block noted on the next page will be used to document your concurrence on the enclosed Communications Plan.

Enclosure:
As stated

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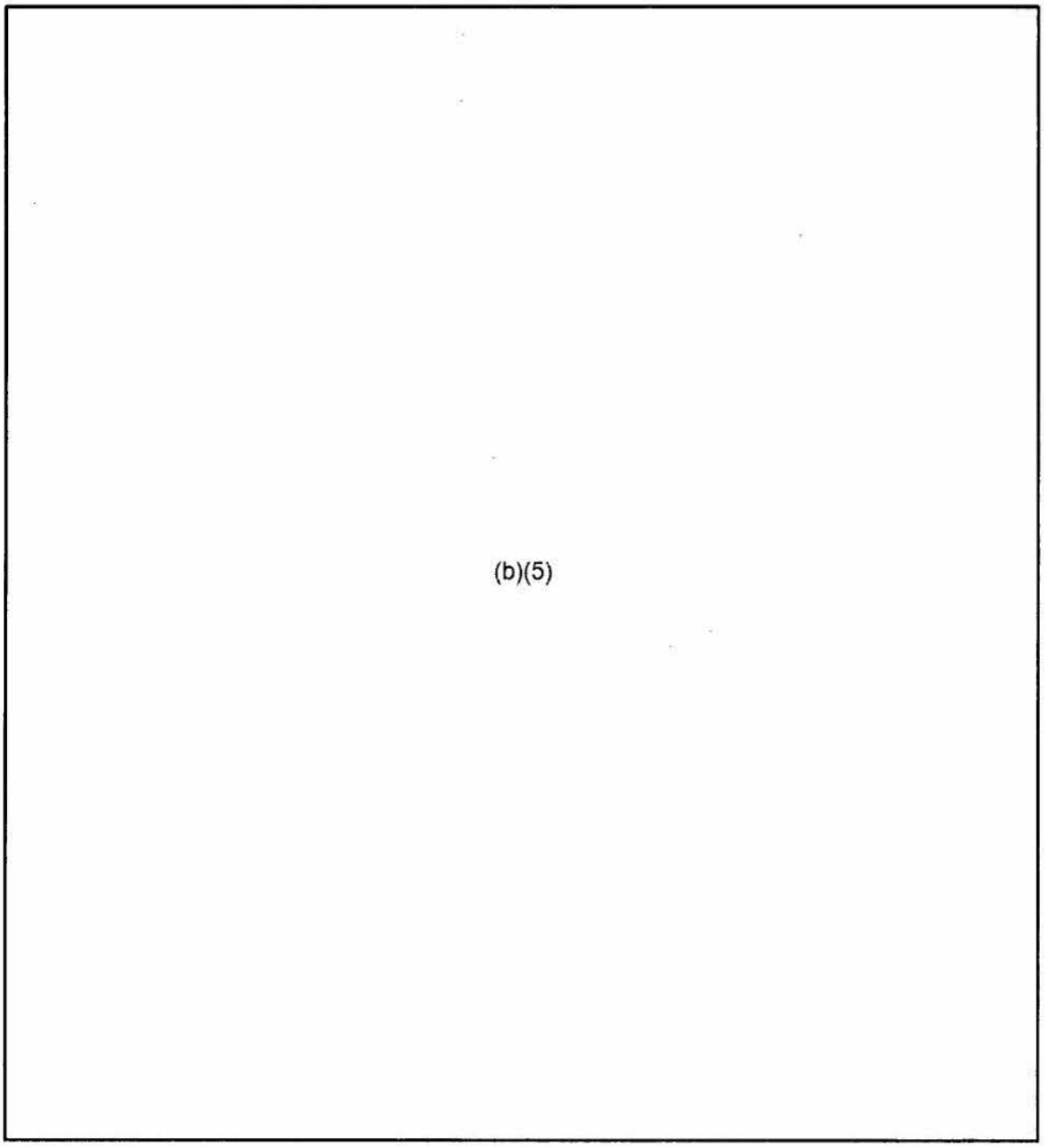


Intervening 61 blank pages omitted by UCS
(to save copy expenses)

(b)(5)

FREEDOM OF INFORMATION TEAM

Paul Gunter
Beyond Nuclear

Jim Riccio
Greenpeace

Tim Judson
Nuclear Information and Resource Service

Dave Lochbaum
Union of Concerned Scientists

Lucas Hixson
www.Enformable.com

November 19, 2014

Dr. Allison M. Macfarlane, Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Macfarlane:

On behalf of the Freedom of Information Team, I respectfully ask the Commission to revisit and revise the information withholding policies approved in Staff Requirements Memorandum (SRM) dated November 9, 2004, for SECY-04-0191 dated October 19, 2004.

In response to the tragic events of 9/11, the NRC staff proposed a framework for withholding information from the public that might be useful to adversaries attempting radiological sabotage at NRC-licensed facilities. The Commission approved the staff's proposal. In the second paragraph of the SRM, the Commission directed that "the staff should move expeditiously to complete the necessary determinations and restore public access to the appropriate documents."

Since that time, the NRC and the nuclear industry have developed a system for withholding the proper information. For example, the NRC released Regulatory Issue Summary RIS-05-026, "Control of Sensitive Unclassified Nonsafeguards Information Related to Nuclear Power Reactors;" RIS-05-031, "Control of Security-Related Sensitive Unclassified Non-Safeguards Information Handled by Individuals, Firms, and Entities Subject to NRC Regulation of the Use of Source, Byproduct, and Special Nuclear Material;" RIS-07-04, "Personally Identifiable Information Submitted to the U.S. Nuclear Regulatory Commission;" and RIS-12-03, "Reintegration of Security into the Reactor Oversight Program Assessment Program." The NRC also revised 10 CFR 2.390 to clarify what information must be withheld.

The nuclear industry and the NRC have operating experience using this system. Today, there is a common understanding of what information needs to be withheld along with the appropriate means for withholding it.

It is now time to restore public access to the appropriate documents while retaining necessary protection against inappropriate disclosures.

Specifically, we ask that the framework in Attachment 1 to SECY-04-0191 profiling all incoming documents from plant owners about fire protection and emergency planning as nonpublic be reversed. All incoming documents about fire protection and emergency planning should be profiled as public.

Plant owners now have clarity from the NRC regarding the nature and context of information that must be withheld from the public. Plant owners now also have an established and well-used process for submitting documents containing such information to the NRC so that the information is appropriately withheld. Thus, documents about fire protection or emergency planning containing sensitive information will be submitted by plant owners per 10 CFR 2.390 and collateral processes, obviating the need for blanket withholding of all fire protection and emergency planning documents.

We look forward to the NRC restoring public access to appropriate fire protection and emergency planning information.

Sincerely,

David Lochbaum
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415
423-468-9272, office
dlochbaum@ucsusa.org

Union of Concerned Scientists
ucsusa.org Two Brattle Square, Cambridge, MA 02138-3780 t 617.547.5552 f 617.864.9405
1825 K Street NW, Suite 800, Washington, DC 20006-1232 t 202.223.6133 f 202.223.6162
2397 Shattuck Avenue, Suite 203, Berkeley, CA 94704-1567 t 510.843.1872 f 510.843.3785
One North LaSalle Street, Suite 1904, Chicago, IL 60602-4064 t 312.578.1750 f 312.578.1751

December 17, 2014

Hubert Bell, Inspector General
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Bell:

On behalf of the Union of Concerned Scientists, I respectfully ask the Office of the Inspector General to investigate whether the Nuclear Regulatory Commission violated federal statutes and/or federal regulations with the information withholding policy approved in Staff Requirements Memorandum (SRM) dated November 9, 2004, for SECY-04-0191 dated October 19, 2004.

Among other things, the policy authorized the NRC staff to withhold all documents it received from plant owners involving fire protection and emergency planning. In the text on page 7 of the attachment to SECY-04-0191, the NRC staff recognized that most of these incoming fire protection and emergency planning records would not likely contain sensitive information that needed withholding from the public. Yet the NRC staff recommended, and a majority of the Commission approved, withholding these incoming records.

Earlier this year, I submitted requests under the Freedom of Information Act for fire protection and emergency planning records dated October 1, 2004, or later that were not already publicly available. The fire protection records provided to me in response to my FOIA requests are mostly contained in the October 3, 2014, folder in the NRC's Agencywide Document Access and Management System (ADAMS).

No documents were withheld in their entirety by the NRC when responding to my FOIA requests. And I have not yet located a single redaction in any of the fire protection records released by the NRC staff in response to my FOIA requests.[1] Thus, there was no justifiable basis for withholding these records from the public.

[1] Some of the emergency planning records released in response to my FOIA requests had telephone numbers and similar information redacted, but those redactions represented considerably less than one percent of the material in the documents.

But even if the tragic events of 9/11 warranted error on the side of caution, a policy decision cannot trump or negate federal statutes and regulations. This policy with regard to fire protection and emergency planning records seems to have authorized practices that violate federal statutes and regulations. Several examples that strongly suggest that NRC violated federal statutes and regulations are summarized in the following table.

Table 1: Some of the Fire Protection Records Withheld by the NRC

ADAMS ML	Document	Document Date	Date Made Public	Comment
ML060300439	Response to NRC request for additional information regarding fire suppression exemption request at Turkey Point Units 3 and 4	01/13/2006	10/03/2014	The NRC approved the exemption on 09/27/2006. The approval (ML062160387) was made public on 10/02/2006. Lack of access to the exemption request prevented or significantly impaired the public's ability to oppose it.
ML062010140	Response to NRC request for additional information regarding fire suppression exemption request at Turkey Point Units 3 and 4	07/12/2006	10/03/2014	The NRC approved the exemption on 09/27/2006. The approval (ML062160387) was made public on 10/02/2006. Lack of access to the exemption request prevented or significantly impaired the public's ability to oppose it.
ML063200100	License amendment request for fire protection requirements at Browns Ferry Units 1, 2, and 3	11/15/2006	10/03/2014	The NRC issued the amendment on 04/25/2007. The amendment (ML071160431) was made public on 05/17/2007. Notice of the pending amendment was published in the *Federal Register* on 04/05/2007. Lack of access to the amendment request prevented or significantly impaired the public's ability to oppose it.
ML082590007	Supplement to license amendment request for deviation from fire protection requirements at South Texas Project Units 1 and 2	09/05/2008	10/03/2014	The NRC issued license amendments on 09/16/2009. The amendment (ML082280465) was made public on 09/24/2008. Notice of the pending amendments was published in the Federal Register on 08/25/2009. Lack of access to the deviation request prevented or significantly impaired the public's ability to oppose it.
ML093350537	Response to NRC request for additional information regarding requested deviation from fire protection regulations at South Texas Project Units 1 and 2	11/20/2009	10/03/2014	The NRC issued license amendments on 09/16/2009. The amendment (ML082280465) was made public on 09/24/2008. Notice of the pending amendments was published in the Federal Register on 08/25/2009. Lack of access to the deviation request prevented or significantly impaired the public's ability to oppose it.

Table 1: Some of the Fire Protection Records Withheld by the NRC				
ADAMS ML	**Document**	**Document Date**	**Date Made Public**	**Comment**
ML090570050	Request for exemption from fire protection regulations at FitzPatrick	02/18/2009	10/03/2014	The NRC approved the exemption on 03/11/2010. The approval (ML100340670) was made public on 03/12/2010. Lack of access to the exemption request prevented or significantly impaired the public's ability to oppose it.
ML090960214	Response to NRC request for additional information regarding fire protection regulation exemption request at FitzPatrick	03/30/2009	10/03/2014	The NRC approved the exemption on 03/11/2010. The approval (ML100340670) was made public on 03/12/2010. Lack of access to the exemption request prevented or significantly impaired the public's ability to oppose it.
ML091320440	Licensee event report (LER) for deficiencies in Appendix R fire response plan at Point Beach Unit 1	05/11/2009	10/03/2014	While LERs do not constitute licensing action requests (e.g., license amendments, exemptions, deviations, etc.), they describe violations of regulatory requirements, either hardware or process related. When available, LERs could be cited by the public in opposing licensing requests involving hardware and process changes. By withholding all fire protection LERs, the NRC significantly hampered the public's ability to evaluate fire protection program adequacy and contest perceived shortcomings.
ML103570032	Licensee event report (LER) for non-compliance manual actions in fire response plans at Monticello	12/22/2010	10/03/2014	
ML093641067	License amendment request to use fire-resistive electrical cable at Wolf Creek	12/16/2009	10/03/2014	The NRC prepared its finding of no significant hazards for the Federal Register on 02/25/2010. The notice (ML100560391) was made public on 03/15/2010. The NRC issued the amendment on 09/30/2010. The amendment (ML102560498) was made public on 10/01/2010. Lack of access to the amendment request prevented or significantly impaired the public's ability to oppose it.

By withholding license amendment requests, the NRC seems to have violated 10 CFR 50.91, Notice for public comment; State consultation. Even when the agency publishes notices about the requests in the *Federal Register*, withholding the underlying request rendered that opportunity for public comment meaningless. The public lacked viable means to contest "secret" requests.

10 CFR 50.91 also provides opportunities for States to review proposed licensing actions and comment on or oppose them. The NRC's information withholding policy may also have infringed on States' abilities to conduct their consultation function. We request that OIG's investigation also determine whether the NRC's policy adversely affected the States' role in licensing actions.

The NRC's information withholding policy would also seem to violate the spirit if not the letter of the Administrative Procedure Act. This federal statute requires agencies like the NRC to provide for public participation in rulemaking processes. While the fire protection and emergency planning records withheld by the NRC may not directly involve rulemaking, there most certainly is an indirect nexus. When plant owners requested exemptions from NRC's regulations promulgated via a public rulemaking process, the NRC deprived the public of its right to contest how the APA-compliant requirements were applied to the licensed nuclear facilities in their communities. And when the NRC pursued rulemaking, as it is and will be doing regarding emergency planning in response to both Fukushima's lessons and numerous reactor decommissionings, the NRC's withholding of the past decade's worth of emergency planning records essentially turned the APA-compliance rulemakings into a mockery of meaningful public participation. An oft-cited adage states that "information is power." The NRC's information withholding practice rendered the public powerless to participate in the agency's rulemaking proceedings.

Along with several other NGO representatives, I met with the NRC staff about document classification and information redaction policies on October 7, 2014, in a public meeting attended by some members of the OIG staff. We followed up with a letter to Chairman Macfarlane dated November 19, 2014, requesting the Commission to reverse the policy for withholding all incoming records involving fire protection and emergency planning. We have reason to belief the information withholding policy will be changed in the near future.

While we are hopeful that the NRC staff will soon cease blanket withholding of incoming fire protection and emergency planning records, that will solve only part of the problem. We respectfully request that OIG investigate the policy to address the remainder of the problem. Even if the information withholding policy was justifiable, policy cannot violate federal statutes and regulations. Thus, the policy adopted by the NRC in late 2004 should not have resulted in requests for license amendments, deviations, and exemptions of fire protection regulatory requirements being withheld from the public.

The information withholding policy adopted by the NRC in late 2004 attempted to better protect the public's safety. In applying the policy, the NRC undermined the public's rights. Thus, the NRC's good intentions were offset by the unintended consequences. The OIG's investigation would identify those consequences as well as factors that could have or should have enabled maximum benefits to be derived with minimal consequences. The report on the OIG's investigation can help the NRC staff implement process fixes that better maintain the delicate balance between the legitimate need to withhold some information and the public's right to know the rest of the information.

Sincerely,

David Lochbaum
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415
423-468-9272, office
dlochbaum@ucsusa.org

Union of Concerned Scientists

ISSUE BRIEF

No More Fukushimas; No More Fort Calhouns

HIGHLIGHTS

On April 9, 2011, operators shut down the reactor at the Fort Calhoun nuclear plant in Nebraska for a routine refueling outage. But myriad safety problems discovered during the outage—many dating back to when the plant was constructed in the late 1960s and early 1970s—prevented the reactor from restarting for two and a half years. The U.S. Nuclear Regulatory Commission (NRC), which oversees the nation's nuclear power plants, needs to determine how its inspectors and the plant owner missed—or dismissed—numerous longstanding safety problems for years despite thousands of hours of inspections. It should appoint a task force to recommend changes to the NRC's inspection and oversight efforts, and then implement these changes as quickly as possible.

Two significant nuclear power safety events occurred in the spring of 2011. On March 11, an earthquake and the tsunami it spawned caused the meltdown of three reactors at the Fukushima Daiichi nuclear plant in Japan. Less than a month later, on April 9, operators shut down the reactor at the Fort Calhoun nuclear plant in Nebraska for a routine refueling outage. But myriad safety problems discovered during the outage—many dating back to when the plant was constructed in the late 1960s and early 1970s—prevented the reactor from restarting for two and a half years.

Following the first event, the U.S. Nuclear Regulatory Commission (NRC), which oversees the safety of the nation's nuclear power plants, formed a task force that examined the Fukushima accident and identified more than 30 lessons that could reduce vulnerabilities in the United States. The NRC ordered plant owners to implement specific safety upgrades and is pursuing additional measures to further reduce vulnerabilities.

Following the second event, the NRC made no such effort to examine the Fort Calhoun situation. It failed to identify lessons that would enable it to detect safety violations sooner and correct them before they could accumulate to epidemic proportions requiring years to fix—or worse, contribute to an American Fukushima.

Fort Calhoun received its first operating license in 1973, and the NRC relicensed the plant in 2003 to continue operating for as long as 20 more years. Neither of these licensing efforts, nor the tens of thousands of hours the NRC spent inspecting Fort Calhoun, led the agency to discover any of these many safety problems.

U.S. Army Corps of Engineers

For two weeks in June 2011, flooding on the Missouri River turned Nebraska's Fort Calhoun nuclear power plant into an island. The plant had already been shut down for myriad safety problems—many dating back to its construction in the late 1960s and early 1970s.

Fort Calhoun's shutdown was not an isolated incident: its two-and-a-half-year outage marked the fifty-second time a U.S. reactor remained shut down for longer than a year so the owner could correct accumulated safety problems (see the table). In each of those cases, the reactor had been operating with serious safety problems prior to the shutdown—problems that made an accident more likely. Moreover, these 52 outages have cost ratepayers and shareholders billions of dollars.

The NRC's goal of preventing a Fukushima-scale accident in this country must be accompanied by the goal of preventing another prolonged safety outage like that at Fort Calhoun. The fact that there have been 52 year-plus outages demonstrates that U.S. reactors often operate while violating numerous safety requirements. These safety violations not only make reactors more vulnerable to accidents, but also make them more likely to experience a Fukushima-scale disaster in the event of an accident.

By closing the gap between what its safety regulations require and what U.S. plant owners actually do, the NRC would not only prevent another Fort Calhoun, it would also strengthen its post-Fukushima reforms. And because year-plus outages for safety fixes are costly, preventing another

Year-Plus Nuclear Reactor Outages

Reactor	Date Outage Began	Date Outage Ended	Outage Length (years)
Fermi Unit 1	10/5/66	7/18/70	3.8
Palisades	8/11/73	10/1/74	1.1
Browns Ferry Unit 2	3/22/75	9/10/76	1.5
Browns Ferry Unit 1	3/22/75	9/24/76	1.5
Surry Unit 2	2/4/79	8/19/80	1.5
Three Mile Island Unit 1	2/17/79	10/9/85	6.6
Turkey Point Unit 3	2/11/81	4/11/82	1.2
San Onofre Unit 1	2/26/82	11/28/84	2.8
Nine Mile Point Unit 1	3/20/82	7/5/83	1.3
Indian Point Unit 3	3/25/82	6/8/83	1.2
Oyster Creek	2/12/83	11/1/84	1.7
St. Lucie Unit 1	2/26/83	5/16/84	1.2
Browns Ferry Unit 3	9/7/83	11/28/84	1.2
Pilgrim	12/10/83	12/30/84	1.1
Peach Bottom Unit 2	4/28/84	7/13/85	1.2
Fort St. Vrain	6/13/84	4/11/86	1.8
Browns Ferry Unit 2	9/15/84	5/24/91	6.7
Browns Ferry Unit 3	3/9/85	11/19/95	10.7
Browns Ferry Unit 1	3/19/85	6/12/07	22.2
Davis-Besse	6/9/85	12/24/86	1.5
Sequoyah Unit 2	8/22/85	5/13/88	2.7
Sequoyah Unit 1	8/22/85	11/10/88	3.2
Rancho Seco	12/26/85	4/11/88	2.3
Pilgrim	4/11/86	6/15/89	3.2
Peach Bottom Unit 2	3/31/87	5/22/89	2.1
Peach Bottom Unit 3	3/31/87	12/11/89	2.7
Nine Mile Point Unit 1	12/19/87	8/12/90	2.6
Surry Unit 2	9/10/88	9/19/89	1.0
Palo Verde Unit 1	3/5/89	7/5/90	1.3
Calvert Cliffs Unit 2	3/17/89	5/4/91	2.1
Calvert Cliffs Unit 1	5/5/89	10/4/90	1.4
FitzPatrick	11/27/91	1/23/93	1.2
Brunswick Unit 2	4/21/92	5/15/93	1.1
Brunswick Unit 1	4/21/92	2/11/94	1.8
South Texas Project Unit 2	2/3/93	5/22/94	1.3
South Texas Project Unit 1	2/4/93	2/25/94	1.1
Indian Point Unit 3	2/27/93	7/2/95	2.3
Sequoyah Unit 1	3/2/93	4/20/94	1.1
Fermi Unit 2	12/25/93	1/18/95	1.1
Maine Yankee	1/14/95	1/18/96	1.0
Salem Unit 1	5/16/95	4/20/98	2.9
Salem Unit 2	6/7/95	8/30/97	2.2
Millstone Unit 2	2/20/96	5/11/99	3.2
Millstone Unit 3	3/30/96	7/1/98	2.3
Crystal River Unit 3	9/2/96	2/6/98	1.4
Clinton	9/5/96	5/27/99	2.7
LaSalle County Unit 2	9/20/96	4/11/99	2.6
LaSalle County Unit 1	9/22/96	8/13/98	1.9
D.C. Cook Unit 2	9/9/97	6/25/00	2.8
D.C. Cook Unit 1	9/9/97	12/21/00	3.3
Davis-Besse	2/16/02	3/16/04	2.1
Fort Calhoun	4/9/11	12/21/13	2.7

SOURCE: UPDATED FROM LOCHBAUM 2006.

> ***These year-plus outages demonstrate that U.S. reactors often operate while violating safety requirements.***

Fort Calhoun would save ratepayers and shareholders money. Preventing financial meltdowns and avoiding reactor meltdowns is a goal too good to pass up.

Just as it did for Fukushima, the NRC must formally examine the Fort Calhoun case, identify the lessons that should be learned, and make appropriate changes to its oversight process to reduce the likelihood that safety problems remain undetected—and uncorrected—for months or years.

Safety Problems at Fort Calhoun

In a presentation to the NRC on March 27, 2013, Fort Calhoun's owner reported that 20,000 tasks had been completed between November 2012 and February 2013 and had approximately 5,000 other tasks to do before it could restart the reactor (OPPD 2013). While many of these tasks involved preventive maintenance and routine inspections, some entailed correcting serious safety problems.

When a safety problem's severity rises above a fairly high threshold, the plant owner must report it to the NRC. The safety problems reported by Fort Calhoun's owner during the prolonged outage included:

- **Inadequate flood protection.** NRC inspectors had already determined in 2010 that measures designed to protect safety equipment in the auxiliary building and at the intake structure from external flooding had not been adequately implemented as specified by the original safety studies. Workers identified additional deficiencies during the outage (Bannister 2011a). Furthermore, when the plant's owner replaced the original security system in 1985, it left portions of the old system in place. Although the owner sealed the intake structure's walls up to the calculated flooding level to protect vital cooling water pumps inside, it failed to seal areas where the old security system's cables penetrated the intake structure. As a result, the safety-related water pumps could have been damaged by flooding (Bannister 2011b).
- **Missing safety system parts.** Fort Calhoun's owner installed 32 seismically qualified General Electric electrical relays in safety systems at the plant. Workers tested seven of these relays and three failed the tests. Workers then discovered the cause was a missing part. Further inquiries concluded that the relays were most likely missing this part when they were installed during the plant's original construction (Cortopassi 2013a).
- **Inadequate earthquake protection.** Workers found that transmitters used to monitor reactor cooling water pressure had been installed on an instrument rack that was not designed to adequately protect them from

Nuclear Regulatory Commission/courtesy of Omaha Public Power District

In March 2013, Fort Calhoun's owner reported that it had completed 20,000 tasks required by the NRC before the reactor could be restarted—but still had approximately 5,000 more to do. Some of the tasks entailed correcting serious safety problems.

movement during an earthquake. The owner informed the NRC that, "During a seismic event, the excessive weight of these instrument racks could cause the racks to fail," resulting in a reactor cooling water leak that could not be isolated, increasing the risk of nuclear core damage (Bannister 2012a).

- **Vulnerability to high-speed debris.** In the event of a tornado, debris propelled by high winds can disable essential safety equipment. Workers identified numerous potential sources of such debris, including removable hatches on the intake structure, the exhaust stack for the steam-driven auxiliary feedwater pump, the vent stack and fill line for the emergency diesel generator's fuel oil tanks, the cable pull boxes for the raw water pumps, and the exhaust stacks for the emergency diesel generators (Cortopassi 2013b).
- **Overloaded backup power source.** Workers discovered that, in a situation where one of the two emergency diesel generators was unavailable, more equipment would be connected to the remaining emergency diesel generator than that generator could supply during certain types of accidents. The system designed to disconnect non-essential equipment from the emergency diesel generator during an accident would not perform properly during these types of accidents, and the overloaded generator could fail to function (Bannister 2012b).
- **Inadequately tested backup power source.** In 1990, workers revised a test procedure for the emergency diesel generators and no longer checked whether the plant's fuel oil transfer pumps would automatically start and send fuel from the onsite storage tank to the generators. This check, required by the reactor's operating license, had not been performed for nearly a quarter of a century (Bannister 2012c).
- **Overloaded support beam.** Workers discovered that some of the support beams for the containment structure were not properly designed to handle the weight they supported (Bannister 2012d).
- **Inadequate piping qualifications.** Workers discovered that chemical and volume control system (CVCS) piping had not been properly qualified for the stresses it could experience during its lifetime. Among other factors, the qualification was required to consider fatigue cycles—that is, the number of times the water carried by the piping goes from ambient temperature to reactor operating temperature and back again. These temperature changes cause the metal pipe walls to expand and shrink, which wears the piping out faster. Examination of two-inch-diameter socket-welded fittings in the CVCS found that this piping failed to comply with the piping code and therefore was not properly qualified (Cortopassi 2012).
- **Improperly grounded reactor protection system.** Workers discovered that the voltage in the reactor protection system—which detects unsafe conditions and initiates automatic safety system actions—was nearly 10 times higher than the design allowed. As a result, the system might not initiate the automatic responses the plant's safety studies assumed would happen. Even worse, this unacceptable condition had been previously identified and reported multiple times since 1993 but never corrected (Reinhart 2011).

Workers discovered that some of the support beams for the containment structure were not properly designed to handle the weight they supported.

- **Safety pumps operated outside vendor limits.** Workers determined that, since 1996, the motors for the component cooling water (CCW) pumps had been operating under conditions beyond those recommended by the manufacturer. The CCW system supplies cooling water to reactor components that could contain radioactive water (for example, reactor coolant pump lube oil and seal coolers, containment air cooling units, spent fuel pool heat exchanger). Motors operated outside the manufacturer's limits could fail during an accident (Bannister 2012e).

This list summarizes only a handful of the safety problems that eluded detection and correction at Fort Calhoun for years, subjecting the surrounding population to undue elevated risk. The plant's problems covered a range of engineering disciplines: electrical, mechanical, civil, and instrument and controls. They fell into several major safety areas, including fire protection, flood protection, and seismic design. In other words, the problems were programmatic and pervasive, not isolated to a single plant department.

The most recent of these problems dated to 1996, and many dated back to when the plant was originally built. Thus, there were dozens, and sometimes hundreds, of opportunities for workers and NRC inspectors to detect them before 2010.

Nuclear Regulatory Commission

Senior executives from the Fort Calhoun plant briefed NRC staff and commissioners several times (including here in June 2013) before they were allowed to restart the reactor.

The NRC's Reactor Oversight Process

In May 1997 the Government Accountability Office (GAO, then called the General Accounting Office) issued a report titled *Nuclear Regulation: Preventing Problem Plants Requires More Effective NRC Action* (GAO 1997). At the time, both reactors at New Jersey's Salem nuclear plant were mired in year-plus outages and the NRC had identified 43 problems the owner had to correct before it could safely restart either unit. The GAO report stated that the NRC knew about 38 of the 43 problems before the Salem reactors were shut down, and it knew about one of these problems for *more than six years* prior to the shutdown. The GAO also documented that the NRC was aware of unresolved safety problems at the Millstone plant in Connecticut and the Cooper plant in Nebraska.

These findings prompted the GAO to conclude:

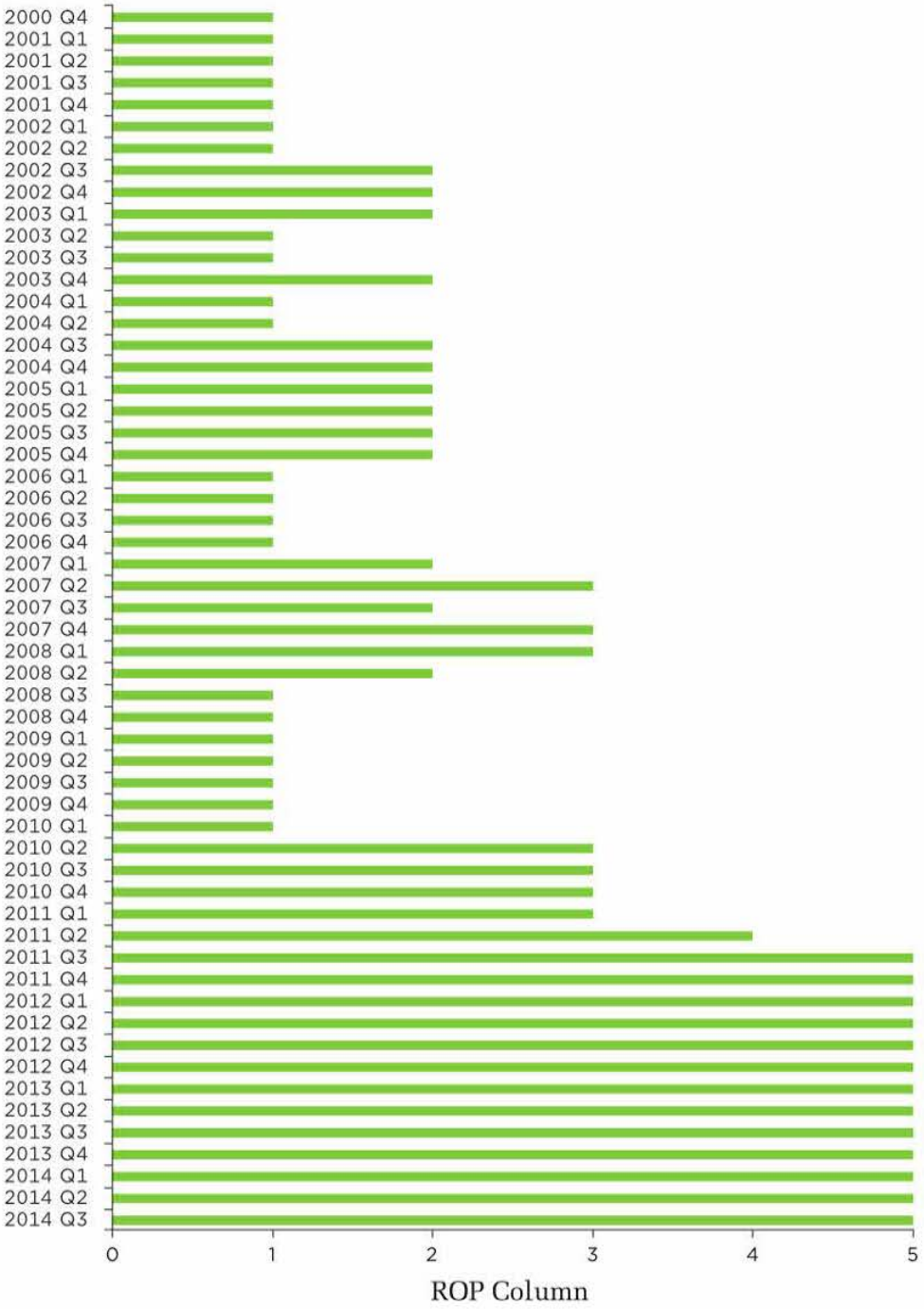
- "NRC has not taken aggressive enforcement action to force the licensees to fix their long-standing safety problems on a timely basis."
- "NRC allowed safety problems to persist because it was confident that redundant design features kept plants inherently safe."

In response to criticism from the GAO and others, the NRC replaced its safety monitoring programs in April 2000 with its Reactor Oversight Process (ROP). The ROP evaluates a reactor's safety performance by combining 17 performance indicators (submitted quarterly by plant owners) with NRC inspectors' findings, then places the reactor into one of five Action Matrix columns. When the safety performance of a reactor falls within the expected regime, the reactor is placed in Column 1 and the NRC conducts only a baseline number of inspections. As safety performance declines, the ROP mandates supplemental NRC inspections. If safety performance declines too much and a reactor falls into Column 5, the ROP will trigger a shutdown until the owner fixes the problems.

The ROP Action Matrix for Fort Calhoun from the fourth quarter of 2000 (when the ROP program began) to the third quarter of 2014 is shown in the figure on p. 6. The NRC moved Fort Calhoun from Column 1 into Column 2 in the third quarter of 2002, but later concluded that safety performance

> ***There were dozens, and sometimes hundreds, of opportunities for workers and NRC inspectors to detect safety problems at Fort Calhoun—opportunities that were missed.***

The NRC's ROP Action Matrix for Fort Calhoun, 2000–2014



As a nuclear power plant's safety performance declines, the NRC moves it from Column 1 to Column 5 in the Reactor Oversight Process Action Matrix. The NRC repeatedly moved Fort Calhoun back and forth in the matrix for over a decade until the agency decided the plant's problems were serious enough (Column 5) to warrant a shutdown.

SOURCE: NRC N.D.

Nuclear Regulatory Commission

NRC Commissioner William C. Ostendorff (left) speaks with NRC Senior Resident Inspector John Kirkland about repairs needed at Fort Calhoun while touring the plant during its 30-month outage.

had improved and returned the reactor to Column 1. This happened again in the fourth quarter of 2003 and the third quarter of 2004.

The NRC moved Fort Calhoun into Column 3 in the second quarter of 2007 and the fourth quarter of 2007, but each time returned the plant to Column 2. When the NRC again moved Fort Calhoun into Column 3 in the second quarter of 2010, however, the plant subsequently slipped into Column 4 and then into Column 5.

Thus, the ROP utterly failed to recognize the depth and breadth of the safety problems at Fort Calhoun until the third quarter of 2011. As noted above, all the safety problems summarized here existed at Fort Calhoun since at least 1996. They existed when the NRC returned Fort Calhoun from Column 2 to Column 1 on four occasions and when it returned Fort Calhoun from Column 3 to Column 2 on two occasions.

These problems were so serious that Fort Calhoun could not safely resume operation under NRC rules until each one was corrected, yet it had operated for over a decade with all of them. Quite simply, the people of Nebraska faced unduly high risk for over a decade because the NRC did not accurately evaluate safety levels at Fort Calhoun. The ROP has clearly not fixed the problems identified by the GAO in 1997.

Preventing Another Fort Calhoun—and an American Fukushima

A key nuclear safety principle is "defense in depth." Reactors are designed so that no single problem will lead to a meltdown or radiation release. At Fukushima, multiple problems caused three reactors to melt down: the reactors lost off-site power, the backup generators located in the basements were damaged when the basements flooded, floodwater disabled banks of batteries that backed up the backup generators, and workers could not deploy portable pumps and generators in time. The 1986 Chernobyl and 1979 Three Mile Island accidents also occurred when numerous things went wrong.

Quite simply, the people of Nebraska faced unduly high risk for over a decade because the NRC did not accurately evaluate safety levels at Fort Calhoun.

Conversely, there have been cases where many things went wrong and disaster was averted. For example, in 2002, workers at the Davis-Besse reactor in Ohio discovered that corrosion had caused a pineapple-sized hole in the reactor head, leaving only a thin steel cladding to contain the high-pressure coolant. Once the reactor was shut down, workers discovered additional serious safety problems. Despite operating with numerous safety problems, Davis-Besse avoided disaster because not all of its defense-in-depth barriers were compromised.

Nevertheless, a reactor operating with pre-existing safety problems is more vulnerable to disaster when another safety problem arises. Fort Calhoun, before its reactor was shut down, was more likely to experience a Fukushima-scale accident because it was already operating with multiple pre-existing safety problems. Pre-existing problems undermine defense in depth by reducing the number of things that must go wrong to transform a near-miss into a nightmare.

If the NRC's effort to prevent an American Fukushima is to be successful, it must augment that with an effort to prevent another Fort Calhoun. The NRC responded to Fukushima by forming a task force that examined the accident and made more than 30 recommendations to better manage nuclear power plant risks. It is now in the process of implementing those recommendations.

The NRC similarly needs to respond to Fort Calhoun by forming a task force to determine how the agency and the plant owner missed—or dismissed—numerous longstanding safety problems for years despite thousands of hours of inspections. The task force should recommend changes that will improve the effectiveness and reliability of the NRC's inspection and oversight efforts. The NRC then needs to implement these changes as quickly as possible.

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Fax: (617) 864-9405

WASHINGTON, DC, OFFICE
1825 K St. NW, Suite 800
Washington, DC 20006-1232
Phone: (202) 223-6133
Fax: (202) 223-6162

WEST COAST OFFICE
500 12th St., Suite 340
Oakland, CA 94607-4087
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Fax: (510) 843-3785

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One N. LaSalle St., Suite 1904
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EXECUTIVE SUMMARY

The NRC and Nuclear Power Plant Safety in 2014

Tarnished Gold Standard

OUR FIFTH ANNUAL REPORT CARD

The NRC often claims to be the gold standard for nuclear power plant safety regulation and oversight. Ample evidence suggests much validity to these claims. One cannot count the number of nuclear disasters averted by the NRC's effective regulatory performance, but one can generally count on the NRC to be an effective regulator.

But the NRC's gold standard is tarnished. For the past decade, they have been improperly withholding documents about safety problems, have subjected engineers who voiced safety concerns to repeated investigations of alleged but unsubstantiated wrongdoing, and have been using nonuniform answer keys to grade standardized tests administered via its reactor oversight process.

If the NRC truly is the gold standard, it must restore the luster and prevent the tarnish from recurring.

The Nuclear Regulatory Commission (NRC) often claims to represent the gold standard for nuclear power plant safety regulation and oversight (Macfarlane 2013; Magwood 2013). Ample evidence, including the summaries of positive outcomes achieved by the NRC in this series of annual reports, suggests much validity to these claims. One cannot count the number of nuclear disasters averted by the NRC's effective regulatory performance, but one can generally count on the NRC to be an effective regulator. The NRC has done much to earn the gold standard label.

Chapter 4 of this report describes how the NRC conducted two extensive reassessments of its reactor oversight process—not in response to an accident demonstrating its inadequacy or to criticism suggesting an inadequacy, but as a proactive measure aimed at enhancing the effectiveness and efficiency of the existing process. Chapter 4 also describes how a decade ago the NRC recognized it had an aging work force and developed formal programs to retain as much tribal knowledge as possible before its retirees hit the golf courses and beaches in their golden years. Such proactive actions enable the NRC to retain the gold standard label.

Chapters 2 and 3 of this report describe how the number and severity of near misses at nuclear power plants have been steadily declining since 2010 (Table 1, p. 2), again consistent with the NRC being an effective regulator.

NRC

The Millstone Power Station in Waterford, CT, which experienced two self-inflicted near misses in 2014 when recent maintenance and modifications introduced problems that reduced safety margins.

TABLE 1. Near Misses 2010 to 2014

	Reactor	Total Number of Near Misses	Near Misses in 2010	Near Misses in 2011	Near Misses in 2012	Near Misses in 2013	Near Misses in 2014
1	Arkansas Nuclear One Unit 1	2	1			1	
2	Arkansas Nuclear One Unit 2	2	1			1	
3	Braidwood Unit 1	2	1	1			
4	Braidwood Unit 2	2	1	1			
5	Browns Ferry Unit 1	1				1	
6	Browns Ferry Unit 2	1				1	
7	Browns Ferry Unit 3	1				1	
8	Brunswick Unit 1	1	1				
9	Brunswick Unit 2	2	1		1		
10	Byron Unit 1	1		1			
11	Byron Unit 2	2		1	1		
12	Callaway	1		1			
13	Calvert Cliffs Unit 1	2	1				1
14	Calvert Cliffs Unit 2	2	1				1
15	Catawba Unit 1	3	1		1		1
16	Catawba Unit 2	1	1				
17	Clinton	1					1
18	Columbia	3				3	
19	Cooper	1		1			
20	Crystal River Unit 3	1	1				
21	Davis-Besse	1	1				
22	Diablo Canyon Unit 2	1	1				
23	Farley Unit 1	1			1		
24	Farley Unit 2	2	1		1		
25	Fermi Unit 2	1					1
26	Fort Calhoun	4	1		2	1	
27	Grand Gulf	1					1
28	H.B. Robinson	2	2				
29	Joseph M. Farley Unit 2	1					1
30	LaSalle Unit 1	1				1	
31	LaSalle Unit 2	1				1	
32	Millstone Unit 2	2		1			1
33	Millstone Unit 3	2					2

TABLE 1. Near Misses 2010 to 2014 (continued)

	Reactor	Total Number of Near Misses	Near Misses in 2010	Near Misses in 2011	Near Misses in 2012	Near Misses in 2013	Near Misses in 2014
34	North Anna Unit 1	1		1			
35	North Anna Unit 2	1		1			
36	Oconee Unit 1	1		1			
37	Oconee Unit 2	1		1			
38	Oconee Unit 3	1		1			
39	Oyster Creek	1				1	
40	Palisades	3		2	1		
41	Palo Verde Unit 1	1			1		
42	Palo Verde Unit 2	1			1		
43	Palo Verde Unit 3	1			1		
44	Perry	2		1	1		
45	Pilgrim	2		2			
46	River Bend	2			1		1
47	San Onofre Unit 2	1			1		
48	San Onofre Unit 3	1			1		
49	Shearon Harris	2			1	1	
50	Surry Unit 1	1	1				
51	Susquehanna Unit 2	1				1	
52	Turkey Point Unit 3	1		1			
53	Wolf Creek	4	1	1	2		
	Total	81	19	19	18	14	11

The overall number of near misses continues to decline each year, as does the number of affected sites and the severity of events.

SOURCE: UCS.

But Chapter 5 reveals the gold standard to be tarnished. For the past decade, the NRC has been improperly withholding documents, including many about safety problems. By doing so, the NRC deprived the public of legal rights for regulatory decision-making and painted a misleading picture of nuclear safety. Chapter 5 also describes how two NRC engineers who did their duties and voiced safety concerns were subjected to repeated investigations of alleged but unsubstantiated wrongdoing, sending a very clear message throughout the agency that "silence is golden." Finally, chapter 5 explains how the NRC has been using nonuniform answer keys to grade standardized tests administered via its reactor oversight process (Table 2, p. 4), yielding numerical outcomes less predictable than fluctuating gold prices. By improperly withholding many safety problem reports and jiggling the grading of other safety problems, the improving trends may be more fabrication than fact. If the NRC truly is the gold standard of nuclear regulators, it must restore the luster by removing this tarnish and preventing it from recurring.

TABLE 2. Seven Cornerstones of the Reactor Oversight Process

Initiating Events	Conditions that, if not properly controlled, require the plant's emergency equipment to maintain safety. Problems in this cornerstone include improper control over combustible materials or welding activities, causing an elevated risk of fire; degradation of piping, raising the risk that it will rupture; and improper sizing of fuses, raising the risk that the plant will lose electrical power.
Mitigating Systems	Emergency equipment designed to limit the impact of initiating events. Problems in this cornerstone include ineffective maintenance of an emergency diesel generator, degrading the ability to provide emergency power to respond to a loss of offsite power; inadequate repair of a problem with a pump in the emergency reactor-core cooling system, reducing the reliability of cooling during an accident; and non-conservative calibration of an automatic temperature set point for an emergency ventilation system, delaying its startup longer than safety studies assume.
Barrier Integrity	Multiple forms of containment preventing the release of radioactive material into the environment. Problems in this cornerstone include foreign material in the reactor vessel, which can damage fuel assemblies; corrosion of the reactor vessel head; and malfunction of valves in piping that passes through containment walls.
Emergency Preparedness	Measures intended to protect the public if a reactor releases significant amounts of radioactive material. Problems in this cornerstone include emergency sirens within 10 miles of the plant that fail to work; and underestimation of the severity of plant conditions during a simulated or actual accident, delaying protective measures.
Public Radiation Safety	Design features and administrative controls that limit public exposure to radiation. Problems in this cornerstone include improper calibration of a radiation detector that monitors a pathway for the release of potentially contaminated air or water to the environment.
Occupational Radiation Safety	Design features and administrative controls that limit the exposure of plant workers to radiation. Problems in this cornerstone include failure to survey an area properly for sources of radiation, causing workers to receive unplanned exposures; and incomplete accounting of individuals' radiation exposure.
Security	Protection against sabotage that aims to release radioactive material into the environment, which can include gates, guards, and guns. After 9/11, the NRC reduced the discussion of this cornerstone in the public arena.

The NRC's Reaction Oversight Process features seven cornerstones of reactor safety to help inspectors detect problems before they become more serious.

SOURCE: *WWW.NRC.GOV/REACTORS/OPERATING/OVERSIGHT/ROP-DESCRIPTION.HTML.*

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Washington, DC 20006-1232
Phone: (202) 223-6133
Fax: (202) 223-6162

WEST COAST OFFICE
500 12th St., Suite 340
Oakland, CA 94607-4087
Phone: (510) 843-1872
Fax: (510) 843-3785

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March 29, 2013

1412 Dial Court
Springfield, IL 62704

Allison Macfarlane, Chairman
Annette Vietti-Cook, Secretary of the Commission
Bill Borchardt, Executive Director for Operations (EDO)
Darren Ash, Chief Freedom of Information Act Officer
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Appeal for refusal to release documents requested under FOIA/PA Requests 2013-0126, 2013-0127, and 2013-0128

Dear Dr. Macfarlane, Ms. Vietti-Cook, Mr. Borchardt and Mr. Ash:

This letter is an appeal for FOIA/PA 2013-0126 and FOIA/PA 2013-0127 which is being submitted in accordance with 10 CFR §9.25(j):

> *If the NRC does not respond to a request within the 20 working-day period, or within the extended periods described in paragraph (b) of this section, the requester may treat that delay as a denial of the request and immediately appeal as provided in § 9.29(a) or sue in a Federal District Court as noted in § 9.29(c).*

On Tuesday, February 12, 2013 I requested five records from the NRC:

- ML103490330, Oconee Nuclear Site, Units 1, 2, and 3. Oconee Response to Confirmatory Action Letter (CAL) 2-10-003, dated Nov. 29, 2010
- ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011
- ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis
- ML101610083, Oconee Nuclear Station, Units 1, 2, and 3, - External Flood Commitments
- ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures

My incoming FOIA request is included as Enclosure 1.

On February 13, 2013 I was sent an Acknowledgement Letter informing me it would take longer than 20 days for me to receive my response and informing me that the NRC was assigning tracking number 2013-0126 to my request. As of the date of this letter, it has been 44 days since FOIA/PA 2013-0126 was received by the NRC. I have included the NRC's 2013-02-13 acknowledgement letter to me as Enclosure 2.

Please note that the records I have requested all fall within the scope of FOIA 2012-0128 (ML12030A105) which was submitted by Paul Koberstein on January 27, 2012 and received by the NRC on January 30, 2012. I have included Mr. Koberstein's incoming request as Enclosure 3 and the NRC's acknowledgement letter to him as Enclosure 4. So, although my FOIA request (2013-0126) is "only" 44 days old, the NRC has had Mr. Koberstein's request for 425 days and to my knowledge has still not released all the requested records. The only record of response that I can find to Mr. Koberstein's

January 27, 2012 request is a December 4, 2012 partial response (ML12363A094) which I have included as Enclosure 5.

In his January 21, 2009 Memorandum on the Freedom of Information Act, President Obama stated:

> *In responding to requests under the FOIA, executive branch agencies should act promptly and in a spirit of cooperation, recognizing that such agencies are servants of the public.*

I realize that the NRC's FOIA office is understaffed, but taking 44 days to provide five documents – for which they were given the ADAMS Accession numbers – is not acceptable. It is not living up to the President's expectation. Additionally, the documents I requested (two letters of response by a licensee to a Confirmatory Action Letter, a letter from a licensee specifying commitments to address a significant safety concern, a technical evaluation on the probability of dam failures, and a memorandum proposing a Generic Issue on flooding due to dam failures) are documents which should have always been public. In his January 21, 2009 Memorandum, President Obama stated:

> *...agencies should take affirmative steps to make information public. They should not wait for specific requests from the public. All agencies should use modern technology to inform citizens about what is known and done by their Government. Disclosure should be timely.*

When the President states *"what is known and done by their Government"* I am sure you recognize, as I do, that he would consider the five documents requested in FOIA 2013-0126 to fall under that category. The documents I requested are clearly documents which should have been made public without waiting *"for specific requests from the public."*

Of the records I have requested, one (ML103490330) has been released in ADAMS in response to FOIA/PA 2013-0116 by Carl Stelzer. Although I have not been formally informed of the release of ML103490330 by the NRC's FOIA office, since I am now aware that it is publicly available in ADAMS, I can consider it as provided under FOIA 2013-0126 and do not need a hardcopy sent to me.

I am still awaiting the release of the following documents:

- ML111460063
- ML100780084
- ML101610083
- ML101900305

A redacted version of ML100780084 (ML13039A084) was released in ADAMS in response to FOIA/PA 2013-0110 by Paul Blanch, a redacted version of ML101610083 (ML13051A896) was released in ADAMS in response to FOIA/PA 2013-0113 by Joe Carson, and a redacted version of ML101900305 (ML13039A086) was released in ADAMS in response to FOIA/PA 2013-0133 by Kay Drey.

I do not agree with the redactions the NRC's Office of Nuclear Reactor Regulation (NRR) applied to the documents released to Mr. Blanch, Mr. Carson and Ms. Drey. I believe NRR is abusing the scope of FOIA Exemption 7(F). FOIA Exemption 7(F) is meant to protect law enforcement informants. By broadly categorizing protection against sabotage as falling under Exemption 7(F), NRR is bypassing the legislative checks and balances which were meant to occur as part of the Freedom of Information Act. There is a process for redacting information which the NRC believes is useful to saboteurs. That process is to mark

the documents as classified materials or as Safeguards. If neither of these designations legitimately applies, then the process is to go to the US Congress and ask for a new statutory designation for which NRR can use FOIA Exemption 3. Abusing Exemption 7(F) is not what the President expects NRR to do:

> *The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails. The Government should not keep information confidential merely because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears.*

I recognize that the way we have handled the Jocassee/Oconee issue is embarrassing. I recognize that it is embarrassing for us to admit that the original licensing for Oconee Station failed to take into account the probability of flooding due to a failure of Jocassee Dam. I recognize it is embarrassing for us to admit that the flood wall around Oconee is undersized and we have known about it since early 1994 yet have not been able to get Duke Energy to correct it. I recognize that it is embarrassing that it took over two years to route an Information Notice and a Generic Issue on flooding due to upstream dam failures. But, as the President stated, "*The Government should not keep information confidential merely because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears.*"

With regard to "*speculative or abstract fears*", withholding from the public – for over six years – the significant safety liability which Jocassee Dam poses to the three reactors at Oconee Nuclear Station because of vague concerns about terrorism and sabotage is giving into "*speculative or abstract fears*". None of the information redacted from the documents provided to Mr. Blanch, Mr. Carson and Ms. Drey contain any reference to security matters. The weak points in the dam's construction – if there are any – are not revealed. The physical security of the dam – if there is any – is not discussed. All that is revealed by the redacted material is the severe SAFETY liability posed to the public by a failure of Jocassee Dam. It is the President's expectation that "*In the face of doubt, openness prevails*". I have much doubt about NRR's speculative and abstract fears regarding sabotage of Jocassee Dam and I expect openness to prevail. Maybe there is a legitimate security threat to Jocassee Dam, but the information redacted from the documents does nothing to make that security threat worse yet it does plenty to keep the public from being informed "*about what is known and done by their Government.*"

I expect to receive unredacted versions of ML100780084, ML101610083, and ML101900305 as part of FOIA/PA request 2013-0126. If the NRC does not intend to send me unredacted versions of these three documents and if the NRC instead intends to provide me the redacted versions which were provided to Mr. Blanch, Mr. Carson and Ms. Drey, then I expect you to formally tell me in a FOIA response so that I can pursue the release of the requested documents in accordance with 10 CFR §2.29(c). 10 CFR §9.29(c)

Also, I expect to receive an unredacted version of ML111460063 which to my knowledge has never been publicly released by the NRC in either an unredacted or a redacted form since being requested by Paul Koberstein 425 days ago, since being requested by Jim Riccio 191 days ago (ML12263A087), and since being requested by me 45 days ago. I have included Mr. Riccio's request as Enclosure 6.

I recognize that, to the NRC, Paul Koberstein's and Jim Riccio's requests might seem daunting – especially given that emails fall under the documents they seek – but to delay formal correspondence between the NRC and a licensee for 425 days and 191 days respectively is unsatisfactory. The NRC should release ALL correspondence with licensees prior to getting a FOIA request for it. If parts of the correspondence must be withheld, then it should be redacted – but a few sensitive sentences should

not cause an entire piece of correspondence to be withheld. That is what the Attorney General alludes to in his March 19, 2009 Memorandum:

> *"...agencies should readily and systematically post information online in advance of any public request. Providing more information online reduces the need for individualized requests and may help reduce existing backlogs. When information not previously disclosed is requested, agencies should make it a priority to respond in a timely manner. Timely disclosure of information is an essential component of transparency. Long delays should not be viewed as an inevitable and insurmountable consequence of high demand."*

I have included the President's memo as Enclosure 7 and the Attorney General's memo as Enclosure 8 since, apparently, there are some offices within the NRC that didn't get the memo.

Also enclosed with this letter (Enclosure 9) is a five page list of documents relating to the flooding hazard which Jocassee Dam poses to the three reactors at the Oconee Nuclear Station. This list was originally included in a 2012-10-15 letter to the Senate Committee on Homeland Security & Governmental Affairs and in a 2012-11-14 letter to the Senate Committee on the Environment & Public Works. There are 101 documents listed on Enclosure 9. On the list I highlighted thirteen documents which were originally stamped "Official Use Only – Security-Related Information" or some similar designation which prevented them from being shared with the public. All thirteen of these documents were released under the Freedom of Information Act with no redactions, which brings into question why they were originally stamped as needing to be withheld from the public. Was it *"because public officials might be embarrassed by disclosure"*? Was it *"because errors and failures might be revealed"*? Or was it *"because of speculative or abstract fears"*?

Also contained on Enclosure 9 are fifteen documents which were marked "Official Use Only – Security-Related Information" but have since been released with redactions claiming Exemption 7(F). Even if the redactions implemented in response to FOIA Exemption 7(F) were in fact necessary, under the President's and Attorney General's guidance these documents should have still been voluntarily shared in a redacted form prior to the submittal of a FOIA request. Additionally, there are six documents listed which I could not find electronically, and sixty documents which are internally in ADAMS but, despite Mr. Koberstein's and Mr. Riccio's requests, are still non-public. Note that these non-public documents consist of formal correspondence between the NRC and a licensee on a significant safety concern, internal NRC formal memos, internal NRC analysis reports, Power Point presentations, etc. It is my position that we should not wait for Freedom of Information Act requests to release these documents; we should follow the President's and Attorney General's guidance and take *"affirmative steps to make information public"* by posting these documents *"online in advance of any public request"* in order to *"use modern technology to inform citizens about what is known and done by their Government"*.

It is impossible for the public to ask for documents on an issue when they do not even know that the issue exists. By designating the flooding hazard posed by Jocassee Dam as "Security-Related Information", the Office of Nuclear Reactor Regulation (NRR) was able to successfully keep this issue from public scrutiny for over five years – until the March 2012 public release of the highly redacted screening report for GI-204 by the Office of Nuclear Regulatory Research (RES) brought this issue to the attention of intervener groups. Once these groups realized this issue existed, they desired information on it. Was it right for the NRC to keep this important safety concern from the public for so long? Is that what President Obama expects of us? I do not profess to be able to read the President's mind. But I do profess to be able to read and understand English. And the memo the President released on his

inauguration day regarding the Freedom of Information Act is very concisely and clearly written in plain English. The President expects Open Government. If there is truly a security concern with some of the information regarding the Jocassee/Oconee issue, then the President expects us to specifically withhold those pieces of sensitive information that might enable terrorists to defeat our security defenses. But I do not believe the President expected us to withhold, in its entirety, a significant safety issue from the American people for over half a decade.

In addition to the five documents requested under FOIA 2013-0126, on Tuesday, February 12, 2013 I also requested the following documents:

- A 2012-09-18 email which I had sent to NRC Chairman Allison Macfarlane, US Special Counsel Carolyn Lerner, NRC Inspector General Hubert Bell, Deputy Inspector General David Lee, NRC General Counsel Marian Zobler, and NRC Nuclear Security and Incident Response Office Director Jim Wiggins (the subject of the email was "*Inadequately Sized Flood Wall at Oconee Nuclear Station Could Lead to Fukushima Scenario in the Event of a Failure of the Lake Jocassee Dam*")
- A letter dated 2012-09-18 to NRC Chairman Macfarlane which was attached to the email mentioned above (the email attachment containing the letter was entitled "*Jocassee Dam Failure Concerns.pdf*")

My incoming FOIA request is included as Enclosure 10.

On February 13, 2013 I was sent an Acknowledgement Letter informing me it would take longer than 20 days for me to receive my response and informing me that the NRC was assigning tracking number 2013-0127 to my request. As of the date of this letter, it has been 44 days since FOIA/PA 2013-0127 was received by the NRC. I have included the NRC's 2013-02-13 acknowledgement letter to me as Enclosure 11.

I was hoping my 2012-09-18 letter to the NRC Chairman would lead to a discussion on the way the agency has handled concerns regarding flood protection at the Oconee Nuclear Station, not just from a safety and security perspective but also from the perspective of transparency and Open Government. Instead, the only response that I received from the Chairman's office was an email from her legal counsel informing me that the Chairman had referred my letter to the Inspector General. On January 17, 2013 I met with two Special Agents from the NRC's Office of the Inspector General who interrogated me under oath for several hours to assess whether there exists adequate evidence to indict me with a federal felony[1] for including in my letter to the Chairman information which I had obtained from accessing the NRC's internal Agencywide Document Access and Management System (ADAMS) and for failing to designate my letter as "Official Use Only – Security-Related Information". This criminal investigation is occurring even though:

- My 2012-09-18 letter was not sent outside the federal government. All the people to whom I sent it were either NRC employees, Congressional staffers, or the US Special Counsel. As a licensed Professional Engineer and as a federal servant it is my belief that I have a duty (as well as a right[2]) to report to Congressional oversight committees when I do not believe the

[1] 18 USC §1030, The Computer Fraud and Abuse Act of 1984 as modified by the USA PATRIOT Act

[2] The Lloyd-LaFollette Act of 1912 was codified as 5 USC §7211 – Employees' right to petition Congress: *The right of employees ... to furnish information to either House of Congress, or to a committee or Member thereof, may not be interfered with or denied.*

management at my agency is adequately addressing significant safety concerns despite being internally forewarned of shortcomings for several years.[3]

- None of the information contained in the letter was classified as Restricted Data or Formerly Restricted Data (42 USC §2161-2165) nor was any of it designated as Unclassified Safeguards Information (43 USC §2167).
- Although some of the documents were marked as "Official Use Only – Security-Related Information", according to the NRC's FOIA office this marking is "*an unofficial administrative marking that has no legal import*" and is "*not indicia of any national security classification*" (see Enclosure 12). Furthermore, the "Official Use Only – Security-Related Information" documents from which I quoted were not portion marked and therefore it is impossible to tell what parts of the documents were considered non-public by the NRR personnel who marked the documents. From my reading of the relevant guidance (10 CFR §2.390[4], NRC MD 12.6,[5] SECY-04-0191,[6] a policy statement,[7] and several conflicting[8] announcements posted on internal NRC intranet pages) it is my assessment that the material contained in my letter to the Chairman is nothing the NRC is required to withhold from the public.

On October 9, 2012 Dave Lochbaum of the Union of Concerned Scientists requested my 2012-09-18 letter to the NRC Chairman. Mr. Lochbaum's request was registered by the NRC as FOIA 2013-0008 (ML12283A329). It is included as Enclosure 13. On October 15, 2012 Tom Zeller of the Huffington Post requested my 2012-09-18 letter to the NRC Chairman. Mr. Zeller's request was registered by the NRC as FOIA 2013-0013 (ML12290A070). It is included as Enclosure 14. Mr. Zeller also requested "expedited processing" for his request.

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[3] There are some who have told me my first duty is to attempt to internally address my concerns through my chain of command. However, there are plenty of technical experts within NRR who had been attempting to internally address this concern for several years (e.g. Melanie Galloway, Jeff Mitman, Fernando Ferrante). I failed to see how I could have internally prevailed where they had not and chose instead to appeal to the Chairman and our Congressional oversight. It has been my experience from other issues (e.g. the 2003-10-21 unrecognized passive reactor shutdown at Callaway Plant) that the NRC's internal concerns resolution processes do not function adequately, and those processes had already been unsuccessfully used by NRR personnel attempting to address this issue (e.g. ML091170104 – Galloway's non-public NCP form, ML110260443 – Mitman's non-public NCP form).

[4] 10 CFR §2.390, Public inspection, exemptions, requests for withholding.

[5] Management Directive 12.6, NRC Sensitive Unclassified Information Security Program (ML041700603)

[6] SECY-04-0191, Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure (ML042310663)

[7] NRC Policy for Handling, Marking, and Protecting Sensitive Unclassified Non-Safeguards Information (ML052990146)

[8] On October 26, 2012 I wrote an 8 page email to my union representation advising them of the poor condition of the guidance for Official Use Only information. Management Directive 12.6 is from 1999 (i.e. two years prior to the drastic information handling changes resulting from the 2001-09-11 attacks) and is woefully out of date as evidenced by the need to sort through conflicting guidance in SECY papers, policy statements and intranet announcements to resolve significant questions. I also wrote a two page email on October 25, 2012 to NRC Facilities Security (the program owner for MD 12.6) detailing some of this conflicting guidance. Both these emails were captured in internal NRC ADAMS as ML12313A059. These emails had been meant to point out a problem in the hopes of reaching a dialogue to produce solutions; they were not merely meant to be finger pointing. However, thus far no dialogue has ensued and instead the NRC has labeled ML12313A059 as "Allegation Material". As typical of the so-called "allegations" which others have submitted to the Inspector General in my name, no one investigating it has yet engaged me to discuss it. Since my Office Director and my Union President have been unreceptive to my concerns, I do not expect you to engage me to address them either. But if anyone is interested, my concerns regarding the marking and handling of SUNSI are provided in ML12313A059.

Admittedly, my 2012-09-18 letter to Dr. Macfarlane was long (19 pages plus a two page enclosure). But the NRC has had my request for 45 days, Mr. Zeller's "expedited processing" request for 134 days, and Mr. Lochbaum's request for 140 days. It is ludicrous that it would take 140 days for the NRC to determine what parts of my 2012-09-18 letter can be released to the American public. Hopefully you recognize, as I do, that taking 140 days to respond to FOIA 2013-0008 is not living up to the President's and Attorney General's ideals of Open Government: *"When information not previously disclosed is requested, agencies should make it a priority to respond in a timely manner. Timely disclosure of information is an essential component of transparency. Long delays should not be viewed as an inevitable and insurmountable consequence of high demand."*

I ask that you consider the Attorney General's memo and, with regard to my, Mr. Lochbaum's and Mr. Zeller's requests, *"make it a priority to respond in a timely manner"*. And please remember:

> *The Freedom of Information Act should be administered with a clear presumption: In the face of doubt, openness prevails. The Government should not keep information confidential merely because public officials might be embarrassed by disclosure, because errors and failures might be revealed, or because of speculative or abstract fears.*

I also made a third request under the Freedom of Information Act on February 12, 2013:

> ML091170104, Oconee Nuclear Station, Units 1, 2 And 3 – Non-concurrence on Evaluation of Duke Energy Carolinas, LLC September 26, 2008, Response to Nuclear Regulatory Commission Letter Dated August 15, 2008 Related to External Flooding

I have included this request as Enclosure 15. On February 13, 2013 the NRC recorded this request as FOIA 2013-0128; I have included the NRC's acknowledgement letter as Enclosure 16.

Ms. Galloway's Non-Concurrence Form falls within the scope of both Paul Koberstein's January 27, 2012 request and Jim Riccio's September 18, 2012 request. So, although I have "only" been waiting 45 days, Mr. Koberstein has been waiting 425 days and Mr. Riccio 191 days – for a 19 page document.

Most of Ms. Galloway's Non-Concurrence Form is stamped "Official Use Only – Security-Related Information" despite not addressing any security related topics. Everything in her Non-Concurrence is a safety concern, not a security concern.

On page 17 of her Non-Concurrence Form, it is denoted that Ms. Galloway "Wants NCP Form Non-Public". It is unclear why this block was checked. Was it checked because in April 2009 Ms. Galloway was embarrassed by having the fortitude and independence to, without the benefit of the example of the Fukushima Dai-ichi accident (this was two years prior to that flooding-induced accident), stand apart from the rest of her management in NRR and insist that the flood risks posed by Jocassee Dam to the reactors at Oconee was a credible threat that needed to be rigorously vetted and addressed? Or was it checked because Ms. Galloway was aware of NRR's designation of this topic as a "Security-Related" issue and so, as part of the NRR management team (she was a Deputy Division Director), felt she could not check the block for "Wants NCP Form Public" because that could imply she was disagreeing with the "Security-Related" designation of the Jocassee/Oconee issue? These are not rhetorical questions. These are questions you need to answer as part of processing this appeal. Why is the Non-Concurrence Form of a Deputy Division Director on a letter to a licensee concerning a serious safety issue – yet

containing no discussion of security vulnerabilities – being withheld from the public? Is it *"because public officials might be embarrassed by disclosure"*? Is it *"because errors and failures might be revealed"*? Or is it *"because of speculative or abstract fears"*?

Again, this is an appeal of a de-facto decision by the NRC to withhold from release the following documents:

1. ML111460063, which was requested under FOIA 2013-0126
2. ML100780084, which was requested under FOIA 2013-0126
3. ML101610083, which was requested under FOIA 2013-0126
4. ML101900305, which was requested under FOIA 2013-0126
5. my 2012-09-18 email to the NRC Chairman, which was requested under FOIA 2013-0127
6. my 2012-09-18 letter to the NRC Chairman, which was requested under FOIA 2013-0127
7. ML091170104, which was requested under FOIA 2013-0128

If I do not receive unredacted versions of these seven requested documents by May 13, 2013, then I intend to continue the appeal process in accordance with 10 CFR §9.29(c). So please conform to the President's and Attorney General's desires—for the clear presumption of openness prevailing in the face of doubt and for the timely processing of FOIA requests/appeals—by immediately releasing the documents I have requested.

Although I live in Springfield, IL, I work in Rockville, MD. Please do not send documents to my home in Springfield, IL as I will not get them in a timely manner. Please send all written correspondence to me via email at LSCriscione@hotmail.com. If your processes will not allow you to do this, then please contact me via phone or email and I will come by the FOIA desk to pick up the correspondence.

Very respectfully,

Lawrence S. Criscione, PE
(573) 230-3959

Enclosures (16)

Cc: Billie Garde, Esq., Clifford & Garde
Louis Clark, The Government Accountability Project
Paul Koberstein, Cascadia Times
Kay Drey, Beyond Nuclear
Carl Stelzer, reporter
Paul Blanch, consultant
Joe Carson, Affiliation of Christian Engineers
Jim Riccio, Greenpeace
David Lochbaum, Union of Concerned Scientists
Tom Zeller, Huffington Post

A major flaw in our system of government, and even in industry, is the latitude to do less than is necessary. Too often officials are willing to accept and adapt to situations they know to be wrong. The tendency is to downplay problems instead of actively trying to correct them. –Admiral Rickover, 1982

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON D.C. 20555-0001

February 13, 2013

FOIA/PA-2013-00126

Lawrence Criscione
1412 Dial Court
Springfield, IL 62704

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on February 13, 2013.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA-2013-00126**

To ensure the most equitable treatment possible of all requesters, the NRC processes requests on a first-in, first-out basis, using a multiple track system based upon the estimated time it will take to process the request. Based on your description of the records you are seeking, we estimate completion of your request will be over 20 working days. We will advise you of any change in the estimated time to complete your request.

Due to the unexpected events in Japan in March 2011, the NRC is processing a larger than normal volume of FOIA requests including some that have qualified for expedited processing and have therefore been placed at the front of the queue. We are doing our best to process all requests in a timely manner but our response times are being affected. We appreciate your understanding.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: **Non-Excepted.** If applicable, you will be charged appropriate fees for: **Search and Duplication of Records.**

A sheet has been enclosed that explains in detail the fee charges that may be applicable. **Please do not submit any payment unless we notify you to do so.**

The following person is the FOIA/PA Specialist who has been assigned responsibility for your request: **Linda Kilgore** at **301-415-5775.**

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Specialist or me at (301) 415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosures:
Incoming Request
Explanation of Fees

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 30, 2012

FOIA/PA-2012-00128

Paul Koberstein
Cascadia Times
4037 N. Overlook Terrace
Portland, OR 97227

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on January 30, 2012.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA-2012-00128**

To ensure the most equitable treatment possible of all requesters, the NRC processes requests on a first-in, first-out basis, using a multiple track system based upon the estimated time it will take to process the request. Based on your description of the records you are seeking, we estimate completion of your request will be over 20 working days. We will advise you of any change in the estimated time to complete your request.

Due to the unexpected events in Japan, the NRC is experiencing a larger than normal volume of FOIA requests including some that have qualified for expedited processing and have therefore been placed at the front of the queue. We are doing our best to process all requests in a timely manner but our response times are being affected. We appreciate your understanding.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: **News Media Representative.** If applicable, you will be charged appropriate fees for: **Duplication Only.**

A sheet has been enclosed that explains in detail the fee charges that may be applicable. **Please do not submit any payment unless we notify you to do so.**

The following person is the FOIA/PA Specialist who has been assigned responsibility for your request: **Linda Kilgore** at **301-415-5775.**

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Specialist or me at (301) 415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosures:
Incoming Request
Explanation of Fees

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 13, 2013

FOIA/PA-2013-00127

Lawrence Criscione
1412 Dial Court
Springfield, IL 62704

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on February 13, 2013.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA-2013-00127**

To ensure the most equitable treatment possible of all requesters, the NRC processes requests on a first-in, first-out basis, using a multiple track system based upon the estimated time it will take to process the request. Based on your description of the records you are seeking, we estimate completion of your request will take more than 20 working days. We will advise you of any change in the estimated time to complete your request.

Due to the unexpected events in Japan in March 2011, the NRC is processing a larger than normal volume of FOIA requests including some that have qualified for expedited processing and have therefore been placed at the front of the queue. We are doing our best to process all requests in a timely manner but our response times are being affected. We appreciate your understanding.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: **Non-Excepted.** If applicable, you will be charged appropriate fees for: **Search and Duplication of Records.**

A sheet has been enclosed that explains in detail the fee charges that may be applicable. **Please do not submit any payment unless we notify you to do so.**

The following person is the FOIA/PA Specialist who has been assigned responsibility for your request: **Linda Kilgore** at **301-415-5775.**

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Specialist or me at (301) 415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosures:
Incoming Request
Explanation of Fees

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 15, 2012

FOIA/PA-2013-00034

David Lochbaum
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415

Dear Mr. Lochbaum:

This is in reference to your Freedom of Information Act (FOIA) request submitted on November 9, 2012 (copy enclosed), in which you requested every record on any subject marked by any NRC employee as "Official Use Only" (OUO) from February 1, 2012 through April 30, 2012. Your stated intent is to conduct an "audit" of the Agency's classification practices.

After careful consideration, we have determined that your request does not "reasonably describe" the records sought, but rather is a broad, sweeping, indiscriminate request for production, lacking reasonable specificity. As such, the request fails to meet the threshold requirements of 5 U.S.C. 552(a)(3) and 10 C.F.R. 9.23(a)(1)(i). "OUO" is an unofficial administrative marking that has no legal import, and only serves as an alert that the document should be reviewed before release in response to a FOIA request or other public disclosure. Other examples of such markings are Privileged, Deliberative, FOIA Sensitive, etc. They are not indicia of any national security classification, nor are they dispositive determinations as to any FOIA exemptions. Each document responsive to a FOIA request is individually reviewed and a determination as to the application of FOIA exemptions is made without regard to administrative markings such as "OUO."

Records responsive to your request could be located throughout the various Offices, Divisions, Branches, etc. of the NRC. Short of examining every paper and electronic document possessed by NRC, we could not state with any degree of confidence that all records marked "OUO" have been located. In view of the scope and nature of your request, the documents being sought, and the considerations expressed above, we conclude that your request does not meet the requirements of 5 U.S.C. 552(a)(3) and 10 C.F.R. 9.23(a)(1)(i). Accordingly, no further action will be taken with respect to this request.

If you consider this response to be a denial of your request, you may appeal this determination within 30 days to the Executive Director for Operations. As provided in 10 CFR 9.29, any such appeal must be in writing, addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should clearly state on the envelope and in the letter that it is an "Appeal from an Initial FOIA Decision."

Sincerely,

/S/

Donna L. Sealing
Freedom of Information Act/Privacy Act Officer
Office of the Chief Information Officer

Enclosure:
Incoming Request

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 13, 2013

FOIA/PA-2013-00128

Lawrence Criscione
1412 Dial Court
Springfield, IL 62704

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on February 13, 2013.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA-2013-00128**

To ensure the most equitable treatment possible of all requesters, the NRC processes requests on a first-in, first-out basis, using a multiple track system based upon the estimated time it will take to process the request. Based on your description of the records you are seeking, we estimate completion of your request will be over 20 working days. We will advise you of any change in the estimated time to complete your request.

Due to the unexpected events in Japan in March 2011, the NRC is processing a larger than normal volume of FOIA requests including some that have qualified for expedited processing and have therefore been placed at the front of the queue. We are doing our best to process all requests in a timely manner but our response times are being affected. We appreciate your understanding.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: **Non-Excepted.** If applicable, you will be charged appropriate fees for: **Search and Duplication of Records.**

A sheet has been enclosed that explains in detail the fee charges that may be applicable. **Please do not submit any payment unless we notify you to do so.**

The following person is the FOIA/PA Specialist who has been assigned responsibility for your request: **Linda Kilgore** at **301-415-5775.**

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Specialist or me at (301) 415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosures:
Incoming Request
Explanation of Fees

FOIA/PA REQUEST
Case No.: 2013-0262
Date Rec'd: 6/12/13
Specialist:
Related Case: 2013-0008

FOIA Resource

From:	Lawrence Criscione <lscriscione@hotmail.com>
Sent:	Tuesday, June 11, 2013 10:32 PM
To:	Sealing, Donna; FOIA Resource
Cc:	tomd@whistleblower.org; Billie Garde; sshepherd@cliffordgarde.com; Dave Lochbaum; Tom Zeller; jruch@peer.org; kdouglas@peer.org; Louis Clark; cmcmullen@osc.gov; clerner@osc.gov; Michal Freedhoff; Houlihan Bill
Subject:	FOIA Request for November 15, 2012 submissions of FOIA 2013-0008/13 and January 25, 2013 "Referral Package" mentioned in ML13149A079

Ms. Sealing:

Please process this email as a Freedom of Information Act request.

ML13149A079, "*Second Quarter Operating Plan FY-2013*", contains a 23-page table which stretches from page 12 to page 34. The table does not have a title but appears to be a listing of all open FOIA requests in the offices of the Commission (although this might not be the case since FOIA request 2013-0127 and FOIA appeal 2013-010A are not on the list).

On page 25 of the table there are two entries for FOIA 2013-0008. One of the entries shows that FOIA 2013-0008 was received by the NRC on October 10, 2012 and provided to the SECY/Commission that same day. The entry further shows that the SECY completed the processing of FOIA 2013-0008 on October 26, 2012 and provided their final submittal to the FOIA office on November 15, 2012.

FOIA 2013-0008 is the tracking number which the NRC assigned to the October 9, 2012 (ML12283A329) FOIA request from Dave Lochbaum in which he requested one document:

> *Letter dated September 18, 2012, from NRC staffer Lawrence Criscione to NRC Chairman Alison Macfarlane about nuclear plant vulnerabilities to flooding.*

I have not seen the acknowledgement letter which we provided to Mr. Lochbaum, but I assume that - like all our acknowledgement letters in the past two years - we took advantage of the March 11, 2011 earthquake and tsunami in Japan to allot ourselves an extra 10 working days to process Dave's FOIA. Note that the SECY completed the FOIA request by October 26, 2012 (12 working days after receiving it) so the legally mandated 20 working day window could have easily been met. But assuming we gave ourselves the extra 10 working days, the 30 day window for processing Dave's FOIA would have expired on November 21, 2012. Since the SECY submitted the requested document to the FOIA office by November 15, 2012, this should have allowed plenty of time to get Mr. Lochbaum his requested document within the legally required time frame prescribed in the Freedom of Information Act.

As with most FOIA's at the NRC, the 20 & 30 working day windows came and went without any documents being provided. Then, after waiting 17 weeks, on February 6, 2013 we provided Mr. Lochbaum a partial response to his FOIA request (ML13039A087). This "partial response" did not contain the one and only document requested by Mr. Lochbaum, but instead contained three documents which had been released by NRR under previous FOIA requests and two other NRR documents which had been sent to the Chairman in the same email that had transmitted the requested letter. Since the SECY had completed the processing of the

2012-09-18 letter to the Chairman on October 26, 2012, it is not understood why this letter was not included in the first partial response sent to Mr. Lochbaum.

On February 20, 2013 we sent Dave a second partial response (ML13051A897) and on April 9, 2013 we sent him a third (ML13099A248). As with the first partial response, the one and only document he had actually requested (i.e. the 2012-09-18 letter to the NRC Chairman) was not included despite it having been processed by the SECY by October 26, 2012. In fact, after nearly nine months (167 working days) we have still not provided Mr. Lochbaum the sole document he requested under FOIA 2013-0008.

On page 26 of the table in ML13149A079, there is an entry for FOIA 2013-0013 showing that it was received by the NRC on October 16, 2012 and provided to the Commission SECY that same day. The entry further shows that the SECY completed the processing of FOIA 2013-0013 on October 26, 2012 and provided their final submittal to the FOIA office on November 15, 2012.

FOIA 2013-0013 is the tracking number which the NRC assigned to the October 16, 2012 (ML12290A070) FOIA request by Tom Zeller in which he requested two documents:

> ***The September 18, 2012 email and letter from Lawrence Criscione to Chairman Macfarlane regarding the Lake Jocassee Dam and the threat to Oconee Nuclear Station.***

At the time, Mr. Zeller was working on an article regarding the NRC's handling of the flooding concerns which a catastrophic failure of the Lake Jocassee Dam poses to the three reactors of the Oconee Nuclear Station and he thusly requested expedited processing of his request. I am unaware of whether or not we formally denied Tom's request for expedited processing, but we certainly did not honor it. After 162 working days, we have still not provided Mr. Zeller the two documents for which he requested expedited processing.

On February 27, 2013 (ML13064A211) we provided Mr. Zeller a "partial response" which contained a listing of seven records which had already been released to others under separate FOIA requests. None of the documents provided had been specifically requested under FOIA 2012-0013 and the two documents which Mr. Zeller had requested were absent - despite having been provided to the NRC's FOIA office by the SECY on October 26, 2012.

On April 18, 2013 (ML131060026) we provided Mr. Zeller with a second partial response which again did not contain either of the two documents specifically requested under FOIA 2013-0013.

On page 25 of the table in ML13149A079, there is an entry showing that FOIA 2013-0008 was referred from the NRC FOIA Office back to the SECY on January 25, 2013. This was just over one week after my very confrontational January 17. 2013 interrogation by two special agents of the NRC's Office of the Inspector General regarding to whom in Congress I copied my 2012-09-18 letter and whether or not my actions constituted a federal felony under 18 USC § 1030. The entry further shows that the "Referral Package" was sent to the SECY/Commission on February 1, 2013, was due back to the FOIA office on February 8, 2013, but after having the referral over 18 weeks has yet to be processed by the Office of the Chairman.

Pursuant to the Freedom of Information Act (5 USC § 552) and NRC regulations (10 CFR § 9.25) I request that within 20 working days the NRC either provide me the following documents or provide me an explanation as to what exemptions authorize their withholding:

1. Any and all correspondence, emails, memos and notes regarding the Office of the Chairman's November 15, 2012 submittal of FOIA package 2013-0008 and 2013-0013 to the NRC FOIA Office, including the versions of the 2012-09-18 email and letter which were submitted (please refer to the entries regarding incoming FOIA requests for 2013-0008 and 2013-0013 on pages 25 and 26 of ML13149A079).
2. Any and all correspondence, emails, memos and notes regarding the "Referral Package" of FOIA 2013-0008 which was received from the FOIA Office on January 25, 2013 and sent to the SECY/Commission on February 1, 2013 (please refer to the last entry on the table of p. 25 of ML13149A079).

Although expedited processing might be justified, I am not requesting any special treatment of this FOIA request. All I ask is that you follow federal law and our own NRC regulations and either provide me unredacted versions of the requested documents within 20 working days (i.e. by July 10, 2013) or provide me with an explanation as to why the requested documents cannot be provided. I realize that the NRC is blanketly extending all FOIA requests due to the March 11, 2011 earthquake and tsunami that occurred in Japan, but I hardly think that issue will legitimately prevent you from meeting the 20 working day allotment for this request.

I do not intend to pay any fees to obtain the documents above. I believe I have aptly described what I am seeking and your search time should be minimal. Additionally, the information requested pertains to three apparently high profile and contentious FOIA requests and at least one FOIA appeal and thus these documents should be readily obtained by the involved parties.
Describe the purpose for which you intend to use the requested information.

Like Mr. Lochbaum and Mr. Zeller, I two have an outstanding FOIA request for my 2012-09-18 email and letter to the NRC Chairman (FOIA 2013-0127). My request (February 13, 2013) is nearly four months old and the appeal of that request (FOIA 2013-010A submitted on March 29, 2013) is 51 working days old, yet I still have not received the two documents I requested. I need the documents requested in items 1 and 2 above so that I might use them in a law suit I am preparing concerning some of my overdue FOIA appeals and so that I might use them in filling out an OSC Form 12 regarding the NRC's blatant violation of the time commitments prescribed in the Freedom of Information Act.
Explain the extent to which you will extract and analyze the substantive content of the requested records.

I will thoroughly read every word of every document you provide me so that I might understand the NRC's rationale for not following its legally required time commitments under the FOIA and its own regulations with regard to its processing of FOIA 2013-0008, 2013-0013, 2013-0127 and 2013-010A.

Describe the nature of the specific activity or research in which you will use the requested records and the specific qualifications you possess to utilize information for the intended purpose in such a way that it will contribute to public understanding.

I hold a Professional Engineer's (PE) license in the State of Iowa in the Nuclear Engineering Branch. I am a former NRC licensed Senior Reactor Operator (SRO) and was formerly a Prospective Nuclear Engineer Officer (PNEO) in the US Navy's submarine force. I am a Risk Professional and current work as a Risk & Reliability Engineer in the NRC's Office of Nuclear Regulatory Research (RES). I intend to use these documents to gain an understanding of what, if anything, is preventing the NRC from meeting its legally required time commitments for processing FOIA 2013-0008, 2013-0013, 2013-0127 and 2013-010A. I will share my findings with Mr. Lochbaum of the Union of Concerned Scientists, Mr. Zeller of the Huffington Post, Mr. Ruch of Public Employees for Environmental Responsibility, Mr. Devine of the Government Accountability Project and with

any other member of the public, member of the press, or member of a public watchdog group who expresses interest in the matter.

Describe the likely impact on the public's understanding of the subject, compared to the level of public understanding of the subject before disclosure of the requested information.

I think that when the public realizes why the NRC is violating their Freedom of Information Act required time commitments, they will have a better understanding that the NRC's Office of the Chairman has been keeping important information from them in order to protect her image.

Describe the size and nature of the public segment whose understanding will be increased by disclosing the requested information.

Possibly a dozen individuals due to my efforts.

Describe the means by which you intend to disseminate the requested information to the general public.

I do not intend to directly disseminate the requested information to the general public. I intend file an OSC Form 12 and to file a lawsuit in FOIA court. I intend to share the documents pertaining to my OSC disclosure and lawsuit with Mr. Zeller, Mr. Lochbaum, and anyone else interested.

Indicate whether you will provide public access to the requested information free of charge or in return for an access or publication fee.

I do not intend to provide the public any access to the requested information either free or for a fee. I intend for the NRC to disseminate this information free of charge by making it publicly available in ADAMS.

Describe any commercial or private interest that you or any other party may have in the requested records.

I have no commercial interest in these records. My private interest is I am a believer in Open Government and am being harassed by the NRC's Office of the Inspector General for providing "Official Use Only - Security-Related Information" to Congressional staffers and the US Special Counsel.

There are some within the NRC who might claim this FOIA request contains "allegations". This email is merely a request for documents under the Freedom of Information Act. Although I believe the NRC Office of the Chairman has been stonewalling the release of my 2012-09-18 letter to the Chairman, the intent of this email is not to make that allegation. The purpose of this FOIA request is to obtain documents to refine my understanding of why my 2012-09-18 letter has not yet been released. Once I believe I have a sufficient understanding of why the NRC is disregarding the Freedom of Information Act time limits with regard to FOIA 2013-0008, 2013-0013, 2013-0127 and 2013-010A, I intend to make an allegation to the US Office of the Special Counsel via an OSC Form 12 disclosure. Please process this email as a request under the Freedom of Information Act and do not waste the taxpayers' money by submitting yet another allegation to the Office of the Inspector General.

I work in Rockville, MD and make it home to Illinois infrequently. Please correspond with me via email regarding this matter or call/text me at 573-230-3959. If there are documents you must provide to me as hardcopies, please contact me by phone or email and I will come by the FOIA desk to pick them up. I will pay whatever fees are required to obtain the requested document.

V/r,
Larry Criscione
573-230-3959

Criscione, Lawrence

From: Cook, Christopher
Sent: Monday, August 22, 2016 7:35 AM
To: Criscione, Lawrence; Salley, MarkHenry; Peters, Sean
Cc: Rivera-Varona, Aida; Harvey, Brad; Correia, Richard
Subject: RE: response: Style Sheet for JLD Flooding Review Documents
Attachments: R2.1_SA_Template_FINAL_ML13218A150.pdf

The 66-page redlined draft is withheld in full under ex5.

Larry,
The file you attached is a draft job aid that Mark McBride created (he called it a Style Sheet), but he did not finish it before he retired. No one has worked on the job aid since he retired.

Our staff assessment template is ML13218A150 (attached) and was completed in September 2013. Please note that the template is a non-public document in ADAMS.

Since 2014, we have issued approximately 22 staff assessments. Over the years, our staff assessments have evolved as a result of Commission direction and as we have tried to improve our products. For example, all staff assessments issued in 2016 were written after issuance of an Interim Staff Letter (ISR) to the licensee (for example, here's Salem Generating Station's ISR Letter: ML15244B266). In 2013 and when the template was finished, the concept of an ISR did not exist. Therefore, if you compare our most recent staff assessment to the template, you will see that our staff assessments generally follow the 2013 template. However, we also evolved as the process changed in response to Commission direction plus we're always trying to improve.

In summary, the best guidance I can provide is a reference to our most recent staff assessments plus the attached 2013 template.

Regards,
Chris

From: Criscione, Lawrence
Sent: Friday, August 19, 2016 12:56 PM
To: Cook, Christopher <Christopher.Cook@nrc.gov>; Salley, MarkHenry <MarkHenry.Salley@nrc.gov>; Peters, Sean <Sean.Peters@nrc.gov>
Cc: Rivera-Varona, Aida <Aida.Rivera-Varona@nrc.gov>; Harvey, Brad <Brad.Harvey@nrc.gov>; Correia, Richard <Richard.Correia@nrc.gov>
Subject: RE: response: Style Sheet for JLD Flooding Review Documents

Chris,

I got the document from an NRO colleague who received it from Mark McBride in 2015.

I'm reviewing the Chairman's response to the Office of Special Counsel's referral regarding my disclosure on the NRC's handling of flooding hazards.

The flooding reviews are being conducted as "staff assessments" vice as "safety evaluations". Safety evaluations are handled under LIC-101. I'm trying to determine what the guidance is for "staff assessments".

The purpose of my questions to you are two-fold:

1. To find out if the attached document is the only guidance there is for conducting staff assessments and, if there is other guidance, to find out where it is at so I can review it.

2. To find a clean copy of the attached document so that I can reference it in my comments on the Chairman's response to the Office of Special Counsel.

So, that being said:

- Do you know of any guidance your staff uses when conducting their staff assessments of the flooding reviews (other than the attached document)?
- Do you know if the attached version is in ADAMS and—if not—can you tell me who the current document owner is and where I can find the latest version of the document?

Thanks,
Larry
573-230-3959

From: Cook, Christopher
Sent: Friday, August 19, 2016 12:32 PM
To: Criscione, Lawrence <Lawrence.Criscione@nrc.gov>; Salley, MarkHenry <MarkHenry.Salley@nrc.gov>; Peters, Sean <Sean.Peters@nrc.gov>
Cc: Rivera-Varona, Aida <Aida.Rivera-Varona@nrc.gov>; Harvey, Brad <Brad.Harvey@nrc.gov>
Subject: response: Style Sheet for JLD Flooding Review Documents

Larry,
Where did you find this document? I think it was produced as a job aid for my branch and it lives out on the JLD SharePt site, but I'm not sure. Can you also let me know the purpose for your question?

I'm also trying to understand the nexus between your 3 questions, our other DRA activities (primarily in DRA/FXHAB), and what you're trying to accomplish.

I've included Mark Salley and Sean Peters in case they prefer to respond instead.

Thanks,
Chris

Christopher B. Cook, Ph.D., P.E.
Chief, Hydrology and Meteorology Branch 1
US NRC, Office of New Reactors
(301) 415-6397
Christopher.Cook@nrc.gov

From: Criscione, Lawrence
Sent: Friday, August 19, 2016 11:47 AM
To: Cook, Christopher <Christopher.Cook@nrc.gov>
Cc: Rivera-Varona, Aida <Aida.Rivera-Varona@nrc.gov>; Harvey, Brad <Brad.Harvey@nrc.gov>
Subject: RE: Style Sheet for JLD Flooding Review Documents

Chris,

I was told Aida is out sick today and it looks like she is on vacation next week. Mark McBride has apparently retired.

I am attempting to find the guidance used by the NRC staff to conduct the "Staff Assessments" of the flooding reviews. I just spoke with Brad Harvey and he doesn't think we have any such guidance—other than the out-of-date style guide attached to this email.

Do you know of any guidance that your staff uses when conducting their staff assessments of the flooding reviews? Do you know if the attached document is in ADAMS? If not, can you tell me who the current document owner is and where I can find the latest version of the document?

Thank you,
Larry
Lawrence S. Criscione
573-230-3959

From: Criscione, Lawrence
Sent: Friday, August 19, 2016 11:18 AM
To: Rivera-Varona, Aida <Aida.Rivera-Varona@nrc.gov>
Subject: Style Sheet for JLD Flooding Review Documents

Aida,

The person listed as the owner of the attached document (Mark McBride) no longer works for the NRC but he was in your branch. Do you know where the attached document is located? Is it in ADAMS? Is it possible for me to get the most current revision (i.e. one without unaccepted changes)?

I am trying to find guidance on conducting Staff Assessments. Other than this document, where is the guidance for conducting a Staff Assessment?

Thanks,

Larry

Lawrence S. Criscione
Reliability & Risk Engineer
RES/DRA/HFRB
T10-B44
(573) 230-3959

From: Dean, Bill
Sent: Thursday, June 05, 2014 10:46 AM
To: Heinly, Justin; Werkheiser, David; Dodson, Douglas; Perry, Neil; Rich, Sarah; Rutenkroger, Scott
Cc: Nieh, Ho; Scott, Michael; Lorson, Raymond; Trapp, James; Lew, David; Bower, Fred; McKinley, Raymond; Schroeder, Daniel; Burritt, Arthur; Dentel, Glenn; Powell, Raymond; DeFrancisco, Anne; Warnek, Nicole; Greives, Jonathan; Schmidt, Wayne; Cahill, Christopher; Cook, William; Daun, Travis; Bickett, Brice
Subject: FW: St. Lucie Jan 9 Reactor Auxiliary Building Flooding Video

So in reflecting on this video and the chronology of an actual recent St. Lucie flooding event described below (I am sure that Jon is having some flashbacks from the Susquehanna event a few years ago seeing the water pour out of electrical boxes) that happened earlier this year during a massive rainstorm, I can't help but think about how you have recently identified vulnerabilities at your sites related to flooding protection that have helped to preclude such an event from occurring. Thanks for being vigilant and finding these vulnerable areas so they could be addressed before the incipient event occurs. That would be too late to find out the problem exists.

BILL

From: McCree, Victor
Sent: Tuesday, May 27, 2014 1:33 PM
To: Johnson, Michael
Cc: Leeds, Eric; Dean, Bill; Pederson, Cynthia; Dapas, Marc
Subject: St. Lucie Jan 9 Reactor Auxiliary Building Flooding Video

Mike,

Attached, as we discussed, is the video of the St. Lucie Auxiliary Building Flooding event on January 9, 2014. We are completing the SDP on this event and it is likely to be greater-than-green. As I shared during your last Direct Reports meeting, flooding vulnerabilities remain a concern to me…..

Here's a synopsis of what occurred at St. Lucie:

- On January 9th, St. Lucie experienced a severe 5-hr rain event between 1400 and 1900, during which ~7 inches of rain fell in the area.
- At 1803 hrs, the licensee declared a UE based on HU1 *Natural or Destructive Phenomena Affecting Protected Area* and, HU1.5 *Visual sightings by station personnel that water levels are approaching storm drain system capacity*.
- At 1630 Unit 1 entered the AOP for aux building flooding. Storm water was entering the -0.5 ft elevation of the reactor auxiliary building through a conduit that was connected to an electrical box (see gray electrical box in the video). This water intrusion created in 1-2 inches of water on -0.5 ft elevation (~50,000 gal) for several hours.
- The licensee was able to manage this flooding by periodically cycling remotely operated drain valves that allowed the water to go to the safeguards room (ECCS) sump [note: this action was not included in their flood mitigation procedure]. Storm water stopped leaking from the conduit at ~ 2100 hrs.
- Portable pumps were installed in both units' condenser pits to remove the water. The B.5.b pump was used to remove water from the Unit 1 condenser pit which had more water to remove.
- The licensee determined that flood waters entered the RAB through degraded or missing conduit seals in the open condenser pits. Although water in these pits normally drain to through storm drains to overflow basins south of the plant, the storm water drains backed up, allowing storm water to flood the open condenser pits and enter the Aux Building. **[Note: these degraded and missing penetration seals were not identified during the Fukushima walkdowns].**
- The licensee removed blockage that allowed the basins to drain to the South overflow basin; established a flow path from the south overflow basin to the retention pond; licensee cleaned out the 36 inch pipe connecting the two. The licensee also opened up a gate valve that drained down the retention pond to the intake.

More to come.

Vic

-----Original Message-----
From: Boska, John <John.Boska@nrc.gov>
To: Colleen Payne <(b)(6)>; Pascarelli, Robert <Robert.Pascarelli@nrc.gov>
Sent: Mon, Mar 25, 2013 8:04 am
Subject: RE: Duke Energy meeting

Colleen, we receive such a high volume of requests that we do not have the time to communicate with individuals on these items. We have established an email listserver for each of the power reactors, and if you sign up for the listserver, you will be emailed a copy of all the public documents we issue for Oconee Nuclear Station. The listserver is automated, I cannot add people or remove them or even see who is on the list. If you want to sign up, please go to
http://www.nrc.gov/public-involve/listserver/plants-by-region.html
and sign up for Oconee. The meeting notice for 3/25/13 was issued on the listserver on 3/18/13 and was placed on the NRC web site on 3/19/13.

I will add your name to the security list for today's meeting (although it is not a requirement, any member of the public can attend, they just have to register with security when they get here). Attached are the slides for today's meeting. Copies will be available at the meeting. Please call my cell phone (b)(6), after you pass through security and I will ensure an escort brings you to the meeting room.

John Boska
Oconee Project Manager, NRR/DORL
U.S. Nuclear Regulatory Commission
301-415-2901
email: john.boska@nrc.gov

From: Colleen Payne [mailto:(b)(6)]
Sent: Saturday, March 23, 2013 10:05 AM
To: Pascarelli, Robert; Boska, John
Subject: Re: Duke Energy meeting

John and Robert,

Could you please keep me informed, I thought from last meetings, correspondence and my request that I was clear on receiving all current, future meetings re: Lake Jocasse/Oconee/Duke Energy & NRC. I receive daily updates and continually monitor NRC site, however, somehow I missed the upcoming 3/25 meeting re flooding issues/Duke/NRC.

Thank you, Colleen Payne

-----Original Message-----
From: Colleen Payne <(b)(6)>
To: robert.pascarelli <robert.pascarelli@nrc.gov>; john.boska <john.boska@nrc.gov>
Sent: Sat, Mar 23, 2013 9:56 am
Subject: Re: Duke Energy meeting
Good morning John and Robert,

Is Monday's, 3/25 meeting re: "to discuss the licensee's flooding hazard reevaluation report for the three Oconee units..." a rescheduled or new meeting? I was not made aware nor was this posted until just recently - within past few days.

I will be attending this meeting, please add my name to security list.

Thank you, Colleen Payne
(b)(6)

-----Original Message-----
From: Colleen Payne <(b)(6)>
To: Robert.Pascarelli <Robert.Pascarelli@nrc.gov>
Sent: Mon, Mar 11, 2013 2:36 pm
Subject: Re: Duke Energy meeting
Bob,

Yes, that is correct. Thank you.

I just received notice from John Boska, 3/19 meeting has been rescheduled to 4/9.

Colleen

-----Original Message-----
From: Pascarelli, Robert <Robert.Pascarelli@nrc.gov>
To: Colleen Payne <(b)(6)
Sent: Mon, Mar 11, 2013 1:40 pm
Subject: RE: Duke Energy meeting
Colleen,

I believe that you are referring to the April 16-18 industry meeting in Columbia, SC. It is an industry-sponsored meeting that the Office of New Reactors (NRO) has been invited to speak at for the last few years. Due to budget restrictions, NRO is not planning to attend this year.

Bob Pascarelli

From: Colleen Payne [mailto(b)(6)
Sent: Thursday, March 07, 2013 4:43 PM
To: Pascarelli, Robert
Subject: Re: Duke Energy meeting

Bob,

Do you know who will be speaking at the SMR Conference April 16-17? I was registered for that event, but will not be able to attend.

Thank you, Colleen
-----Original Message-----
From: Pascarelli, Robert <Robert.Pascarelli@nrc.gov>
To: Colleen Payne <(b)(6)
Sent: Thu, Mar 7, 2013 2:29 pm
Subject: RE: Duke Energy meeting
Colleen,

It's possible that the meeting could occur as late as May. We coordinate resources with our Region II office to ensure that we can conduct all of the site meetings within a few months following the issuance of the annual assessment letters. I'll let you know as soon as we have a tentative date. Have a nice day.

Bob

From: Colleen Payne [mailto(b)(6)
Sent: Thursday, March 07, 2013 2:14 PM
To: Pascarelli, Robert
Subject: Re: Duke Energy meeting

Bob

Thank you for this information. Any chance of scheduling assessment meeting in May? I would like to attend and mid-May would work for me. (smile, I am joking - but doesn't hurt to ask)

Colleen
-----Original Message-----
From: Pascarelli, Robert <Robert.Pascarelli@nrc.gov>
To: Colleen Payne <(b)(6)

Sent: Thu, Mar 7, 2013 10:35 am
Subject: RE: Duke Energy meeting
Ms. Payne,

It was a pleasure to speak with you on Tuesday afternoon and I look forward to seeing you on March 19th. Another meeting that you may be interested in is the annual end-of-cycle assessment meeting that is held in the Oconee visitor's center. Although we have not finalized a date, our annual meeting will most likely occur in the early April timeframe. I encourage you to consider attending if you are in the area. Additionally, please feel free to contact myself or John Boska if you have any questions or concerns. Have a great day!

Bob Pascarelli, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

From: Colleen Payne [mailto(b)(6)
Sent: Thursday, March 07, 2013 9:52 AM
To: Pascarelli, Robert
Subject: Duke Energy meeting

Bob,

Just a quick note to thank your for your time on Tuesday, March 5 during and after Duke meeting.

I appreciate you taking the time to discuss some of the concerns regarding NRC's position regarding Oconee site.

I look forward to seeing you on the 19th - or rescheduled date.

Have a good rest of week,

Colleen

April 11, 2013

1412 Dial Court
Springfield, IL 62704

Bill Borchardt, Executive Director for Operations (EDO)
Darren Ash, Chief Freedom of Information Act Officer
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Update to FOIA Appeal 2013-009A

Dear Mr. Borchardt and Mr. Ash:

This letter is an update to a FOIA appeal the NRC acknowledged on March 29, 2013 concerning FOIA/PA 2013-0126. The NRC's acknowledgment letter to that appeal is included as Enclosure 1. Today (2013-04-11), I received a response to FOIA 2013-0126, which I have included as Enclosure 2. Note that this response has come 40 working days after my initial request and 9 working days after I submitted an appeal in accordance with 10 CFR §9.25.

On Tuesday, February 12, 2013 I requested five records from the NRC:

1. ML103490330, Oconee Nuclear Site, Units 1, 2, and 3. Oconee Response to Confirmatory Action Letter (CAL) 2-10-003, dated Nov. 29, 2010
2. ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011
3. ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis
4. ML101610083, Oconee Nuclear Station, Units 1, 2, and 3, - External Flood Commitments
5. ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures

My incoming FOIA request can be found in ADAMS as ML13044A487.

Today, I was provided the following documents in your response to FOIA 2013-0126:

1. ML103490330 (released without redactions so not part of FOIA Appeal 2013-009A)
2. ML13099A247 instead of ML111460063 (included with this appeal as Enclosure 3)
3. ML13039A084 instead of ML100780084 (included with this appeal as Enclosure 4)
4. ML101610083 (released without redactions so can be removed from FOIA Appeal 2013-009A)
5. ML13039A086 instead of ML101900305 (included with this appeal as Enclosure 5)

For the records denied, Exemption 7F of the Freedom of Information Act is claimed. I disagree with this decision and in this letter am providing you the reasons for that disagreement so that, if you chose, you can take this information into account when evaluating FOIA Appeal 2013-009A.

I see nothing in the records requested which indicate they were compiled for law enforcement purposes nor do I see anything which would indicate to me that disclosure could reasonably be expected to endanger the life or physical safety of an individual. It appears to me that the NRC is using Exemption 7F as a means to withhold information which it believes may be beneficial to terrorists or saboteurs yet none of the information withheld pertains to security processes or hardware. The information withheld

merely pertains to the nuclear safety hazards which deficiencies in the Oconee Station's flooding defenses pose to the American public. These safety risks are present due to the risks of natural disasters and latent engineering/construction flaws and have nothing specifically pertaining to terrorist activities.

As a specific example, consider ML100780084, the *Generic Failure Rate Evaluation of Jocassee Dam Risk Analysis*, submitted by James Vail, Fernando Ferrante, and Jeff Mitman on March 15, 2010. This document was a formal write up of analyses done by NRR in 2007/2008 to support Region II's efforts to get Duke Energy to address safety concerns regarding flooding protection at Oconee. In this document, the Reliability & Risk Analysts at NRR estimated the failure frequency of the Lake Jocassee Dam to be 2.8E-4/yr which equates to a 1 in 3600 chance of failing in any given year. Given that the catastrophic failure of the Lake Jocassee Dam would likely lead to a meltdown of the three reactors at the Oconee Nuclear Station, the dam failure rate calculated by Vail, Ferrante & Mitman suggests that the probability of a nuclear accident at Oconee Nuclear Station is ten times what it is at a typical US reactor plant. This is the type of important information which President Obama expects us to share with the American public (see the President's 2009-01-19 memo on Open Government). Yet the NRC did not share this information with the public. Instead, we stamped the Vail et. al. analysis as "Official Use Only – Security-Related Information" and for years never publicly mentioned its existence. Then, in response to a FOIA request by Dave Lochbaum, we released a redacted version of this supposed "Security-Related" report as ML13039A084. The only redaction in this 15 page report was a figure on page 1 showing the generic construction of Jocassee Dam – a figure very similar to what one can find in any Civil Engineering text book. I have included similar publicly available figures as Enclosure 6. Despite the fact that this figure did not provide any insight to terrorists, it apparently kept this important report from the public for nearly three years. On March 25, 2013 I attended a public meeting with Duke Energy in which this very same figure was presented by Duke Energy as a slide (see Enclosure 7). The slide show from this meeting was forwarded to me by Jim Riccio of Greenpeace and was posted by the NRC on their public website (ML13084A022). So this supposedly "Security-Related" figure, which caused NRR to keep the Vail et. al. analysis from the public for nearly three years and which NRR had redact from Dave Lochbaum's FOIA response in February 2013, was by March 2013 being emailed by NRR to Greenpeace and being posted by NRR on the world-wide web.

The world-wide web gets that name for a reason: it is truly world-wide. Iran, North Korea, Pakistan, Saudi Arabia, and the host of other countries which sponsor terrorist activity against the United States have access to this world-wide web. So why can NRR email this generic drawing to Greenpeace and post it on the web for our enemies to see yet must redact it from the version of the Vail et. al. analysis that it sent to David Lochbaum, Tom Zeller and Paul Blanch in response to their separate FOIA requests? Is this figure "Security-Related" or not? If it is, why are we sharing it on the world-wide web? If it is not, why did we keep the Vail et. al. report from the public for nearly three years and why do we still refuse to release it in its entirety? These are rhetorical questions. Please do not delay answering FOIA Appeal 2013-009A due to these questions. I merely wish to point out to you some inconsistencies in your control of information in the event you would like to consider those inconsistencies while addressing FOIA Appeal 2013-009A.

Additionally, information redacted from the documents supplied to me today has already been publicly release to Greenpeace in our 2013-02-06 partial response (ML130520858) to FOIA 2012-0325 (ML12263A087).

Under FOIA Appeal 2013-009A, please release the following three records to me with no redactions.

- ML111460063, Oconee Nuclear Site, Units 1, 2, and 3. Response to Confirmatory Action Letter (CAL) 2-10-003, dated April 29, 2011
- ML100780084, Generic Failure Rate Evaluation for Jocassee Dam Risk Analysis
- ML101900305, Identification of a Generic External Flooding Issue Due to Potential Dam Failures

Again, this letter is an update to FOIA Appeal 2013-009A in response to documents I received today from the NRC. The information I received came in response to FOIA Request 2013-0126 and not FOIA Appeal 20013-009A. I expect FOIA Appeal 2013-009A to be answered within 30 working days from March 29, 2013 (i.e. by May 10, 2013). I am providing the information in this letter for you to consider if you so choose.

Although I live in Springfield, IL, I work in Rockville, MD. Please do not send documents to my home in Springfield, IL as I will not get them in a timely manner. Please send all written correspondence to me via email at LSCriscione@hotmail.com. If your processes will not allow you to do this, then please contact me via phone or email and I will come by the FOIA desk to pick up the correspondence.

Very respectfully,

Lawrence S. Criscione

Lawrence S. Criscione, PE
(573) 230-3959

Enclosures (7)

Cc: Billie Garde, Esq., Clifford & Garde
Louis Clark, The Government Accountability Project
Fernando Ferrante, NRC/NRR/DRA
Jeff Mitman, NRC/NRR/DRA
Dave Lochbaum, Union of Concerned Scientists
Jim Riccio, Greenpeace
Tom Zeller, Huffington Post
Paul Blanch, consultant

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 29, 2013

FOIA/PA-2013-00009A
FOIA/PA-2013-00126
FOIA/PA-2013-00010A
FOIA/PA-2013-00127
FOIA/PA-2013-00011A
FOIA/PA-2013-00128

Lawrence Criscione
1412 Dial Court
Springfield, IL 62704

Dear Requester:

We have logged your **March 29, 2013** correspondences as appeals for **Lack of Response** to you under **FOIA/PA-2013-00126, FOIA/PA-2013-00127 and FOIA/PA-2013-00128.**

Your appeals have been assigned the following reference numbers that you should use in any future communications with us about your appeals: **FOIA/PA-2013-00009A, FOIA/PA-2013-00010A, and FOIA/PA-2013-00011A.**

The following person is the FOIA/PA Specialist who has been assigned responsibility for your appeals: **Linda Kilgore at 301-415-5775.**

If you have questions on any matters concerning your FOIA/PA appeals, please feel free to contact the FOIA/PA Specialist assigned to your appeals or me. I can be reached at 301-415-7169.

Sincerely,

/S/

Donna L. Sealing
FOIA/Privacy Act Officer
Office of Information Services

Enclosure:
Incoming Request

NRC FORM 464 Part I (10-2012) U.S. NUCLEAR REGULATORY COMMISSION

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

FOIA/PA	RESPONSE NUMBER
2013-0126	1

RESPONSE TYPE ☑ FINAL ☐ PARTIAL

REQUESTER: Lawrence Criscione

DATE: APR 11 2013

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: — 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* $ ____ * See comments for details

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

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

- ☐ No agency records subject to the request have been located. For your information, Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA. See 5 U.S.C. § 552(c) (2006 & Supp. IV (2010). This response is limited to those records that are subject to the requirements of the FOIA. This is a standard notification that is given to all our requesters and should not be taken as an indication that excluded records do, or do not, exist.
- ☑ 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 request will be available in ADAMS at ML13044A487.

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Donna L. Sealing

NRC FORM 464 Part II (4-2011) U.S. NUCLEAR REGULATORY COMMISSION	FOIA/PA	DATE
RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST	2013-0126	APR 11 2013

PART II.A -- APPLICABLE EXEMPTIONS

APPENDICES: A

Records subject to the request that are described in the enclosed Appendices are being withheld in their entirety or in part under the Exemption No.(s) of the PA and/or the FOIA as indicated below (5 U.S.C. 552a and/or 5 U.S.C. 552(b)).

- ☐ Exemption 1: The withheld information is properly classified pursuant to Executive Order 12958.
- ☐ Exemption 2: The withheld information relates solely to the internal personnel rules and practices of NRC.
- ☐ Exemption 3: The withheld information is specifically exempted from public disclosure by statute indicated.
  - ☐ Sections 141-145 of the Atomic Energy Act, which prohibits the disclosure of Restricted Data or Formerly Restricted Data (42 U.S.C. 2161-2165).
  - ☐ Section 147 of the Atomic Energy Act, which prohibits the disclosure of Unclassified Safeguards Information (42 U.S.C. 2167).
  - ☐ 41 U.S.C., Section 253b, subsection (m)(1), prohibits the disclosure of contractor proposals in the possession and control of an executive agency to any person under section 552 of Title 5, U.S.C. (the FOIA), except when incorporated into the contract between the agency and the submitter of the proposal.
- ☐ Exemption 4: The withheld information is a trade secret or commercial or financial information that is being withheld for the reason(s) indicated.
  - ☐ The information is considered to be confidential business (proprietary) information.
  - ☐ The information is considered to be proprietary because it concerns a licensee's or applicant's physical protection or material control and accounting program for special nuclear material pursuant to 10 CFR 2.390(d)(1).
  - ☐ The information was submitted by a foreign source and received in confidence pursuant to 10 CFR 2.390(d)(2).
  - ☐ Disclosure will harm an identifiable private or governmental interest.
- ☐ Exemption 5: The withheld information consists of interagency or intraagency records that are not available through discovery during litigation. Applicable privileges:
  - ☐ Deliberative process: Disclosure of predecisional information would tend to inhibit the open and frank exchange of ideas essential to the deliberative process. Where records are withheld in their entirety, the facts are inextricably intertwined with the predecisional information. There also are no reasonably segregable factual portions because the release of the facts would permit an indirect inquiry into the predecisional process of the agency.
  - ☐ Attorney work-product privilege. (Documents prepared by an attorney in contemplation of litigation)
  - ☐ Attorney-client privilege. (Confidential communications between an attorney and his/her client)
- ☐ Exemption 6: The withheld information is exempted from public disclosure because its disclosure would result in a clearly unwarranted invasion of personal privacy.
- ☑ Exemption 7: The withheld information consists of records compiled for law enforcement purposes and is being withheld for the reason(s) indicated.
  - ☐ (A) Disclosure could reasonably be expected to interfere with an enforcement proceeding (e.g., it would reveal the scope, direction, and focus of enforcement efforts, and thus could possibly allow recipients to take action to shield potential wrong doing or a violation of NRC requirements from investigators).
  - ☐ (C) Disclosure could constitute an unwarranted invasion of personal privacy.
  - ☐ (D) The information consists of names of individuals and other information the disclosure of which could reasonably be expected to reveal identities of confidential sources.
  - ☐ (E) Disclosure would reveal techniques and procedures for law enforcement investigations or prosecutions, or guidelines that could reasonably be expected to risk circumvention of the law.
  - ☑ (F) Disclosure could reasonably be expected to endanger the life or physical safety of an individual.
- ☐ OTHER (Specify)

PART II.B -- DENYING OFFICIALS

Pursuant to 10 CFR 9.25(g), 9.25(h), and/or 9.65(b) of the U.S. Nuclear Regulatory Commission regulations, it has been determined that the information withheld is exempt from production or disclosure, and that its production or disclosure is contrary to the public interest. The person responsible for the denial are those officials identified below as denying officials and the FOIA/PA Officer for any denials that may be appealed to the Executive Director for Operations (EDO).

DENYING OFFICIAL	TITLE/OFFICE	RECORDS DENIED	APPELLATE OFFICIAL		
			EDO	SECY	IG
Victor McCree	Regional Administrator, Region II	See Appendices A2	☑	☐	☐
Eric J Leeds	Office Director, NRR	See Appendix A3, A5	☑	☐	☐
			☐	☐	☐

Appeal must be made in writing within 30 days of receipt of this response. Appeals should be mailed to the FOIA/Privacy Act Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, for action by the appropriate appellate official(s). You should clearly state on the envelope and letter that it is a "FOIA/PA Appeal."

Re: FOIA-2013-0126

APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR

NO.	ACCESSION NO.	DATE	DESCRIPTION/(PAGE COUNT)
1.	ML103490330	11/29/10	Oconee Nuclear Site, Units 1, 2 and 3, Oconee Response to Confirmatory Action Letter 2-10-003 (7 Pages)
2	ML13099A247	04/29/11	Oconee Nuclear Site, Units 1, 2, 3, Response to Confirmatory Action Letter (CAL) 2-10-003 (16 pages) Exemption 7F
3.	ML13039A084	03/15/10	Generic Failure Rate Evaluation for Jocassee Dam (15 pages) Exemption 7F
4.	ML101610083	06/03/10	Oconee Nuclear Station – External Flood Commitments (5 pages)
5.	ML13039A086	07/19/10	Memorandum to Benjamin Beasley, RES from Lois James, NRR, Subject: Identification of a Generic External Flooding Issue Due to Potential Dam Failures (9 pages) Exemption 7F

Duke Energy

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 29, 2011

Mr. Victor McCree, Regional Administrator
U.S. Nuclear Regulatory Commission – Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Site, Units 1, 2, and 3
Renewed Facility Operating License, DPR-38, DPR-47, and DPR-55
Docket Numbers 50-269, 50-270, and 50-287
Oconee Response to Confirmatory Action Letter (CAL) 2-10-003

References:

1. Nuclear Regulatory Commission (NRC) letter from Luis A. Reyes to Dave Baxter (Duke Energy), "Confirmatory Action Letter – Oconee Nuclear Station, Units 1, 2, and 3 Commitments to Address External Flooding Concerns (TAC Nos. ME3065, ME3066, and ME3067)" dated June 22, 2010

2. Nuclear Regulatory Commission (NRC) letter from Eric Leeds to Preston Gillespie (Duke Energy), "Staff Assessment of Duke's Response to Confirmatory Action Letter Regarding Duke's Commitments to Address External Flooding Concerns at the Oconee Nuclear Station, Units 1, 2, and 3 (ONS) (TAC Nos. ME3065, ME3066, and ME3067)" dated January 28, 2011

3. Duke Energy letter from T. Preston Gillespie to Luis Reyes (Nuclear Regulatory Commission), "Oconee Response to Confirmatory Action Letter (CAL) 2-10-003" dated November 29, 2010

4. Duke Energy letter from Dave Baxter to U.S. Nuclear Regulatory Commission, "Oconee External Flood Interim Actions" dated January 15, 2010

The purpose of this letter is to respond to the NRC's request, as noted in the Confirmatory Action Letter dated June 22, 2010 (Reference 1), for a list of all modifications necessary to adequately protect the Oconee site from the impact of a postulated failure of the Jocassee Dam.

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

Duke Energy agreed to provide this list and the associated implementation dates by April 30, 2011 (Reference 3).

In Reference 2, the NRC found that the documentation previously supplied by Duke Energy provided sufficient justification that the parameters and analysis used to evaluate the inundation of the Oconee Nuclear Station (ONS) site, resulting from the postulated failure of the Jocassee Dam, were bounded. The information provided by Duke Energy was in response to one of the NRC's requests in Reference 1.

Attachment 1 is a proposed strategy for mitigating the external flood impacts from a postulated failure of the Jocassee Dam. Calculations supporting this strategy are in progress and have not been finalized. Attachment 2 is a description of proposed site modifications necessary to implement the mitigation strategy. During design and implementation of these modifications, the actions required by Reference 1 will remain in place. Also, periodic independent assessments and emergency response organization drills of the interim actions will be conducted to verify continued viability.

Design of the modifications is in progress and details may change as the process continues. The capability to provide adequate protection of the Oconee units and the spent fuel from a postulated failure of the Jocassee dam will be documented within the Updated Final Safety Analysis Report (UFSAR).

Duke Energy will submit the design of the Intake Dike Diversion Wall and the Intake Dike Tie Section modification (discussed in Attachment 2) to the Federal Energy Regulatory Commission (FERC). Duke Energy will also submit any License Amendment Requests (LARs) to the NRC that are necessitated by the power block flood wall modification. The modifications identified in Attachment 2 will be completed within a time frame of thirty (30) months plus FERC and NRC LAR review and approval time.

Duke Energy is committed to an orderly and thorough approach to resolution of the external flood mitigation issues at ONS so that the dates provided above and completion of the related modifications can be achieved. Duke Energy is proceeding, consistent with its corporate governance requirements, to obtain necessary internal approvals to fund the implementation of these commitments. Additionally, Duke Energy must undergo additional land acquisitions for relocation of the 100 kV (Fant) line towers.

Since this letter contains security sensitive information, Duke Energy hereby requests the NRC withhold the letter and its attachments from public disclosure pursuant to 10 CFR 2.390(d)(1), "Public inspections, exemptions, requests for withholding."

If you have questions concerning this matter, please contact Bob Meixell, Oconee Regulatory Compliance, at 864-873-3279.

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 29, 2011.

Sincerely,

TP Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

Attachments:

Attachment 1 – Jocassee Dam Failure Flood Mitigation Strategy
Attachment 2 – Description of Modifications

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

cc:

Mr. Joseph G. Giitter, Director
Division of Operating Reactor Licensing
U. S. Nuclear Regulatory Commission
Mail Stop O-8 E1A
Washington, D. C. 20555

Mr. John Stang, Project Manager
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop O-8 G9A
Washington, D. C. 20555

Mr. Andy Sabisch
Senior Resident Inspector
Oconee Nuclear Site

Susan E. Jenkins, Manager
Radioactive & Infectious Waste Management
Division of Waste Management
SC Dept. of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

ATTACHMENT 1

JOCASSEE DAM FAILURE FLOOD MITIGATION STRATEGY

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

Jocassee Dam Failure Flood Mitigation Strategy

The strategy proposed within this attachment will continue to ensure adequate protection of the Oconee units and spent fuel in the unlikely occurrence of a Jocassee Dam failure. This strategy is provided based on the following initial Oconee site conditions:

- All three units are at power operation
- Unit 1&2 and Unit 3 Spent Fuel Pools (SFP) heat rates are consistent with that associated with all three units at power operation (no full core offload)
- Condenser Circulating Water (CCW) is not dewatered
- The Standby Shutdown Facility (SSF) is available
- (b)(7)(F)
- Credited Systems, Structures, and Components are in normal alignments

When the Oconee site is not within these initial conditions or associated mitigation systems are unavailable, appropriate compensatory measures will be taken based on the insight provided through the 10 CFR 50.65(a)(4) program, as applicable.

Furthermore, the mitigation strategy assumes the following:

- The Jocassee Dam failure does not occur concurrent with design basis accidents, design events, or transients.
- The Jocassee Dam failure does not occur concurrent with an earthquake.
- The occurrence of a single failure, as well as the failure of a control rod to fully insert, is not assumed.
- Systems, Structures, and Components (SSCs) to mitigate a Jocassee Dam failure are not required to be QA-1.

UFSAR Section 2.4.2.2 documents the Flood Design Considerations for both the Keowee and Jocassee Reservoirs. The dams and other hydraulic structures were designed with adequate freeboard and structural safety factors to safely accommodate the effects of Probable Maximum Precipitation (PMP). UFSAR Section 2.4.4 documents that Jocassee has been designed to the same seismic input conditions as Oconee Nuclear Station (ONS). Flooding due to the potential failure of the Jocassee Dam or Keowee Dam was not addressed and was considered to be beyond design basis. Thus, the current ONS licensing basis defines protection from external flooding caused by a Probable Maximum Flood (PMF) applicable to ONS which was analyzed based on the PMP. This basis satisfied General Design Criterion 2 of the UFSAR (Section 3.1.2).

Criterion 2 of the UFSAR imposes design criteria on select (designated as Essential) SSCs associated with the forces and conditions associated with natural phenomena. As such, natural phenomena events are not design basis events at Oconee, instead they impose design criteria

on SSCs identified for mitigation of accidents. As was the original site design for flooding conditions, these design criteria are to remain within the constraints of the PMF applicable to ONS which was analyzed based on the PMP. Therefore, the original PMF analysis will remain as the flood design criteria for the Essential SSCs.

A Jocassee Dam failure can subject the Oconee Nuclear Site to adverse conditions beyond the plant design basis. Specifically, the postulated failure of the Jocassee Dam could result in a loss of off-site and emergency power, loss of external water sources and inundation of a majority of the station's SSCs. As described and accepted within Reference 1, compensatory measures are in place to mitigate these potential adverse consequences. Modifications are planned and discussed in Attachment 2 to improve the capability to maintain the three Oconee units as well as both SFPs in a condition that adequately protects the fuel. Upon completion of these modifications and implementation of the mitigation strategy within station procedures and processes, the compensatory measures described within Reference 1 will no longer be required.

Flood barriers will be designed to protect the credited SSCs including the Turbine Building, Auxiliary Building and the SSF, and the surrounding yard (b)(7)(F) following the postulated Jocassee Dam failure (b)(7)(F) This ensures a dedicated flood protected power source for plant systems. The new flood protected power source would also allow the SSF to be powered without starting the SSF diesel generator, thus preserving CCW inventory. (b)(7)(F)

(b)(7)(F) Thus, mitigation of the Jocassee Dam failure would be limited by the loss of external water sources to ONS. The water inventory trapped in the CCW system piping system would be the credited source of water for core decay heat removal and SFP makeup.

The planned modifications have been assumed to be implemented in the mitigation strategy for establishing and maintaining the three Oconee units as well as both SFPs in a condition that adequately protects the fuel. The mitigation strategy for this scenario has been subdivided into the following phases:

- Phase 1: Reactor shutdown and establishment of Mode 3
- Phase 2: Initiation of Natural Circulation Cooldown of the Reactor Coolant System (RCS) to 250°F
- Phase 3: Maintain RCS at ≤250°F

Phase 1: Reactor shutdown and establishment of Mode 3

(b)(7)(F) Actions are taken to establish the flood protective features, such as isolating Turbine Building and yard drain flowpaths and closing flood barrier access openings.

(b)(7)(F) Following notification, the ONS Switchyards are assumed to remain available to each unit's startup transformer which provides power to normal and emergency systems.

The operators will take actions to shutdown the reactor(s) and establish Mode 3 with T_{ave} and RCS pressure at approximately 525°F and 2155 psig respectively, using normal plant systems. Operator actions will be undertaken to begin boration of the RCS for cold shutdown conditions. Normal secondary plant systems will remain in operation during this phase.

The operators will take actions to disable the Essential Siphon Vacuum System and vent it to prevent reverse siphon flow from the CCW inlet piping back to the Intake Canal when it is lost. The emergency CCW discharge flow path will be disabled by operators to prevent any loss of CCW. Actions will be taken to isolate the High Pressure Service Water (HPSW) outside of the flood protected area to ensure its capability to provide cooling water to the High Pressure Injection (HPI) pump motors.

Phase 2: Initiation of Natural Circulation Cooldown of the Reactor Coolant System to 250°F

(b)(7)(F) This results in a momentary loss of power to each of the units. The Reactor Coolant Pumps (RCPs) are lost due to the loss of power to the startup transformers from the 230kV switchyard.

(b)(7)(F) The SSF is normally powered from Unit 2's MFB, but it is load shed. Operator action will be taken to restore power to the SSF from Unit 2's MFB. Following reset of the load shed, power for the SSF would be provided from Unit 2's MFB to minimize any usage of the CCW inventory for SSF diesel operation.

The rising flood water in the ONS Intake Canal is postulated to result in failure of the Lake Keowee impoundment including the intake canal. This requires the shutdown of the Low Pressure Service Water (LPSW) pumps to conserve water inventory in the CCW piping.

Heat removal from the Spent Fuel Cooling system is normally provided by the Recirculated Cooling Water (RCW) system. Following the overtopping of the Keowee Dam, the loss of CCW flow results in a loss of RCW cooling. This leaves the Units 1 & 2 shared SFP and the Unit 3 SFP without cooling. The SFP will eventually heat up to the point of boiling. When boiling occurs, the SFP level will decrease. Makeup to the SFP would be initiated from available sources including the water contained within the CCW buried piping to maintain a sufficient water level above the spent fuel stored in the pools.

The shutdown of the LPSW pumps results in a loss of cooling to such items as the Reactor Building, HPI pumps, the Component Cooling System, the motor-driven EFW pumps, and the Low Pressure Injection coolers.

With the shutdown of the CCW and LPSW systems, environmental conditions within the plant would be established as needed by the use of temporary equipment and operation of necessary existing and temporary ventilation systems. The temporary equipment will be powered from a 4160VAC electrical bus that receives power from CT5.

The HPI pumps can continue to operate because backup cooling is provided from the HPSW system via the Elevated Water Storage Tank (EWST). Power to an HPSW pump would be restored and the pump would be operated to replenish the EWST to maintain cooling water to the HPI pump motor coolers. The HPI system operates to maintain pressurizer level at the desired setpoint.

A loss of normal secondary systems is experienced due to the temporary loss of power to the main feeder buses. Decay heat removal would initially be maintained by the EFW System. The motor-driven EFW pumps must be secured due to the loss of LPSW cooling. The turbine-driven EFW pump does not require LPSW for cooling and is therefore allowed to continue to operate to feed the SGs. The loss of condenser cooling will result in the SGs being steamed to atmosphere using the Atmospheric Dump Valves which results in depletion of the condensate inventory.

Upon a loss of normal RCS letdown capability a cooldown is initiated. Since RCPs cannot be operated based on a loss of cooling and power to the pumps, a natural circulation cooldown must be performed. Depressurization of the RCS would be accomplished by means of the Power Operated Relief Valve and/or auxiliary spray.

Core decay heat removal would eventually be transferred to the SSF Auxiliary Service Water (ASW) system to utilize the trapped water inventory in the CCW piping. With the use of the SSF ASW system, valve alignments would be made to maximize the available trapped water inventory in the CCW piping to the SSF ASW pump suction. This would be accomplished by cross-connecting the CCW inlet and discharge piping between all three units.

When the cooldown has been completed, the operating HPI pump would be stopped. The SSF ASW system would continue to supply the steam generators (SGs) to maintain decay heat removal.

Phase 3: Maintain RCS at ≤250°F

Core decay heat removal will be maintained by natural circulation of the RCS with the SSF ASW system providing decay heat removal by means of SG feeding and steaming through the ADVs. The HPI system will be operated as needed to maintain RCS water level within an acceptable band. Pressurizer heaters will be operated as necessary to maintain RCS pressure. Water level in the SFP will be maintained at a sufficient level above the spent fuel stored in the pools. The suction source for the SSF ASW system and the SFP makeup system is the water inventory trapped in the CCW piping.

ATTACHMENT 2

DESCRIPTION OF MODIFICATIONS

This letter contains security sensitive information.
Withhold from Public Disclosure under 10CFR 2.390 (d)(1)

Based on the mitigation strategy discussed within Attachment 1, the following table identifies proposed modifications to mitigate site flooding following the postulated failure of the Jocassee Dam.

Specifically, modifications will be required to protect the required SSCs to meet the mitigation strategy and provide a dedicated flood protected power supply following a postulated Jocassee Dam failure. Protection of the credited SSCs including the Turbine Building, Auxiliary Building, SSF, and the surrounding yard (including CT5 Substation) will be accomplished with flood barriers and associated infrastructure.

(b)(7)(F)

No	Category	Description
1	(b)(7)(F)	(b)(7)(F)
1A	(b)(7)(F)	
1B	CT5 Substation	Modify CT5 Substation to supply the standby bus and a new recovery equipment bus.
2	**Protect Required SSCs and the Surrounding Yard**	**Protect required SSCs and the surrounding yard due to Keowee impoundment failures and rising waters in the tailrace area**
2A	Power Block Flood Wall	Install a new flood wall located on the east side of the Oconee site.
2B	Intake Dike Diversion Wall	Install a new diversion wall along the northern side of the ONS intake dike
2C	Turbine Building Drain Isolation	Install barriers to minimize flood waters from entering into the Turbine Building from rising waters in the tailrace area
2D	Yard Drain Isolation	Install barriers to minimize flood waters from entering the site
3	**SFP Makeup**	**Utilizes stored water inventory for makeup to the SFP**
3A	SSF Service Water Discharge Flow Path	SSF ASW minimum flow line diverted to outside SSF for transfer to SFP
3B	SFP Level Instrumentation	Install new SFP level instrumentation rated for post-flood conditions

Description of Modifications:

1-Dedicated, Flood Protected Power

In order to ensure an adequate dedicated power path to the Oconee site after a Jocassee Dam failure, the following modifications are required:

(b)(7)(F)

1B – CT5 Substation

(b)(7)(F)

The Jocassee Dam failure requires modification of the CT5 Substation to add multiple power paths for mitigation. The initial function of the CT5 Substation will be to provide emergency power to loads required to mitigate the Jocassee Dam failure from the Oconee Standby Buses. Isolation for CT5 to the Standby Bus power path will be provided by a new breaker in the CT5 Substation. A secondary function of the CT5 Substation will be to provide an additional power path to temporary loads used for mitigation. These loads will be powered by a new recovery equipment bus designed for the CT5 Substation. This bus will provide power to portable distribution trailers at voltage levels of 4160V, 600V, 480V, 208V, and 120V for these temporary loads. Isolation/protection of this bus will be provided by a new breaker. Individual loads will be isolated/protected by load-specific fusible gang switches on the load side of this bus.

General Design Parameters:

Loading of CT5 transformer does not exceed the 12/16/20MVA rating consistent with UFSAR Section 8.2.1.4.

2-Protect Required SSCs and the Surrounding Yard

In order to prevent flood waters from flowing into the site from the Keowee impoundment failure and from rising waters in the tailrace area, the following modifications are required:

2A - Power Block Flood Wall

The new Power Block Flood Wall will envelope the eastern side and the southern end of the ONS protected area. The wall is comprised of 3 sections: The Discharge Diversion Section, The East Wall, and the Intake Dike Tie Section. The wall will have at least one vehicular access and one personnel access located at the north road crossing, each of which will have flood protection capability.

General Design Parameters:

Classification: Class 3, consistent with UFSAR Section 3.2.1.1.3
Design Loadings:
Dead + Wind (UFSAR Section 3.3.2.4) or
Dead + Hydrodynamic (Flood) (Reference 2)

Additional Design Considerations: General erosion; flood scour; debris; leakage from access gates, expansion joints, and unidentified locations (details to be determined); site drainage; and soil exploration and characterization. Interactions of non-seismic SSCs with seismic SSCs will be addressed.

Discharge Diversion Section (approximately 300 ft long)

Wall Height: Top Elev. (b)(7)(F)
Protection Height Margin: Approximately 2 ft.
Wall Thickness: Material dependent
Design Codes: Similar to UFSAR Section 3.8.5.4.3
Design Methodology: UFSAR Section 3.8.5.4.3

East Wall Section (approximately 2000 ft. long)

Wall Height: Top Elev. (b)(7)(F)
Protection Height Margin: Approximately 2 ft.
Wall Thickness: Material dependent
Design Codes: Similar to UFSAR Section 3.8.5.4.3
Design Methodology: UFSAR Section 3.8.5.4.3

Access Barriers: Vehicular access closure is planned to be a gate (sliding or hinged, possibly designed with some mechanical sealing devices), or stop logs (concrete or steel), similar to standard flood gates or other similar barriers.

Intake Dike Tie Section (approximately 160 ft. long)

Wall Height: Top Elev. (b)(7)(F) tapering to zero height
Protection Height Margin: Approximately 2 ft.
Wall Thickness: Material dependent. Wall is planned to be a combination of Power Block Wall transitioning to an embankment (compacted fill) wall tied to the existing Intake Canal Dike embankment.
Design Codes: Similar to UFSAR Section 3.8.5.4.3
Design Methodology: UFSAR Section 3.8.5.4.3

2B - Intake Dike Diversion Wall

This wall will prevent the rising waters on Lake Keowee, more specifically the Oconee Intake Canal, from flowing over the northern crest of the dike and directly into the yard. The wall will be located on the northern side of the dike crest, going from the northeast corner of the dike to the northwest corner of the dike where it will tie to higher ground. One access gate is planned for the existing roadway connecting the western portion of the nuclear site to the crest of the dike. Design parameters for the Intake Dike Diversion Wall are described below:

General Design Parameters

Classification: Class 3, consistent with UFSAR Section 3.2.1.1.3
Design Loadings:
Dead + Wind (UFSAR Section 3.3.2.4) or
Dead + Hydrodynamic (Flood) (Reference 2)

Additional Design Considerations: General erosion; flood scour; debris; leakage from access gates, expansion joints, and unidentified locations (details to be determined); and soil exploration and characterization. Interactions of non-seismic SSCs with seismic SSCs will be addressed.

Wall Height: Top Elev. (b)(7)(F)
Protection Height Margin: Approximately 2 ft.
Wall Thickness: Material dependent
Design Codes: Similar to UFSAR Section 3.8.5.4.3
Design Methodology: UFSAR Section 3.8.5.4.3

Access Barriers: Vehicular access closure is planned to be a gate or stop logs similar to standard flood gates or other similar barriers.

2C - Turbine Building Drain Isolation

The free-flowing capability of the Turbine Building drain will be restricted during the site external flood by a flood gate or other similar barrier to minimize water flowing into the Turbine Building from the flooded tailrace area. Design parameters are described below:

Classification: Class 3, consistent with UFSAR Section 3.2.1.1.3
Design Loadings: Dead + Hydrodynamic (Flood) (Reference 2)
Design Code: Sluice gate or valve, standard to be determined

2D - Yard Drain Isolation

This modification adds a flood gate or other similar barrier to minimize the amount of water entering the flood protected area via the yard drains. Design parameters are described below:

Classification: Class 3, consistent with UFSAR Section 3.2.1.1.3
Design Loadings: Dead + Hydrodynamic (Flood) (Reference 2)
Design Code: Sluice gate or valve, standard to be determined

3-SFP Makeup

In order to provide makeup to the Spent Fuel Pools after a Jocassee Dam failure, the following modifications are required:

3A – SSF Service Water Discharge Flow Path

The capability to remove water from the CCW pipe by means of the SSF ASW Minimum Flow Line will be added for collection and transfer to the Units 1 & 2 shared SFP and the Unit 3 SFP.

3B – SFP Level Instrumentation

SFP level instrumentation will be designed to monitor the SFP level to ensure proper level is maintained during SFP boiling conditions.

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U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Generic Failure Rate Evaluation for Jocassee Dam

March 15, 2010

Probabilistic Risk Assessment (PRA) Analyst:	James Vail, Reliability and Risk Analyst, NRR/DRA/APOB
Probabilistic Risk Assessment (PRA) Analyst:	Fernando Ferrante, Reliability and Risk Analyst, NRR/DRA/APOB
Probabilistic Risk Assessment (PRA) Analyst:	Jeff Mitman, Senior Reliability and Risk Analyst, NRR/DRA/APOB
Peer Reviewer:	Steven A. Laur, Senior Technical Advisor NRR/DRA

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GENERIC FAILURE RATE EVALUATION FOR JOCASSEE DAM BY DIVISION OF RISK ASSESSMENT'S PRA OPERATIONAL SUPPORT BRANCH

The following documents a generic dam failure rate analysis applicable to the Jocassee Dam performed by the PRA Operational Support Branch (APOB) of the Division of Risk Assessment (DRA) in the Office of Nuclear Reactor Regulation (NRR). The analysis, technical justifications, and databases used in support of the calculations for the derived value are briefly discussed. Portions of this evaluation were initially performed in 2007 but not formally documented at that time.

Approach

The approach used in deriving a generic failure rate value applicable to the Jocassee Dam included: (i) an evaluation of the physical characteristics and description of the dam, (ii) an assessment of the overall U.S. dam population for those with similar features to the Jocassee Dam, (iii) a study of U.S. dam performance information for failure events that may be applicable to this subset of the overall population, and (iv) a calculation of a point estimate, as well as consideration of the uncertainty involved, for the failure rate given the observed failure events and the observed time period (in dam-years).

Jocassee Dam Description

The Jocassee Dam is located in northwest South Carolina, forming a reservoir (Lake Jocassee) with a 7565-acre surface area, a water volume of 1,160,298 acre-feet, and a total drainage area of 147 sq-miles at full pond (1,110 feet elevation above mean sea level). The reservoir was created in 1973 with the construction of the dam. The Jocassee Dam is an embankment dam with an earthen core and rockfilled and random rockfilled zones (see Figure 1).

(b)(7)(F)

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The dam is 385 feet in height (1,125 crest elevation above mean sea level) and 1,825 feet in length and, along with two homogeneous earthfill dikes and a reinforced concrete spillway, is part of a hydroelectric station and pumped storage project. The underground powerhouse generating units receive water from two cylindrical intake towers through eight openings. The water is channeled from the intake towers to four hydro turbines by two bifurcated power tunnels which are constructed through the bedrock of the east abutment. Two gates 33 feet in height and 38 feet in width control the outflow of the spillway.

Databases

The staff used two databases to obtain information about the population of dams in the US: the National Inventory of Dams (NID), maintained by the US Army Corps of Engineers, and the National Performance of Dams Program (NPDP), developed by the Department of Civil and Environmental Engineering at Stanford University. The NID database contains data describing multiple attributes such as dimensions, type, impoundment characteristics, etc. The NPDP database contains a collection of dam incident reports searchable by various parameters including dam type, incident type, and consequences.

Failure Events

Table 1 lists the applicable dam failures initially derived from the NPDP database. To choose these 13 failures, the analysts used criteria based on the previously discussed dam characteristics (i.e., dam type and height). However, due to the ambiguity in the classification of the dam type (i.e., based on material composition) between and within the NID and NPDP databases, as well as the lack of information to establish an exact link with the Jocassee Dam characteristics for every data point, the staff considered both rockfill dams and mixed-rockfill dams (i.e., those classified exclusively as rockfill dams as well as mixed dam types that include rockfill in their categorization). It should be noted that the NPDP database does not list any failures post-2006 and at least two well-known large dam failures in the U.S. are not included: the Big Bay Dam in Mississippi (March 2004) and the Taum Sauk Reservoir (December 2005) in Missouri. While the Big Bay Dam was an earthen dam (i.e., excluded based on dam type), the Taum Sauk Reservoir consisted of a concrete-faced rockfill dam approximately 100 feet in height and was, therefore, included in the current analysis.

Additionally, the list was screened to take into consideration (i) failure events observed between 1900 and 2005, and (ii) failure events observed between 1940 and 2005; under the assumption that events prior to these construction periods could produce different results representative of distinct design practices. In part, this choice was due to the lack of information on the exact construction date of several dams in the database. The staff expended an extensive effort to determine the construction completion date for several dams for which the information was missing in the NPDP database (this information is included in Table 1).

Several failures listed in Table 1 have (or are assumed to have) occurred within a few years of either the start or completion of construction (e.g., the Lower Hell Hole Dam and the Frenchman Dam failures). Based on the information available and the estimated completion dates, the staff screened out such failures since the occurrence of the events was assumed to be related to the construction phase and, therefore, not applicable to a mature dam such as Jocassee.

Finally, the analysts chose to include the Dresser No. 4 Dam failure, because they deemed this dam to be similar to the Jocassee Dam in composition (i.e., a large mixed earthfill-rockfill dam),

despite the fact that it is listed as a tailings dam (i.e., a dam theoretically built under lower standards of quality and maintenance).

Therefore, the final list of failures of dams similar to, and therefore applicable to, the Jocassee Dam includes 6 failures occurring between 1900 and 2005. These six failures are highlighted in Table 1. The staff included these failures based on the following criteria: (i) rockfill or mixed-rockfill dam type, (ii) dam height above 50 feet, (iii) failure occurring after 1900, and (iv) no failures during or within a few years of completion of construction. Note that if failures occurring prior to 1940 are screened, then only 4 events remain: (1) Taum Sauk, (2) Dresser No.4 Dam, (3) Skagway, and (4) Kern Brothers Reservoir. It should be noted that there are 1 to 3 failures of dams built between 1940 and 2005 depending on whether the entries with unknown construction dates are excluded or not, respectively (in similar fashion, there are 3 to 5 failures for dams constructed between 1900-2005 excluding or not entries with unknown construction dates, respectively).

Total Dam-years Calculation

To calculate the dam failure rate, the staff needed to obtain the total number of dam-years of both failed and non-failed dams. The analysts extracted a subset of dams from the NID database based on a set of parameters to narrow the US population of dams to those reflecting the characteristics of the Jocassee Dam discussed above, i.e., large rockfill dams. They assumed that dams above 50 feet in height appropriately reflect design practices and structural characteristics of larger dams such as Jocassee. This height criterion was consistent with the large dam definition (WCD, 2000) established by the International Commission on Large Dams (ICOLD) which "defines a large dam as a dam with a height of 15m or more from the foundation." If dams are between 5-15 meters high and have a reservoir volume of more than 3 million cubic meters, ICOLD also classified such dams as large. Hence, the staff used this definition as a screening criterion. The dams considered for calculation of the total dam-years were those in the NID database that were categorized exclusively as 'Rockfill' dams (i.e., those listed under the 'ER' abbreviation, intended to correspond to rockfill dams for NID cataloguing purposes).

The staff included the dam-year contributions from Skagway and the replacement for the failed Frenchman Dam, while those from Kern Brothers Reservoir, Dresser No. 4 Dam, Penn Forest, and the failed Frenchman Dam were not included. This was because the staff judges that including the dam-year contribution from these specific dams would not significantly impact the resulting dam-year total. The staff calculated the final result using the difference between the last year in the available data (2005) and either 1900 or 1940. For the 1900-2005 period, the staff obtained a total of 21,490 dam-years; while for 1940-2005 the result was 13,889 dam-years. See Appendix A for a tabulation of the dams and the associated dam-years.

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Table 1: Initial List of dam failure events applicable to the Jocassee Dam

Dam Name	Incident Year	Completion Year (Est.)	Incident Type	Dam Type	Height (ft)	Description From NPDP Database (Except Taum Sauk)
Taum Sauk	2005	1963	Overtopping	Rockfill	94	Overtopped due to over-pumping of reservoir. Independent analysis indicated several root causes (e.g., lack of monitoring, spillway).
Dresser No.4 Dam	1975	Unknown	Piping	Earth Rockfill /Tailings	105	Catastrophic failure that created a breach 300 feet wide in the levee.
Skagway	1965	1925	Inflow Flood - Hydrologic Event	Rockfill	79	The dam failed during a flood in 1965.
Hell Hole	1964	1964	Not Known	Rockfill	410	Dam failed during construction. Overtopped by 100 feet - washing out most of the fill.
Penn Forest	1960	1960	Piping	Concrete Earth Rockfill	151	Partial failure. Sinkhole occurred in upstream slope of dam.
Frenchman Dam	1952	1951	Inflow Flood - Hydrologic Event	Rockfill	63	Runoff from melting snow. A dike section was overtopped early morning April 15, 1952. Later that day, dam breached.
Kerr Brothers Reservoir	1949	Unknown	Settlement	Earth Rockfill	54	Failure due to excessive settlement of fill.
Lake Francis	1899	1899	Piping	Earth Rockfill	79	Blowout failure under concrete spillway weir structure during period of heavy spillway flow. Spillway failure thought to be due to piping in soft saturated foundation.
Lafayette	1928	1928	Embankment Slide	Earth Rockfill	132	Foundation slide during construction (at 120 feet). Height raised to 170 feet in 1932. Not sure if this is considered a failure.
Manitou	1924	1917	Seepage	Earth Rockfill	123	Partial failure was disintegrating and converted into gravel fill.
Lyman	1915	1912	Piping	Earth Rockfill	76.4	Failure by piping through abutment; undermined by passage of water under cap of lava rock which flanked dam and extended beneath spillway. Main part of dam uninjured.
Lower Otay	1916	1897	Spillway	Earth Rockfill	154	Foundation slide during construction (at 120 feet). Height raised to 170 feet in 1932. Not sure if this is considered a failure.
Black Rock	1909	1908	Piping	Earth Rockfill	70	Failure by piping through abutment; undermined by passage of water under cap of lava rock which flanked dam and extended beneath spillway. Portion of spillway dropped 7 feet; some fill at south end washed out. Main part of dam uninjured.

Generic Point Estimate of the Dam Failure Rate

The staff calculated the point estimate by dividing the number of applicable dam failures (see Table 1 above) by the total applicable dam-years (derived as described previously). Assuming a 1900-2005 range for the year of occurrence of the failure events and the dam-year estimation (based on completion year), the analysts obtained a failure rate of 2.8E-4 per dam-year. When considering a 1940-2005 range, the staff obtained a result of 2.9E-4 per dam-year.

Because the NID database does not give information regarding the quality of design, construction and/or maintenance, and the NPDP database does not consistently supply information on the dam health (i.e., is it well maintained?) at time of failure, the staff could not derive failure rates for above or below average built and maintained dams. This lack of information precluded the staff from making any judgment as to whether Jocassee is or is not an above average designed, constructed and maintained dam deserving of a failure frequency different than an average failure frequency.

Additionally, the staff recognizes that ambiguity and lack of complete information with respect to dam type, construction completion data, and dam incident reporting, may result in variations in the failure rate estimation. Therefore, the staff performed a simple sensitivity study in order to evaluate the changes due to screening failure events and cut-off year criteria. The results are shown in Table 2 for an assumed number of failures and clearly indicated that the results exhibit small variations for the period cut-off selected (1900-2005 and 1940-2005) and the number of failures considered (6 and 4, respectively). Additionally, the extent of the variation in the point estimate is shown for other number of failures and cut-off years based on the subset of dams selected. The table illustrates that the order-of-magnitude failure frequency estimate does not change significantly if the number of failures is increased or decreased slightly.

Table 2: Failure Rate Sensitivity Analysis

			ASSUMED NUMBER OF FAILURES						
CUT-OFF	DAM-YEARS	# DAMS	1	2	3	4	5	6	7
ALL	25137	484	4.0E-05	8.0E-05	1.2E-04	1.6E-04	2.0E-04	2.4E-04	2.8E-04
1900	21490	466	4.7E-05	9.3E-05	1.4E-04	1.9E-04	2.3E-04	2.8E-04	3.3E-04
1910	19778	449	5.1E-05	1.0E-04	1.5E-04	2.0E-04	2.5E-04	3.0E-04	3.5E-04
1920	18389	434	5.4E-05	1.1E-04	1.6E-04	2.2E-04	2.7E-04	3.3E-04	3.8E-04
1930	16475	410	6.1E-05	1.2E-04	1.8E-04	2.4E-04	3.0E-04	3.6E-04	4.2E-04
1940	13889	373	7.2E-05	1.4E-04	2.2E-04	2.9E-04	3.6E-04	4.3E-04	5.0E-04
1950	12269	346	8.2E-05	1.6E-04	2.4E-04	3.3E-04	4.1E-04	4.9E-04	5.7E-04
1960	8453	270	1.2E-04	2.4E-04	3.5E-04	4.7E-04	5.9E-04	7.1E-04	8.3E-04
1970	3242	143	3.1E-04	6.2E-04	9.3E-04	[illegible]	[illegible]	[illegible]	[illegible]
1980	1339	82	7.5E-04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1990	381	36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			FAILURE RATE GIVEN # NUMBER OF FAILURES AND CUTOFF YEAR						

Bayesian Estimate of the Dam Failure Rate

To evaluate the dam failure rate uncertainty, the staff conducted a Bayesian analysis of the failure rate for the 1900-2005 period via a Bayesian analysis approach (Atwood et al, 2003). In this approach, a prior distribution was assumed from the number of failures and dam-years for all large dams (according to the ICOLD definition) identified in the NID and NPDP databases. Failures identified as 'infantile failures' in NPDP were excluded and only dams built since 1900 according to NID were used for total dam-year calculation. Under these assumptions, the total number of failures for all large dams for 1900-2005 was 84 with a total of 260,960 dam-years. This corresponds to a point estimate of the failure rate equivalent to 3.2E-4/dam-year. A distribution was fitted around this mean. The number of dam failure events was modeled as a Poisson distribution for which its conjugate prior was assumed to follow a Gamma distribution (i.e., the conjugate prior in a Gamma-Poisson model). The staff, based on judgment, chose a Gamma distribution with the point estimate obtained from the large dam failure rate above and a 5^{th} percentile corresponding to 1E-5/dam-year. With these assumptions, the staff obtained a prior Gamma distribution with parameters $\alpha = 0.8333$ and $\beta = 2589$, which has a 5^{th} percentile equivalent to 1E-5/dam-year and a 95^{th} percentile corresponding to 1E-3/dam-year. The staff updated this prior distribution with the data used to obtain the large rockfill dam point estimate (e.g., 6 failures in 21,490 dam-years) to calculate the posterior distribution. The resulting posterior has a mean of 2.8E-4/dam-year, a 5^{th} percentile of 1.3E-4/dam-years, and a 95^{th} percentile of 4.8E-4/dam-years (with parameters $\alpha = 6.8333$ and $\beta = 24,079$). Figure 2 shows both the generic large dam prior and the posterior specific to rockfill dams.

Conclusions

The staff estimated generic dam failure rates for large rockfill dams, which it considers applicable to the Jocassee Dam, as 2.8E-4/dam-year. Given the nature of the data and the assumptions involved in narrowing the applicable failure events and subset of the U.S. dam population comparable to this specific dam, the staff performed a Bayesian analysis. Using available data on the domestic inventory of dams and dam failures, the range obtained varies between 1.3E-4/dam-year and 4.8E-4/dam-year (5^{th} – 95^{th} percentile) around a mean of 2.8E-4/dam-year.

A literature review performed by the authors for statistical studies of dam failures appears to corroborate this conclusion. Such studies were found in Baecher et al (1980), Martz and Bryson (1982), Donnelly (1994), ICOLD (1995), Foster (2000a), and Foster et al (2000b).

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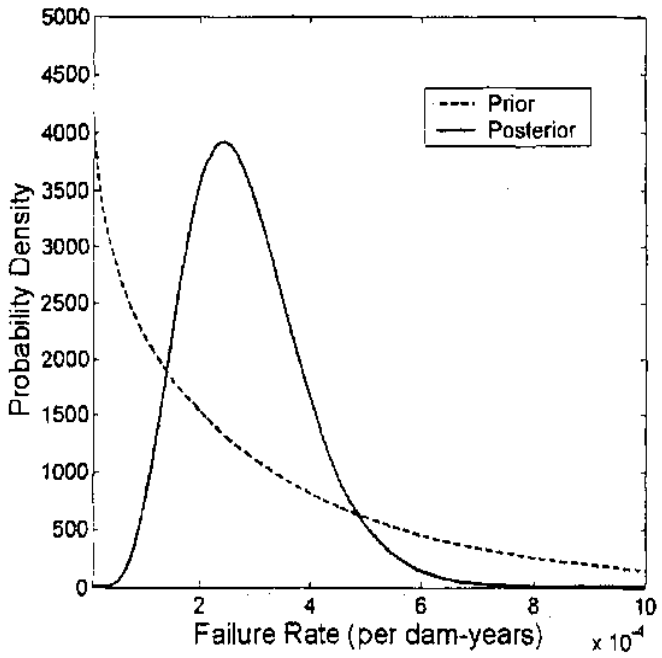
Figure 2: Failure Rate Probability Distributions Used in Bayesian Updating



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Appendix A: Dam-Year Tabulation

Dam Name	NID ID Number	Year Completed	NID Height (ft.)	NID Storage (cubic yards)	Dam Years (since 2005)	Dam Years Running total (since 2005)
FRANCIS, LAKE	CA00886	2000	79	1,905	5	5
DIAMOND VALLEY LAKE	CA01410	2000	284	800,000	5	10
HANSEN RECREATIONAL LAKE	CA01445	1999	50	85	6	16
LOLONIS VINEYARDS	CA01423	1999	67	209	6	22
SEVEN OAKS	CA10324	1998	550	145,800	8	28
MELROSE AVENUE	CA01400	1998	57	62	7	35
AMARGOSA CREEK	CA01408	1998	55	1,187	7	42
NICKS CANYON RB	CA01414	1997	80	110	8	50
DENNIS NO 2	CA01398	1997	80	148	8	58
RMG WEST TAILINGS DAM	NV10506	1997	90	9,567	8	66
LOS VAQUEROS	CA01398	1997	197	100,000	8	74
ARUNDELL BARRANCA	CA01412	1996	57	155	9	83
SEA RANCH	CA01411	1996	81	300	9	92
ILLINOIS CREEK HEAP LEACH DAM	AK00281	1996	83	103	9	101
CHASE GULCH	CO02788	1996	100	1,250	9	110
Slack	AZ00225	1995	54.7	59	10	120
Gold Gulch 1A	AZ00224	1995	106	110	10	130
HUCKLEBERRY CREEK DAM	AR01622	1995	110	23,342	10	140
BEE CANYON RB	CA01390	1994	62	243	11	151
BRICK FLAT PIT CONT	CA01397	1994	85	220	11	162
ROUND CANYON RB	CA01378	1994	88	286	11	173
JAMESTOWN MINES T	CA01245	1994	200	12,100	11	184
MACKS CREEK	ID00460	1993	52.5	488	12	196
RED DOG TAILINGS DAM	AK00201	1993	172	24,767	12	208
LANGTRY	CA01350	1992	50	525	13	221
SANDS HILL SLURRY IMPOUNDMENT DAM	OH02839	1992	131	1,200	13	234
HEITZ	CA01346	1991	97	272	14	248
BRADLEY LAKE SPILLWAY DAM	AK83023	1991	115	284,150	14	262
BRADLEY LAKE DAM	AK83016	1991	125	284,150	14	276
L PETERS DAM RB	CA01207	1990	52	208	15	291
PANTHER CREEK RESERVOIR	AR01496	1990	51	280	15	306
CENTENNIAL	CA01248	1990	82	635	15	321
MOLYCORP TAILING DAM 5A	NV00531	1990	73	3,830	15	336
PAD 8 OVERFLOW POND DAM	SC02678	1990	60	55	15	351
MCCOY/COVE TAILINGS STORAGE FACILITY	NV10301	1990	140	22,425	15	366
HOMESTAKE TAILINGS	CA01205	1990	188	0	15	381
PLYMOUTH EFFL	CA01188	1989	59	157	16	397
HARVEY PLACE	CA01222	1989	72	3,700	16	413
RED DOG WATER SUPPLY DAM	AK00200	1988	75	684	16	429
DOVE CANYON	CA01248	1989	88	415	16	445
NEW SPICER MEADOW	CA01224	1989	267	189,000	16	461
CSP MULE CREEK	CA01195	1988	51	535	17	478
FOSS VALLEY	CA01258	1988	58	800	17	495
FOOTHILL PARK	CA00888	1988	88	87	17	512
DAY CREEK DB	CA01232	1988	90	140	17	529
Schoens	AZ00207	1988	143.5	62,000	17	546
YATESVILLE DAM	KY82201	1988	156	63,300	17	563
RAMONA	CA01215	1988	228	12,200	17	580
Mt St Helens Sediment Retention Structure	WA00558	1988	240	126,000	17	597
ANTELOPE	CA01213	1987	57	764	18	615
STEVENOT	CA01301	1987	70	150	18	633
BALSAM MEADOW	CA01283	1986	127	2,040	19	652
BRADFORD	CA01269	1986	58	440	20	672
JAYNE B LAKE	CA01282	1985	70	1,225	20	692
PAPILLION CREEK & TRIB, SITE 18	NE82202	1985	90	18,262	20	712
DAVIS CREEK	CA01223	1985	105	6,078	20	732
RED MOUNTAIN RES	CA00225	1985	120	1,350	20	752
EDWARDS RES	CA01240	1985	120	596	20	772
TRABUCO	CA01241	1984	108	138	21	793
TERROR LAKE	AK83008	1984	193	108,000	21	814
GARNETT, CITY OF, CEDAR CREEK RESERVOIR	KS07008	1983	70	24,000	22	836
ANDREW CADEMARTORI	CA01274	1983	60	142	22	858
CULMBACK	WA00208	1983	282	153,260	22	880
CALERO	CA01209	1982	55	2,832	23	903
FLAT ROCK CREEK SITE 1	AR01442	1982	57	509	23	926
MERLO	CA01313	1982	74	930	23	949
COEN C-3	CA01317	1982	97	480	23	972
Gold Gulch #2	AZ00194	1982	116.3	680	23	995
SOLOMON GULCH SPILLWAY	AK83021	1981	65	31,600	24	1,019
COMAL RIVER WS SCS SITE 2 DAM	TX04788	1981	75	19,024	24	1,043
STANLEY A MAHR RES	CA01260	1981	79	188	24	1,067
LAS LLAJAS	CA01217	1981	95	1,250	24	1,091
SOLOMON GULCH	AK00027	1981	115	31,600	24	1,115
Jennings Randolph	MD00089	1981	298	130,800	24	1,139
LAKEPORT	CA01230	1980	61	850	25	1,164
PORTOLA	CA01183	1980	63	586	25	1,189
SAND CREEK	CA01180	1980	80	1,050	25	1,214
CUCAMONGA CR DB	CA01277	1980	80	355	25	1,239
DEER CANYON DB	CA01231	1980	79	24	25	1,264
PEA RIDGE TAILINGS DAM	MO30473	1980	160	4,100	25	1,289
PAINTSVILLE DAM	KY82202	1980	180	73,500	25	1,314
APPLEGATE DAM	OR00824	1980	242	69,300	25	1,339
GRINDING ROCK	CA01184	1979	55	330	26	1,365
FLAT TOP MINE #1 IMPOUNDMENT	AL01519	1979	75	35	26	1,391
BESSIE MINES #3 IMPOUNDMENT	AL01525	1979	100	95	26	1,417
SOULAJULE	CA01083	1979	122	10,700	26	1,443
UPPER DSD	CA01145	1979	142	3,700	26	1,469
WASTEWATER STORAGE	CA01137	1978	75	212	27	1,496
SANTA MONICA DB	CA01134	1978	102	78	27	1,523
QUARTZ	CA01148	1978	104	1,500	27	1,550
SAFE SHUTDOWN IMPOUNDMENT DAM	TX04912	1977	70	800	28	1,578
LOS ANGELES RES	CA01081	1977	130	10,000	28	1,606
DECUEEN	AR01201	1977	160	370,600	28	1,634

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Dam Name	NID ID Number	Year Completed	NID Height (ft.)	NID Storage (cubic yards)	Dam Years (since 2005	Dam Years Running total (since 2005)
NEW U SAN LEANDRO	CA01082	1977	182	42,000	28	1,882
LITTLE BLUE RUN	PA00617	1977	400	73,000	28	1,890
SUNFLOWER	CA01116	1976	50	420	29	1,719
LAKE CO SAN DIST 2	CA01105	1976	77	870	29	1,748
HOLMAN	CA01128	1976	101	250	29	1,777
MISSION VIEJO, LAKE	CA01122	1976	123	4,500	29	1,806
NEW LAKE ARROWHEAD	CA01124	1976	225	1,970	29	1,835
WILLIAM L. JESS	OR00612	1976	346	500,000	29	1,864
POND 2B	CA01092	1976	55	88	30	1,894
FOREST MEADOWS	CA01129	1975	60	117	30	1,924
LIVE OAK RES	CA01084	1975	106	2,600	30	1,954
TRAMPAS CANYON	CA01123	1975	193	6,700	30	1,984
EAGLE RANCH	CA01101	1974	56	300	31	2,015
ASU/NORRIS BRANCH	NC01574	1974	112	782	31	2,046
ELDERBERRY FB	CA01080	1974	178	28,400	31	2,077
MOKELUMNE HILL	CA01111	1973	62	52	32	2,109
BOYD NO 2	CA01064	1973	53	670	32	2,141
J C JACOBSEN	CA00587	1973	56	1,820	32	2,173
TOCASSEE SPILLWAY	SC02757	1970	84	1,287,788	32	2,205
RESERVOIR A	CA01112	1973	93	180	32	2,237
NOCHAMIXON	PA00734	1972	102	71,000	32	2,269
ROBERT A SKINNER	CA00221	1973	109	43,800	32	2,301
JEFF DAVIS	CA00309	1973	114	1,800	32	2,333
PERRIS	CA00064	1973	130	131,432	32	2,365
LAUREL DAM	KY03048	1972	280	435,800	32	2,397
CASTAIC	CA00044	1972	340	323,700	32	2,429
TOCASSEE	SC00529	1973	380	1,287,788	32	2,461
RANCHO SECO	CA00825	1972	68	2,950	33	2,494
EWING	CA00903	1972	63	887	33	2,527
Lower Rimrock Dam	WA00035	1972	87	550	33	2,560
CHESERO	CA00895	1972	78	1,250	33	2,593
CRAWFORD RANCH	CA00977	1972	80	340	33	2,626
LAUREL CREEK	PA00578	1972	135	4,080	33	2,659
WESTLAKE RES	CA00904	1972	156	9,200	33	2,692
YANKEE DOODLE TAILINGS DAM	MT01425	1972	570	7,200	33	2,725
CANADA ROAD	CA00055	1971	52	74	34	2,759
STRAZA	CA01084	1971	62	185	34	2,793
LACKAWANNA	PA00913	1971	69	14,200	34	2,827
ALISAL CREEK	CA00731	1971	93	2,342	34	2,861
TURNER	CA00905	1971	111	2,000	34	2,895
MANITOU	CO00426	1971	124	1,100	34	2,929
POWAY	CA00909	1971	162	3,300	34	2,963
DON PEDRO	CA00281	1971	568	2,030,000	34	2,997
MURRAY	CA01061	1970	55	117	35	3,032
PALO VERDE	CA00788	1970	87	730	35	3,067
ANTHONY HOUSE	CA00964	1970	75	3,840	35	3,102
L VAN NORMAN BYPASS	CA00101	1970	78	240	35	3,137
Willow Springs	AZ00068	1970	87.7	4,200	35	3,172
DIXON	CA00878	1970	116	2,500	35	3,207
Silver Basin	AZ00022	1970	180	6,000	35	3,242
TERMINAL	CA00888	1969	53	844	36	3,278
Clear Branch Creek Dam	OR00451	1969	111	4,000	36	3,314
BIG CREEK	CA00652	1968	120	7,650	36	3,350
WOOD CREEK LAKE DAM	KY00988	1969	183	29,101	36	3,386
LOPEZ	CA00887	1969	166	52,500	36	3,422
WIDE CANYON	CA00803	1968	84	1,480	37	3,459
COYOTE CREEK	CA00572	1968	92	3,375	37	3,496
SUMMIT RES	CA00148	1968	124	220	37	3,533
EAU GALLE	WI00780	1968	127	56,900	37	3,570
SANTA YNEZ CANYON	CA00100	1968	157	350	37	3,607
WALNUT CANYON	CA00889	1968	187	2,570	37	3,644
DEL VALLE	CA00043	1968	222	77,100	37	3,681
MINERAL HOT SPRINGS LAKE	CA01026	1967	54	37	38	3,719
SWAN	CA00965	1967	59	550	38	3,757
HILLSIDE RANCH	CA01097	1967	60	210	38	3,795
MAGNOLIA	CA00956	1967	68	4,150	38	3,833
INDIAN CREEK	CA00894	1967	71	3,160	38	3,871
MSD TREATMENT PLANT DAM	NC00329	1967	75	385	38	3,909
WALNUT CR CLRWELL	CA00175	1967	102	25	38	3,947
EL TORO RES	CA00875	1967	106	877	38	3,985
MOLYCORP TAILINGS	CA01394	1967	118	309	38	4,023
FOSTER	OR00012	1967	128	61,000	38	4,061
Cabin Creek Upper	CO01239	1967	216	1,800	38	4,099
HOMESTAKE PROJECT	CO00873	1967	285	45,670	38	4,137
Feucheng Lake Main	CA00256	1966	51	4,020	39	4,178
HAWKEYE	CA01052	1966	58	140	39	4,215
RIGHETTI	CA00725	1966	80	680	39	4,254
McSwain	CA00242	1966	87	10,000	39	4,293
Chevelon Canyon	AZ00046	1966	100	8,542	39	4,332
GRIZZLY VALLEY	CA00039	1966	115	83,000	39	4,371
N. FORK OF POUND DAM	VA19501	1965	122	11,283	39	4,410
SAN JOAQUIN RES	CA00853	1965	224	3,038	39	4,449
LOWER HELL HOLE	CA00857	1966	410	208,400	39	4,488
HARTZELL	CA00727	1965	50	300	40	4,528
Yards Creek Upper - West Dike	NJ03004	1965	52	4,900	40	4,568
HAYNES RES	CA01030	1965	67	5,870	40	4,608
REBA	CA00642	1965	70	240	40	4,648
UPPER BLUE	CO00871	1965	75	2,835	40	4,688
DUTCH FLAT 2 FB	CA00258	1965	77	185	40	4,728
Youngs River Reservoir	OR03632	1966	81	12,000	40	4,768
GRASSHOPPER HOLLOW TAILINGS DAM	WV08523	1965	126	1,260	40	4,808
WOOD RANCH	CA00850	1966	145	11,000	40	4,848
Dutch Flat Afterbay	CA00257	1965	165	2,040	40	4,888
JACKSON CREEK	CA00667	1965	193	22,000	40	4,928
JACKSON MEADOWS	CA00254	1965	195	52,500	40	4,968

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Dam Name	NID ID Number	Year Completed	Dam Height (ft)	NID Storage (acre-feet)	Dam Years (since 2005)	Dam Years (Running total since 2005)
SAN ANTONIO	CA00813	1965	202	350,000	40	5,008
FALL CREEK	OR00007	1988	205	125,000	40	5,048
IRON CANYON	CA00417	1985	214	24,300	40	5,088
L L ANDERSON	CA00858	1965	231	111,333	40	5,128
MCCLOUD	CA00416	1965	240	35,300	40	5,168
SUMMERSVILLE DAM	WV00702	1965	390	413,400	40	5,208
GRIZZLY CREEK	CA00553	1964	50	78	41	5,249
ADA ROSE, LAKE	CA00871	1964	50	138	41	5,290
BERNARDO RES	CA00118	1964	64	30	41	5,331
Clinch River Flyash Dam #1	VA18703	1964	55	1,240	41	5,372
BRENTWOOD PARK	CA00851	1964	58	80	41	5,413
Camp Kwoneesum Dam	WA00131	1964	80	120	41	5,454
SCOUT LAKE	CA00563	1964	63	1,140	41	5,495
Clinch River Flyash Dam #2	VA18702	1964	65	157	41	5,536
SAN LORENZO CR	CA00841	1964	60	380	41	5,577
HARBOR VIEW	CA00830	1964	85	28	41	5,618
SENIOR CANYON	CA01019	1964	78	73	41	5,659
FISHPOND LAKE DAM	KY00042	1964	105	1,168	41	5,700
ANTELOPE	CA00007	1964	113	22,668	41	5,741
JAMES H TURNER	CA00152	1964	183	50,500	41	5,782
BRIONES	CA00172	1964	273	57,520	41	5,823
ROUND BUTTE	OR00549	1964	440	535,000	41	5,864
COUGAR	OR00015	1964	519	219,000	41	5,905
FOOTHILL REG PARK	CA01057	1963	51	105	42	5,947
LARSON	CA00712	1963	54	325	42	5,989
CULL CREEK	CA00840	1963	58	310	42	6,031
NIMS LAKE DAM	MO30004	1963	57	6,280	42	6,073
Canyon Creek Meadows Reservoir	OR00385	1963	58	400	42	6,115
MARSH CREEK	CA00808	1963	69	4,425	42	6,157
WARD CREEK	CA00839	1963	71	130	42	6,199
LAKE SYMPSON DAM	KY00045	1963	73	4,994	42	6,241
MAST	CA00872	1963	85	380	42	6,283
LOWER SUNSET DB	CA01161	1963	66	37	42	6,325
TAUM SAUK PS UPPER	MO30040	1963	84	4,350	42	6,367
MATANZAS CREEK	CA00704	1963	95	1,600	42	6,409
Loon Lake Auxiliary	CA53009	1963	102	76,500	42	6,451
LOON LAKE	CA00620	1963	108	76,500	42	6,493
VILLA PARK	CA00829	1963	118	18,600	42	6,535
PALISADES RES	CA00843	1963	146	147	42	6,577
VIRGINIA RANCH	CA00842	1963	152	57,000	42	6,619
MAERKLE	CA00844	1963	185	800	42	6,661
CAMANCHE	CA00173	1963	171	417,120	42	6,703
CAMP FAR WEST	CA00227	1963	185	104,500	42	6,745
JOHN W FLANNAGAN DAM	VA05101	1963	250	145,700	42	6,787
UNION VALLEY	CA00818	1863	453	230,000	42	6,829
TOWBALYLA	CA00589	1962	61	376	43	6,872
MAYHEW RESERVOIR	CA00897	1962	63	18	43	6,915
MINERS RANCH	CA00275	1962	66	912	43	6,958
BOSCH NO 2	CA01044	1962	56	37	43	7,001
HIGHLAND CREEK	CA00828	1962	75	3,500	43	7,044
Lyrtle Lake	AZ00049	1962	89.2	2,784	43	7,087
PATTERSON	CA00895	1962	100	46	43	7,130
HERNANDEZ	CA00848	1962	124	18,000	43	7,173
OLIVE HILLS RES	CA00870	1962	140	186	43	7,216
DEVELOPMENT NO. 2 DAM	OR00317	1962	145	26,000	43	7,259
ROBERT W MATTHEWS	CA00833	1962	150	51,800	43	7,302
PONDEROSA DIV	CA00274	1962	180	4,760	43	7,345
MARK EDSON	CA00607	1962	182	20,000	43	7,388
CHET HARRITT	CA00736	1962	200	9,790	43	7,431
WILSON DB	CA01162	1961	50	84	44	7,475
DANVILLE	CA00184	1961	75	45	44	7,519
NORTH	CA00183	1961	82	244	44	7,563
BETHANY FOREBAY	CA00033	1961	85	6,250	44	7,607
SEEGER	CA00209	1961	115	22,400	44	7,651
ROSEMONT	CO00471	1961	120	3,155	44	7,695
FRENCHMAN	CA00032	1961	129	55,477	44	7,739
OXBOW	ID00057	1961	175	58,200	44	7,783
CORNWALL TAILINGS	PA00597	1961	200	3,680	44	7,827
LITTLE GRASS VY	CA00289	1961	210	93,010	44	7,871
FRANCIS E WALTER DAM	PA00608	1961	238	160,280	44	7,916
SLY CREEK	CA00272	1961	271	86,060	44	7,959
LEWIS SMITH	AL01420	1961	300	1,670,700	44	8,003
SANTA ANITA DB	CA01165	1960	56	116	45	8,048
BIG DALTON DB	CA01158	1960	59	193	45	8,093
WILLIAM, LAKE	CA00586	1960	66	340	45	8,138
LITTLE DALTON DB	CA01154	1960	71	234	45	8,183
DICKSON HILL	CA00885	1960	90	23	45	8,228
MALONEY	CA00180	1960	107	68	45	8,273
ASH CREEK	UT00010	1960	138	12,250	45	8,318
NEWELL	CA00156	1960	182	8,991	45	8,363
WHALE ROCK	CA00029	1960	193	40,682	45	8,408
MAMMOTH POOL	CA00443	1960	409	123,000	45	8,453
BIG CANYON	CA00891	1959	85	600	46	8,499
RATTLESNAKE CAN	CA00855	1959	79	1,460	46	8,545
BELL CANYON	CA00149	1959	85	2,530	46	8,591
ICE HOUSE	CA00814	1959	150	37,120	46	8,637
CARIBOU AFTERBAY	CA00413	1959	164	2,400	46	8,683
EARTHQUAKE LAKE	MT00882	1959	200	68,500	46	8,729
J W WISDA	CA00053	1958	50	45	47	8,776
SIERRA MADRE VIL	CA01156	1958	50	109	47	8,823
EARL THOMAS RES	CA00119	1958	58	107	47	8,870
Pena Blanca	AZ00028	1958	72	1,240	47	8,917
DEER LAKE	CA00579	1958	72	260	47	8,964
SAN MARCOS	CA00785	1958	85	320	47	9,011
MIDDLEFIELD RES	CA00896	1958	147	22	47	9,058

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Dam Name	NIDID Number	Year Completed	NID Height (ft.)	NID Storage (acre-feet)	Dam Years (since 2005)	Dam Years Running total (since 2005)
Wishon Main	CA00411	1958	285	129,000	47	9,105
Courtright	CA00412	1958	315	123,000	47	9,152
MCMAHON	CA00701	1957	52	520	48	9,200
MURRY	CA01013	1957	64	715	48	9,248
LUNGA DAM	VA17901	1957	56	9,600	48	9,296
A L CHAFFIN	CA00552	1957	65	450	48	9,344
ARROYO SECO	CA00613	1957	67	2,433	48	9,392
SMALL CANYON	CA00314	1957	86	20	48	9,440
PLEASANT VALLEY	CA00098	1957	67	3,625	48	9,488
UVAS	CA00607	1957	118	10,000	48	9,536
PARADISE	CA00297	1957	175	11,500	48	9,584
NACIMIENTO	CA00612	1957	210	350,000	48	9,632
LA VERNE, LAKE	CA00983	1966	50	64	49	9,681
COIT	CA01017	1958	54	775	49	9,730
SOUTH	CA00181	1950	68	156	49	9,779
SYCAMORE	CA00600	1956	83	880	49	9,828
ALESSANDRO	CA00796	1958	68	370	49	9,877
TEJON STORAGE 2	CA00729	1958	67	660	49	9,926
ANNADEL NO 1	CA00056	1956	67	396	49	9,975
Fool Hollow	AZ00051	1958	78	5,817	48	10,024
PINE CREEK	CA00906	1958	87	225	49	10,073
MONTGOMERY	CO00377	1956	112	8,100	49	10,122
CHERRY VALLEY	CA00125	1956	315	273,500	49	10,171
MOSKOWITE	CA00585	1956	60	472	50	10,221
BEVANS CREEK	CA00582	1955	51	215	50	10,271
PORTAL PH FOREBAY	CA00442	1956	65	335	50	10,321
DICK WEEK	CA00585	1955	70	3,140	50	10,371
SAWPIT DB	CA01157	1955	82	152	50	10,421
ELMER J CHESBRO	CA00808	1955	86	8,088	50	10,471
Steer Branch Dam	VA19503	1955	210	40	50	10,521
LUCKY PEAK	ID00288	1955	340	307,000	50	10,571
HARRISON STREET	CA00797	1954	50	208	51	10,622
NAIL	CA00833	1954	54	188	51	10,673
RICHARDSON	CA00994	1954	85	520	51	10,724
PINON CANYON DETENTION	CO00105	1954	75	581	51	10,775
UPPER STONE CANYON	CA00097	1954	111	425	51	10,826
CARVEY RES	CA00217	1954	160	1,610	51	10,877
VERMILION VALLEY	CA00441	1954	197	125,000	51	10,928
PETERS	CA00208	1954	230	32,900	51	10,979
FRENCHMAN DAM	MT00003	1953	83	21,000	52	11,031
EAGLE ROCK	CA00064	1953	113	254	52	11,083
GREEN VERDUGO	CA00095	1953	118	89	52	11,135
JAMES J LENIHAN	CA00293	1953	208	21,430	52	11,187
CRYSTAL	CA00573	1952	51	105	53	11,240
DEBELL	CA00686	1952	55	120	53	11,293
SUTRO RESERVOIR	CA00135	1952	55	86	53	11,346
SCHUBIN	CA01045	1952	55	225	53	11,399
POMPONIO RANCH	CA01008	1952	63	256	53	11,452
Lower Bear	CA00409	1952	245	54,000	53	11,505
MALLADOMES	CA00591	1951	57	230	54	11,559
NEGEL	CA01047	1951	61	145	54	11,613
RICKEY	CA01009	1951	64	47	54	11,667
Little Hall s Canyon	AZ00215	1951	89.5	1,545	54	11,721
NOVATO CREEK	CA00321	1951	71	4,430	54	11,775
MIDDLE CREEK DAM	MT00018	1951	110	10,230	54	11,829
BELLETT	CA00542	1950	64	90	55	11,884
GLEN MARTIN	CA00754	1950	66	33	55	11,939
DIEDERICH RES	CA00064	1950	60	174	55	11,994
PEABODY	CA00685	1950	80	88	55	12,049
MARLOWE HEIRS REFUSE DAM-WHITE OAK BRANCH	KY00685	1950	80	316	55	12,104
STOCKTON CREEK	CA00696	1950	95	368	55	12,159
AUSTRIAN	CA00680	1950	185	6,200	55	12,214
LEROY ANDERSON	CA00294	1950	236	91,262	55	12,269
SYPHON CANYON	CA00742	1949	59	500	56	12,325
GLENOAKS DIS RES	CA00065	1949	82	28	56	12,381
QUEENS CREEK	NC00333	1949	78	716	56	12,437
BON TEMPE	CA00207	1949	88	4,300	56	12,493
LOS PADRES	CA00692	1949	148	3,100	56	12,549
BIG DRY CREEK	CA01075	1948	55	39,200	57	12,606
JACOBS CREEK	CA03732	1948	55	587	57	12,663
LA HERRADURA	CA00582	1948	73	215	57	12,720
French Lake	CA00247	1948	100	13,800	57	12,777
SCOTTS FLAT	CA00253	1948	175	49,000	57	12,834
MUD MOUNTAIN DAM	WA00300	1948	425	136,300	57	12,891
KUHN	CA00683	1947	67	85	58	12,949
DOS PUEBLOS	CA00730	1948	78	300	58	13,008
CONN CREEK	CA00104	1948	126	31,000	58	13,067
RECTOR CREEK	CA00011	1948	184	4,587	58	13,126
RUBIO DB	CA00203	1944	64	44	61	13,187
PIT 3 COND EMBANK	CA00403	1943	81	1,147	62	13,249
ELYSIAN	CA00089	1943	71	167	62	13,311
NANTAHALA	NC00371	1942	250	126,000	63	13,374
CHORRO CREEK	CA01078	1941	77	90	64	13,438
ORANGE COUNTY RESERVOIR	CA00218	1941	103	217	64	13,502
LONG VALLEY	CA00090	1941	128	183,465	64	13,566
THORPE	NC00378	1941	150	67,100	64	13,630
THORPE LAKE DAM #1 (NP&L FERC)	NC00336	1941	150	-	64	13,694
CALAVERA	CA00781	1940	57	520	65	13,759
GRANT LAKE	CA00089	1940	87	47,525	65	13,824
CHEVY CHASE 1280	CA01078	1940	90	17	65	13,889
MUNICIPAL	CA00755	1939	56	169	66	13,955
KIMBALL CREEK	CA00310	1939	80	344	66	14,021
PALOS VERDES RES	CA00315	1939	82	1,190	66	14,087
NORTH FORK	CA00299	1938	100	6,150	66	14,153
YELLOW WATER MAIN DAM	MT00012	1936	55	6,100	67	14,220

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Dam Name	NIDID Number	Year Completed	NID Height (ft.)	NID Storage (cubic-yards)	Dam Years (since 2005)	Dam Years Running total (since 2005)
RANCHO DEL CIEVRO	CA00719	1938	65	185	67	14,287
SUNSET N BASIN	CA00134	1938	74	275	67	14,354
SUTTENFIELD	CA00010	1938	76	600	67	14,421
C L TILDEN PARK	CA00161	1938	88	268	67	14,488
GREGORY, LAKE	CA00224	1938	90	2,100	67	14,555
MATHEWS	CA00212	1938	284	182,000	67	14,622
SAN GABRIEL NO 1	CA00200	1938	320	44,183	67	14,689
GLACIER LAKE NORTH DAM	MT00068	1937	57	4,980	68	14,757
UNIV MOUND S BN	CA00133	1937	81	250	68	14,825
CHERRY FLAT	CA00168	1936	80	500	69	14,894
EATON WASH DB	CA00201	1936	83	721	69	14,963
WEST VALLEY	CA00300	1936	85	23,000	69	15,032
ALMADEN	CA00288	1936	110	2,000	69	15,101
COYOTE	CA00287	1936	140	23,656	69	15,170
BIG CANYON CR	CA00611	1935	63	385	70	15,240
LAKE QUIVIRA, CITY OF, LAKE QUIVIRA DAM	KS02974	1935	80	2,996	70	15,310
CALERO	CA00288	1935	90	9,650	70	15,380
STEVENS CREEK	CA00292	1935	130	3,800	70	15,450
GUADALUPE	CA00290	1935	142	3,460	70	15,520
COGSWELL	CA00190	1935	266	8,989	70	15,590
BOUQUET CANYON	CA00088	1934	190	36,505	71	15,661
UPPER HOLLYWOOD	CA00087	1933	87	186	72	15,733
SANTIAGO CREEK	CA00298	1933	138	25,000	72	15,806
PETERS CANYON	CA00746	1932	54	1,090	73	15,876
WHITTIER RES NO 4	CA00153	1931	55	32	74	15,952
SWANZY LAKE	CA00144	1931	86	107	74	16,026
SALT SPRINGS	CA00382	1931	332	141,800	74	16,100
MOCCASIN LOWER	CA00122	1930	60	554	75	16,176
GRIZZLY	CO01545	1930	65	987	75	16,250
FELT LAKE	CA00870	1930	87	900	75	16,326
Haskins Creek Dam	OR00115	1930	85	764	75	16,400
BRAND PARK	CA00061	1930	99	37	75	16,475
LAFAYETTE	CA00163	1929	137	4,250	76	16,551
GEUNOC LAKE	CA00564	1928	50	3,237	77	16,628
WUEST	CA00760	1928	50	280	77	16,705
COYOTE FLAT	CA00513	1928	52	5,250	77	16,782
THOMPSON CREEK	CA00198	1928	68	543	77	16,859
BUCKS STORAGE	CA00332	1928	122	103,000	77	16,936
PUDDINGSTONE	CA00194	1926	147	18,342	77	17,013
BIG TOOTH	CO00445	1927	120	205	78	17,091
BOWMAN	CA00245	1927	175	84,000	78	17,169
PHILBROOK	CA00345	1926	86	5,180	79	17,248
CURRY, LAKE	CA00140	1926	107	10,700	79	17,327
BLACK ROCK CR	CA00693	1925	57	30	80	17,407
SKAGWAY	CO00461	1925	79	3,570	80	17,487
THOMPSON	CA00445	1926	114	7,010	80	17,567
DIX RIVER DAM	KY00316	1926	287	230,500	80	17,647
BRIDGEPORT	CA00784	1924	83	44,100	81	17,726
ENGINO	CA00070	1924	158	9,789	81	17,808
STONE CANYON	CA00083	1924	188	10,372	81	17,890
HENDERSON	CA00005	1923	56	500	82	17,972
EL DORADO FOREBAY	CA00375	1923	91	472	82	18,054
DRINKWATER	CA00077	1923	105	90	82	18,136
DAPLES LAKE	CA00378	1922	71	21,580	83	18,219
Spruce Hollow	MD00349	1922	50	150	83	18,304
SAN PABLO	CA00186	1920	170	43,193	85	18,389
Deeps	AZ00013	1919	68	13,750	86	18,475
BOX ELDER CREEK (CHATFIELD)	UT00050	1918	50	511	87	18,564
MAIN STRAWBERRY	CA00388	1918	143	18,312	87	18,653
Drews Reservoir	OR00049	1914	83	65,000	91	18,744
CUCHARAS #5	CO01146	1913	145	103,000	92	18,836
SAND CANYON	CA00854	1912	58	980	93	18,929
Lyman	AZ00004	1912	78.4	44,600	93	19,022
MORENA	CA00110	1912	181	50,208	93	19,115
VALLEY, LAKE	CA00361	1911	74	8,127	94	19,209
Wanas Dam	WA00002	1911	90	5,600	94	19,303
SAWMILL LAKE	CA00250	1910	60	3,040	95	19,398
CENTRAL	CA00182	1910	55	485	95	19,493
HILLSIDE	CA00445	1910	61	12,883	95	19,588
RELIEF	CA00390	1910	145	15,122	95	19,683
CRANE VAL STOR	CA00337	1910	145	45,410	95	19,778
STANISLAUS FB	CA00381	1908	60	340	97	19,875
MARIE, LAKE	CA00004	1908	60	170	97	19,972
SABRINA	CA00448	1908	70	8,378	97	20,069
MADISAN, LAKE	CA00141	1908	88	1,744	97	20,166
KUNKLE	CA00344	1907	54	253	98	20,264
PHOENIX LAKE	CA00206	1907	80	612	98	20,362
HERMAN, LAKE	CA00851	1905	51	2,210	100	20,462
BERRYMAN RES	CA00156	1905	60	45	100	20,562
PIEDMONT	CA00170	1905	64	60	100	20,662
DESABLA FOREBAY	CA00343	1903	53	280	102	20,764
MEADOW LAKE	CA00381	1903	77	5,180	102	20,866
ESTATES	CA00169	1903	93	56	102	20,968
TERMINAL	CO00895	1902	103	29,600	103	21,071
CHOLLAS	CA00107	1901	50	310	104	21,175
Hogan Dam	VA15504	1900	60	1,285	105	21,280
Upper Bear	CA03276	1900	77	7,400	105	21,385
BEAR RIVER	CA00378	1900	83	5,618	105	21,490
TORESON	CA00483	1898	65	1,140	107	21,597
BEAR GULCH	CA00858	1898	61	872	109	21,706
Rust Reservoir #3	AZ00007	1895	68.5	3,195	109	21,815
FREY, LAKE	CA00142	1894	83	1,075	111	21,926
RED ROCK NO 1	CA00510	1893	83	10,000	112	22,038
FOREST LAKE	CA00690	1892	60	427	113	22,151
SUMMIT	CA00171	1891	81	117	114	22,265

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Dam Name	NID ID Number	Year Completed	NID Height (ft.)	NID Storage (cubic-yards)	Dam Years (since 2005	Dam Years Running total (since 2005)
COWELL RESERVOIR	CA00046	1880	60	175	115	22,380
SEQUOIA LAKE	CA00709	1888	51	1,370	117	22,497
YOSEMITE LAKE	CA00241	1888	53	8,101	117	22,614
EMERALD LAKE 1 LOWER	CA00668	1885	57	45	120	22,734
PHOENIX	CA00389	1880	52	456	125	22,859
SPENSER LAKE	CA00673	1878	87	73	129	22 988
FORDYCE LAKE	CA00367	1873	143	48,900	132	23,120
SAN ANDREAS	CA00129	1870	107	19,027	135	23,255
TEMESCAL LAKE	CA00160	1869	118	200	136	23 391
PILARCITOS	CA00128	1866	103	3,100	139	23,530
EMERY	CA00618	1850	53	630	155	23,685
NOTRE DAME	CA00674		51	120		
LOWER STEHLY	CA01227		60	145		
AUXILIARY RESERVOIR C	CA01456		85	3,700		
LANG CREEK DETN BN	CA01388		67	283		
SLICKROCK CREEK	CA01444		155	220		
WESNER HOLLOW SLURRY DAM	PA01641		192	3,648		

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July 19, 2010

MEMORANDUM TO: Benjamin Beasley, Chief
Operating Experience and Generic Issues Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research

FROM: Lois James, Chief /RA/
Probabilistic Risk Assessment Operational Support Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

SUBJECT: IDENTIFICATION OF A GENERIC EXTERNAL FLOODING ISSUE DUE TO POTENTIAL DAM FAILURES

INTRODUCTION

The NRC's primary function is to license and regulate the safe use of radioactive materials for civilian purposes to ensure adequate protection of public health and safety and the environment. In performing this function, the Office of Nuclear Reactor Regulation (NRR) identified during a recent review of a regulatory action associated with an operating nuclear power plant (NPP) a higher than expected potential for both the external flooding hazard due to a potential dam failure and its associated consequences to the public health and safety and the environment.

Based on these findings, the Division of Risk Assessment (DRA) and the Division of Engineering (DE) at the Office of Nuclear Reactor Regulation (NRR) began evaluating the potential implications of these findings to other operating NPP sites by:

(i) evaluating the extent to which this hazard has been considered in the past via US NRC's regulatory framework (e.g., 10 CFR 50, Regulatory Guides, Standard Review Plan),

(ii) examining current design flood bases regarding dam-related external flooding issues,

(iii) interacting with other federal agencies involved in oversight and risk assessment of dams, and

(iv) considering whether this additional knowledge may translate into an increase in risk when compared to the previous understanding of this issue.

TECHNICAL ISSUE

External flooding considerations involve a series of hydrological and non-hydrological factors that may impact a NPP site. Hydrological factors include site-specific extreme phenomena characteristics (e.g., high tides, severe storms, wave action) potentially causing flooding, while non-hydrological events include seismic activity and other causes. In both cases, there is a potential hazard due to the effect of hydrological and non-hydrological phenomena on man-made structures such as dams, levees, and dikes as contributors to flooding. Available guidance on dams from entities such as the Federal Energy Regulatory Commission (FERC),

US Bureau of Reclamation (USBR), and the US Army Corps of Engineers (USACE) indicate mechanisms that may trigger the uncontrolled release of the reservoir impounded by a dam. These generally include (i) overtopping of a dam due to severe precipitation-induced flooding, (ii) seismically-induced failures, (iii) breaches caused by internal erosion/piping phenomena, (iv) operational errors or mechanical failures, and (iv) combinations of these various mechanisms. Failures other than severe storm and seismic events can be grouped into a subset often referred to as "sunny-day" failures, which can occur during normal operations (e.g., internal erosion and operational failures). Guidance from USBR clearly indicates that these "sunny day" failures may be higher contributors to risk when compared to low-frequency extreme events such as severe storms and earthquakes (USBR, 2010). Additionally, when compared to severe weather events, "sunny day" failures may provide less warning time for mitigating actions to take place. From discussions with these multiple agencies involved in dam risk assessment, it was concluded that the current state-of-art has evolved sufficiently to provide better risk estimates of such contributors.

REGULATORY FRAMEWORK

The regulatory requirements for issues related to external flooding are found in Appendix A to 10 CFR 50 (CFR, 1971), where the General Design Criteria (GDC) is described. The GDC was developed to establish minimum requirements for the principal design criteria (i.e., set of necessary requirements to ensure public health and safety) for NPP sites similar to those already licensed. The General Design Criteria 2 (GDC 2) explicitly discusses considerations on the appropriate design bases for structures, systems, and components (SSCs) important to safety expected to withstand the effects of natural phenomena such as flooding. In some cases where the license for a specific reactor site was issued prior to the development of GDC 2, licensees have used criteria similar to GDC 2 to cover natural phenomena considerations in their original license submittals. GDC 2 states that:

> *"The design bases for these SSCs shall reflect: (1) Appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and the surrounding area, with sufficient margin for the limited accuracy, quantity and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed."*

In terms of regulatory guidance, four Standard Review Plans (SRPs) in NUREG-0800 (ML003740388, ML062260222, ML070730405) and Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants," (ML003740388) include specific guidance on external flooding at NPPs due to potential dam failures. The guidance provided in Regulatory Guide 1.59 explicitly covers hydrologic and seismic-induced dam failures, as well as considerations for combinations of lesser events.

Upon review by NRR staff of the above references, it has been concluded that existing NRC requirements and guidance is ambiguous on whether certain failure mechanisms such as internal erosion or operational errors should be explicitly considered, which have commonly not been the focus of safety analyses performed for operating sites. In part, an assessment of the risk contribution due to "sunny day" failures may have not been consistently performed due to a lack of understanding of its impact on the safety margins of existing NPP sites. Further guidance can be developed with additional understanding of the actual contribution to NPP risk due to "sunny day" failures individually and in combination with other mechanisms.

CURRENT DESIGN FLOOD BASES

A detailed analysis of dam-related flooding potential and its consequences in the licensing of operating NPPs is limited in the available documentation, which consists primarily of the Final Safety Analysis Reports (FSARs) and the Individual Plant Examinations for External Events (IPEEEs) for individual sites. It is clear however, that emphasis has been placed on the use of conservative screening assumptions to eliminate this flooding hazard from further consideration based on either bounding characteristics of other flooding phenomena, low initiating event frequency and/or sufficient advance warning in case a dam failure does occur.

In multiple FSARs and IPEEEs, dam failures are described as "not credible" (Fort Calhoun Station, Cooper Nuclear Station), "highly unlikely" (McGuire Nuclear Station), or "extremely unlikely" (Arkansas Nuclear One, Sequoyah Nuclear Plant, Watts Bar Nuclear Plant) by taking into account individual or combinations of severe events hydrologic and seismic events. From a preliminary review, at least four sites have considered quantitative dam failure rate: Oconee Nuclear Station (South Carolina), Cooper Nuclear Station (Nebraska), Fort Calhoun Station (Nebraska), and H.B. Robinson (South Carolina). All four sites considered failure rates in the range between 5×10^{-5}/year and 1×10^{-5}/year. Flooding requirements are considered for a number of sites, including the use of sandbagging and other mitigative actions which assume ample lead time for implementation. However, a preliminary review of the IPEEEs indicates that, since dam failures were excluded from consideration in most FSARs, its risk contribution has not been addressed to date.

RISK SIGNIFICANCE

Due to the limited risk considerations available, NRR further evaluated the dam failure rates considered in the subset of IPEEEs mentioned above. As there were few reliable dam failure data sources when most estimates where derived, it was found that these analyses relied mainly on an estimate published in NUREG/CR-5042, "Evaluation of External Hazards to Nuclear Power Plants in the United States" (ML062260222). In turn, the data source for the dam failure estimate in NUREG/CR-5042 is "NSAC-60 Oconee PRA: A Probabilistic Risk Assessment of Oconee Unit 3" (NSAC/EPRI, 1984). Upon detailed review by NRR staff, it was concluded that the failure frequency value used for large dams in this publication was incorrectly underestimated by an order of magnitude which propagated to the other analyses (e.g., IPEEEs). This large difference was in part due to a commingling of different types of large dam population data and a restricted choice of failure data.

From this observation and the fact that most external flooding screening analysis were based on combinations of severe phenomena to screen out this initiating event without significant consideration of the "sunny day" dam failure mechanisms, NRR staff performed two additional actions: (i) examined current NPP vulnerabilities to dam failure hazards and performed a qualitative assessment of sites more or less likely to be impacted based on available information (mostly FSAR and IPEEE information), and (ii) estimated a generic dam failure rate calculation based on the most up-to-date historical data for the specific subset of embankment dams which the NSAC-60 study was intended for (i.e., large rockfill dams).

In the first effort, a study was produced that resulted in a coarse screening and ranking of sites more vulnerable to this hazard (due to both upstream and downstream dam failures). U.S. commercial nuclear reactors are located in 65 sites adjacent to streams, lakes/reservoirs, or coastal areas. A number of information sources were used to ascertain the location of dams and the corresponding impact to NPPs based on distance to the site and reservoir volume

impounded. Due to the lack of more up-to-date independent information, this study had to primarily consider design bases flooding elevation, historical flooding records, and flood routing results available from FSARs and IPEEEs submitted by licensees. From the 65 sites available, 45 sites were considered to be less vulnerable to potential dam failures while 20 sites were considered to have a higher vulnerability. Of the remaining 20 sites, a qualitative assessment was applied to evaluate sites which could have high, medium, or low impact due to a dam failure (see Table 1). Particular challenges observed are: (i) lack of independent up-to-date assessments of dam breach analysis and subsequent flood elevations at a site, (ii) the extensive use of theoretical upper bounds used to approximate the frequency of extreme events such as severe storms and earthquakes (e.g., events with frequencies of 1 in 10,000 years or less), (iii) the complexity involved in evaluating flood routing at specific watersheds, including estimating dam breach size and time for the corresponding flood wave to impact a site, and (iv) the effectiveness of the flooding protection barriers and site response due to uncertainties in the information above. The scope of this study was preliminary in nature and could greatly benefit from additional short term analysis to evaluate the overall risk at individual sites, since it is recognized that not all dam failures may be sufficiently large to impact a NPP and that significant distances between a site and the impounding structure(s) may attenuate the flood wave and increase the response time available. However it also provided an overview of the generic nature of this issue with a defined subset for further focused analyses.

In the second effort, a generic dam failure rate analysis applicable to a large rockfill dam of modern construction was performed to assess a point estimate and a range that can be supported by available historical data, along the lines of those performed in a subset of IPEEE submittals (ML100780084). Input information included (i) an assessment of the overall US dam population for those with features corresponding to a large rockfill dam, and (ii) a study of U.S. dam performance information for failure events that may be applicable to this subset of the overall population. The best available databases were used to obtain the total number of dam-years for large dams and documented failures, which also provided insights into limitations and challenges involved in deriving failure rates using this approach. A point estimate calculation produced a value of 2.8×10^{-4}/dam-year, providing a further check on the estimate previously used in the industry. Simple sensitivity analysis indicates that significantly lower estimates cannot be reasonably supported by the use of historical data alone. Hence, while limitations in historical data represent a challenge to ascertain a more precise estimate, it is clear that screening this hazard exclusively via this methodology is not justified. Additionally, a Bayesian updating analysis with the subset of dam-years and failures corresponding to rockfill dams was performed using an assumed prior distribution for large dams. This resulted in a posterior distribution with a mean of 2.8×10^{-4}/dam-year, a 5th percentile of 1.3×10^{-4}/dam-year, and a 95th percentile of 4.8×10^{-4}/dam-year (i.e., a narrow distribution around the mean value). Additionally, a literature review of similar published statistical studies of dam failures corroborated the conclusion that a generic dam failure rate for large dams is in the order of magnitude of 1 in 10,000 dam-years.

From these two efforts, NRR staff has concluded that (i) there is an increase in the estimated frequency of a potential dam failure of an order of magnitude from the additional preliminary analysis performed, (ii) prior estimates used in the industry underestimated dam failure rates, (iii) multiple sites can be affected by the impact of dam failures, and (iv) the overall risk to NPP sites may not have been fully addressed due to inconsistencies in identifying and appropriately addressing significant failure modes for dams.

RECENT EXPERIENCE

On April 28, 2006, NRC staff identified a performance deficiency involving the Oconee Nuclear Station (ONS) maintenance activities associated with the Standby Shutdown Facility (SSF) to facilitate installation of temporary electrical power cables. The importance of this finding is that (b)(7)(F)

ONS was issued operating licenses in 1973 (Units 1 and 2) and 1974 (Unit 3), prior to the publication of significant regulation (e.g., GDC 2) and guidance on external flooding hazards applicable to most of the industry. The licensing basis of ONS did not originally evaluate the consequences of a failure of the Jocassee Dam in the plant design flooding analysis. Flooding protection for the SSF was later added as a risk assessment enhancement obtained via insights the IPEEE submittal for ONS. However, after interactions with licensee, it was established that the original elevation (5 feet) to which the SSF flood protection was designed for would be exceeded based on more recent studies. These studies indicate that approximately 18.5 feet of water could occur at the site (b)(7)(F) after a breach of Jocassee Dam. In this case, the licensee has indicated that a loss of the switchyard, loss of the emergency power supply (hydro units), loss of the SSF, and the loss of other mitigation equipment would take place (ML082750106). (b)(7)(F) (b)(7)(F) (b)(7)(F) Hence, based on the varying plant configurations and the loss of the mitigating equipment listed above, the conditional core damage probability (CCDP) given a dam failure for ONS could be as high as 1. Given that ONS had originally used the NSAC-60 study which incorrectly derived a dam failure rate an order of magnitude lower than the NRR analysis indicates, additional reviews, analysis, and actions are expected to affect the licensee on this issue.

Additionally, an NRC inspection on March 2010 at the Fort Calhoun Station (FCS) identified an apparent violation for failure to maintain adequate procedures for flood protection at the site, as stated in its licensing basis (ML101670034). Since FCS is located in close proximity to the Missouri River, and its base plant elevation (1004 feet mean seal level (MSL)) is not far above the normal river levels, NRR is currently evaluating the flooding licensing basis with respect to severe precipitation events. Current NRC assessments of external flooding vulnerabilities indicates that all normal plant equipment fails when floods reach 1010 MSL, and that essential safety-related components fail between 1010 MSL and 1014 MSL. Review of flooding extrapolation updates performed by USACE for the FCS region indicate an increase in potential elevation for floods with a return period of up to 500 years, not previously considered by the licensee (ML101670034). FCS is also located downstream from several large dams, and its IPEEE submittal states that failure of the larger dam would cause a flood wave that would reach the site (b)(7)(F) Based on the increase in estimated flood levels, the use of NSAC-60 dam failure rates, and the recent experience with flood routing analysis in the ONS dam failure studies; a potential for an increase in risk due to this hazard is also expected at the FCS site (attenuated only by the distance to the set of dams located upstream). Furthermore, the original FSAR and IPEEE submittals for Cooper Nuclear Station (CNS) formed the basis for the external flooding analysis performed at FCS. As indicated above, CNS (which is further downstream from FCS) has also used NSAC-60 as a basis and screened this hazard as "not credible."

Since additional information is limited for other sites, there is a potential that additional regional flooding studies and improvement in the state-of-art assessments of the impact of dam failures at NPP sites may also indicate an overall change in risk not previously considered in other original studies, applying to more than the facilities identified above.

RECOMENDATION

NRC's primary function is to license and regulate the safe use of radioactive materials for civilian purposes to ensure adequate protection of public health and safety and the environment. Considering the existing regulatory framework, the safety significance of the issue, the risk increase considerations, and the generic implications provided; the recent information and experience with dam-related external flooding vulnerabilities indicates an issue that needs to be properly addressed to support NRC's mission.

Under these considerations, we recommend that you initiate expeditious action to examine the dam-related external flooding issue under your Generic Issue Program. NRR/DE and NRR/DRA will maintain interaction with your staff, as needed, during the resolution process, and initiate appropriate action in accordance with the findings from the final resolution of this generic issue.

If you have any questions, your staff may contact George Wilson (301-415-1711), Lois James (301-415-3306) or Meena Khanna (301-415-2150).

REFERENCES

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Table 1. Qualitative preliminary assessment of dam hazard vulnerabilities for operating NPPs

Site Name	State	Area	Body of Water	Screening
Arkansas Nuclear	AR	Stream	Arkansas River	HIGH
Fort Calhoun	NE	Stream	Missouri River	HIGH
McGuire	NC	Stream/ Lake	Catawba River/ Lake Norman	HIGH
Oconee	SC	Stream/ Lake	Keowee River/ Keowee Lake	HIGH
South Texas	TX	Lake	Cooling Pond	HIGH
Watts Bar	TN	Stream	Tennessee River	HIGH
Beaver Valley	PA	Stream	Ohio River	MEDIUM
Browns Ferry	AL	Stream	Tennessee River	MEDIUM
Columbia	WA	Stream	Columbia River	MEDIUM
Cooper	NE	Stream	Missouri River	MEDIUM
Peach Bottom	PA	Stream	Susquehanna River	MEDIUM
H.B. Robinson	SC	Lake	Lake Robinson	MEDIUM
Sequoyah	TN	Stream/ Lake	Tennessee River/ Chickamauga Lake	MEDIUM
Three Mile Island	PA	Stream	Susquehanna River	MEDIUM
Vermont Yankee	VT	Stream	Connecticut River	MEDIUM
Hope Creek/Salem	DE	Stream	Delaware River	LOW
Indian Point	NY	Stream	Hudson River	LOW
Prairie Island	MN	Stream	Mississippi River	LOW
Surry	VA	Stream	James River	LOW
Waterford	LA	Stream	Mississippi River	LOW

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Table 1. Qualitative preliminary assessment of dam hazard vulnerabilities for operating NPPs

Site Name	State	Area	Body of Water	Screening
Arkansas Nuclear	AR	Stream	Arkansas River	HIGH
Fort Calhoun	NE	Stream	Missouri River	HIGH
McGuire	NC	Stream/ Lake	Catawba River/ Lake Norman	HIGH
Oconee	SC	Stream/ Lake	Keowee River/ Keowee Lake	HIGH
South Texas	TX	Lake	Cooling Pond	HIGH
Watts Bar	TN	Stream	Tennessee River	HIGH
Beaver Valley	PA	Stream	Ohio River	MEDIUM
Browns Ferry	AL	Stream	Tennessee River	MEDIUM
Columbia	WA	Stream	Columbia River	MEDIUM
Cooper	NE	Stream	Missouri River	MEDIUM
Peach Bottom	PA	Stream	Susquehanna River	MEDIUM
H.B. Robinson	SC	Lake	Lake Robinson	MEDIUM
Sequoyah	TN	Stream/ Lake	Tennessee River/ Chickamauga Lake	MEDIUM
Three Mile Island	PA	Stream	Susquehanna River	MEDIUM
Vermont Yankee	VT	Stream	Connecticut River	MEDIUM
Hope Creek/Salem	DE	Stream	Delaware River	LOW
Indian Point	NY	Stream	Hudson River	LOW
Prairie Island	MN	Stream	Mississippi River	LOW
Surry	VA	Stream	James River	LOW
Waterford	LA	Stream	Mississippi River	LOW

Accession Number: ML101900305

OFFICE	NRR/DRA/APOB	NRR/DE/EMCB	NRR/DE/EEEB	NRR/DRA/APOB	
NAME	FFerrante	MKhanna	GWilson	LJames	
DATE	7/9/2010	7/15/2010	7/12/2010	7/19/2010	

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Design and Construction of Earth and Rock-Fill Dams

Course No: G07-001

Credit: 7 PDH

Gilbert Gedeon, P.E.

Continuing Education and Development, Inc.
9 Greyridge Farm Court
Stony Point, NY 10980

P: (877) 322-5800
F: (877) 322-4774

info@cedengineering.com

EM 1110-2-2300
30 July 2004

US Army Corps
of Engineers®

ENGINEERING AND DESIGN

General Design and Construction Considerations for Earth and Rock-Fill Dams

ENGINEER MANUAL

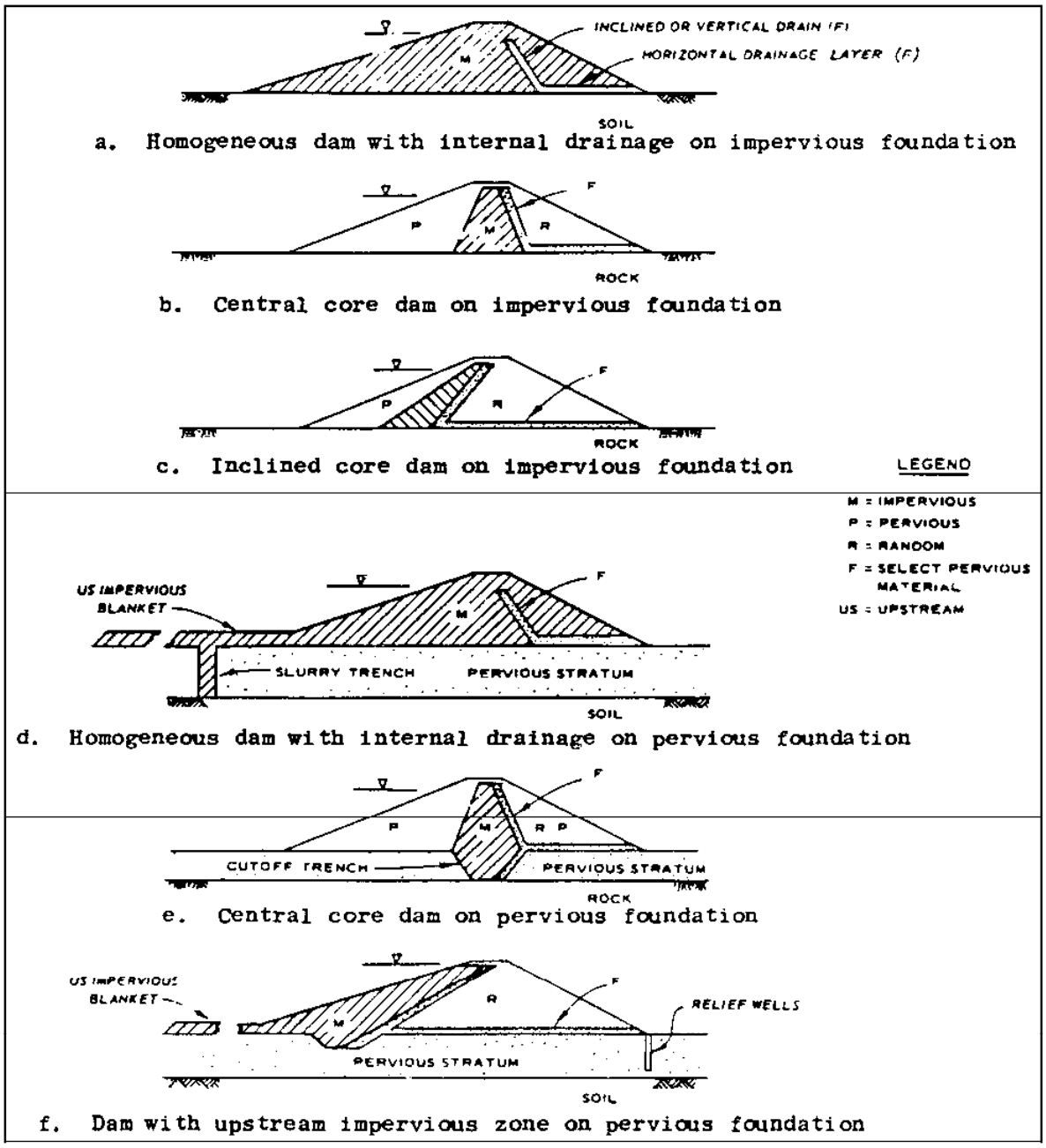

Figure 2-1. Types of earth dam sections

2-4. Basic Requirements

a. Criteria. The following criteria must be met to ensure satisfactory earth and rock-fill structures:

(1) The embankment, foundation, and abutments must be stable under all conditions of construction and reservoir operation including seismic.

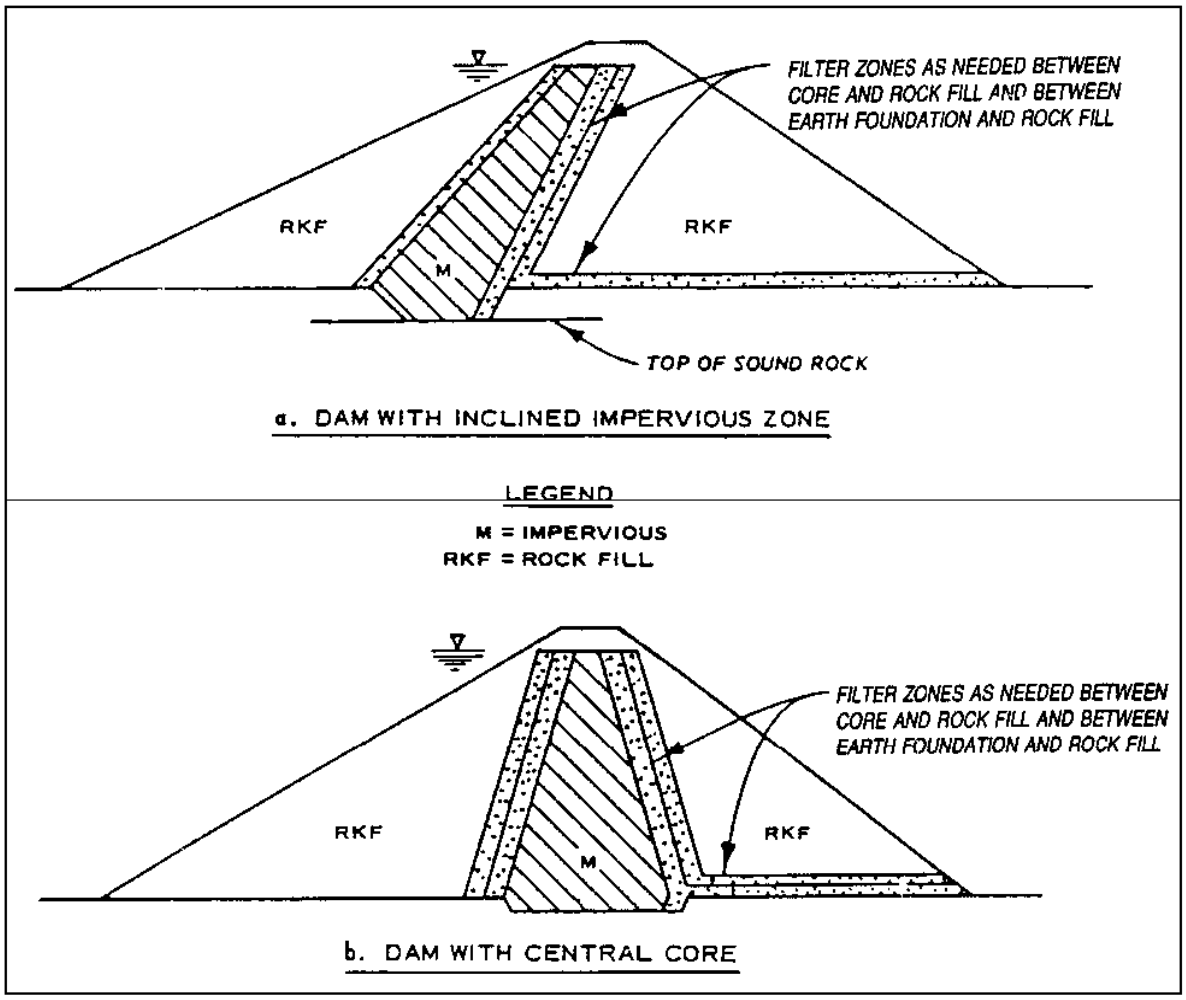

Figure 2-2. Two types of rock-fill dams

(2) Seepage through the embankment, foundation, and abutments must be collected and controlled to prevent excessive uplift pressures, piping, sloughing, removal of material by solution, or erosion of material by loss into cracks, joints, and cavities. In addition, the purpose of the project may impose a limitation on the allowable quantity of seepage. The design should consider seepage control measures such as foundation cutoffs, adequate and nonbrittle impervious zones, transition zones, drainage blankets, upstream impervious blankets, and relief wells.

(3) Freeboard must be sufficient to prevent overtopping by waves and include an allowance for the normal settlement of the foundation and embankment as well as for seismic effects where applicable.

(4) Spillway and outlet capacity must be sufficient to prevent overtopping of the embankment.

b. Special attention. Special attention should be given to possible development of pore pressures in foundations, particularly in stratified compressible materials, including varved clays. High pore pressures may be induced in the foundation, beyond the toes of the embankment where the weight of the dam produces little or no vertical loading. Thus, the strengths of foundation soils outside of the embankment may drop below their original in situ shear strengths. When this type of foundation condition exists, instrumentation should be installed during construction (see Chapter 10).

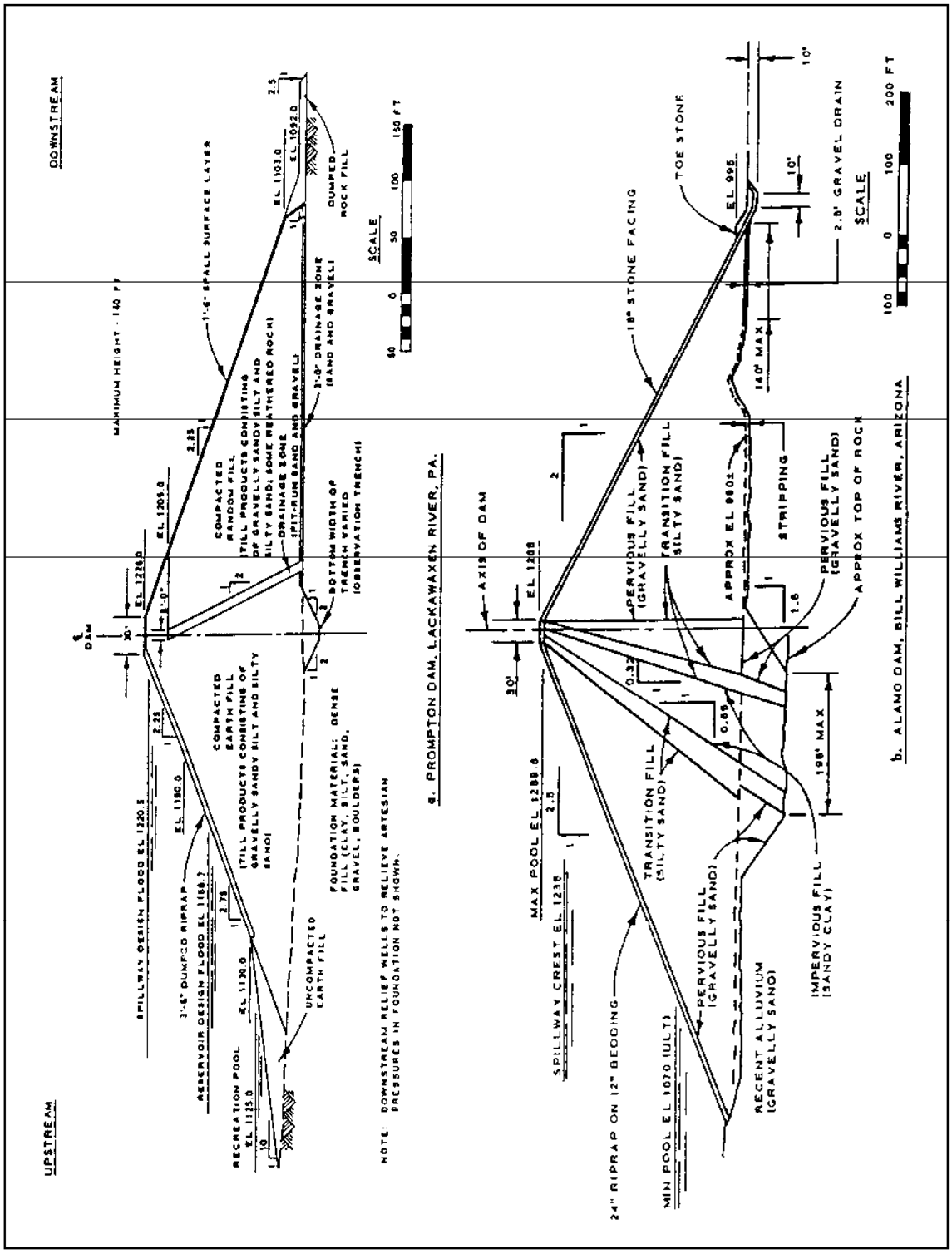

Figure 7-1. Typical embankment sections, earth dams (Prompton and Alamo Dams)

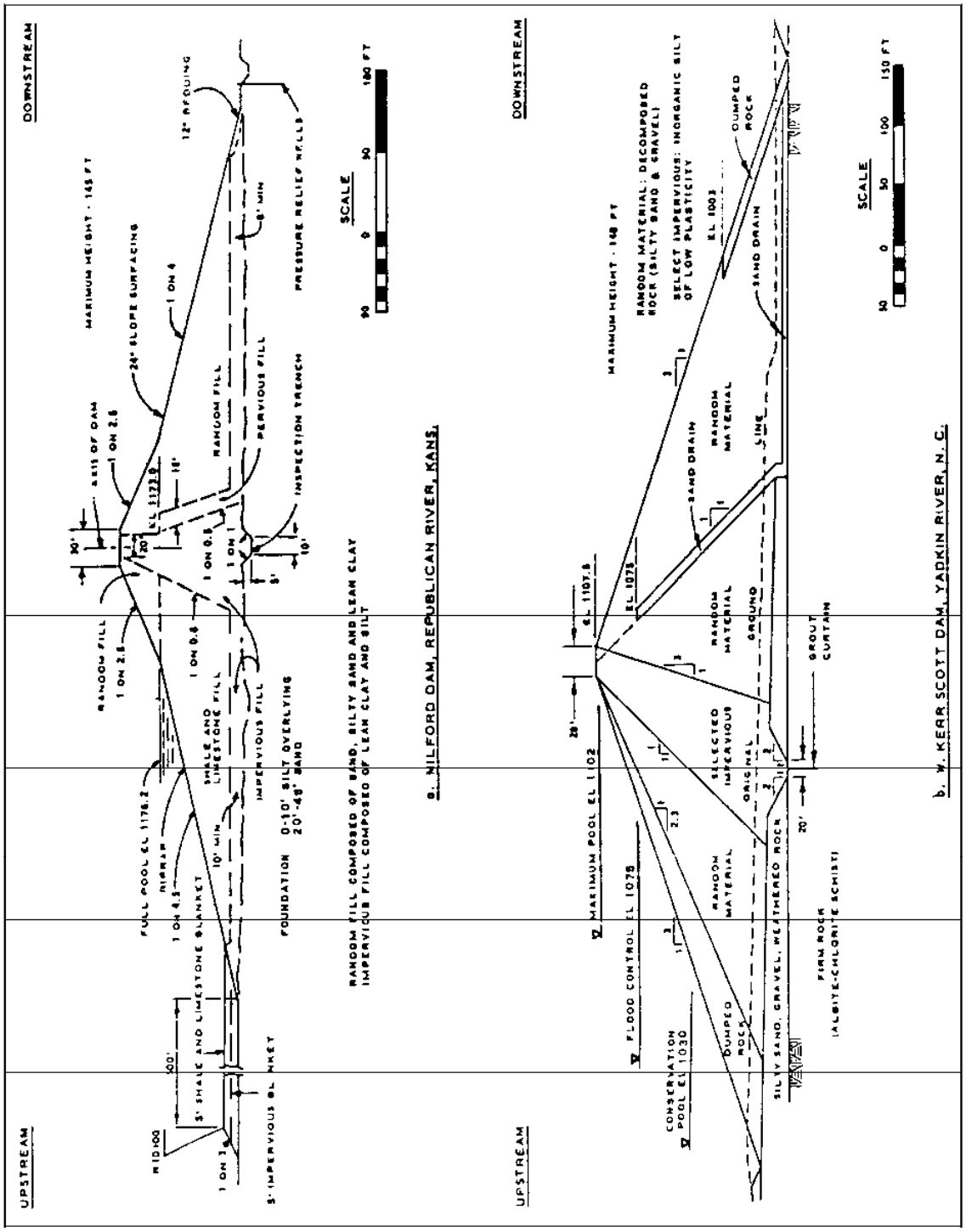

Figure 7-2. Typical embankment sections, earth dams (Milford and W. Kerr Scott Dams)

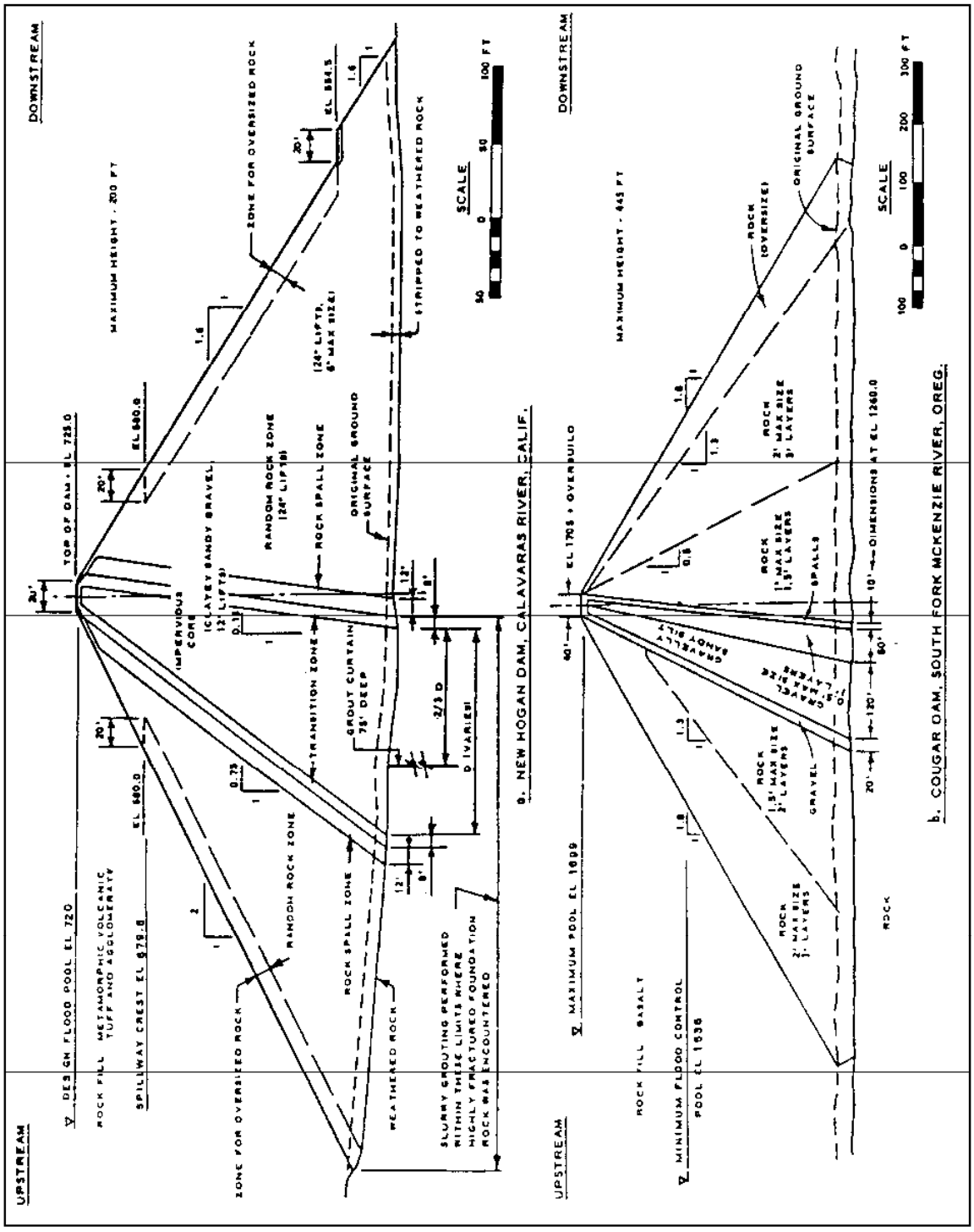

Figure 7-3. Embankment sections, rock-fill dams (New Hogan and Cougar Dams)

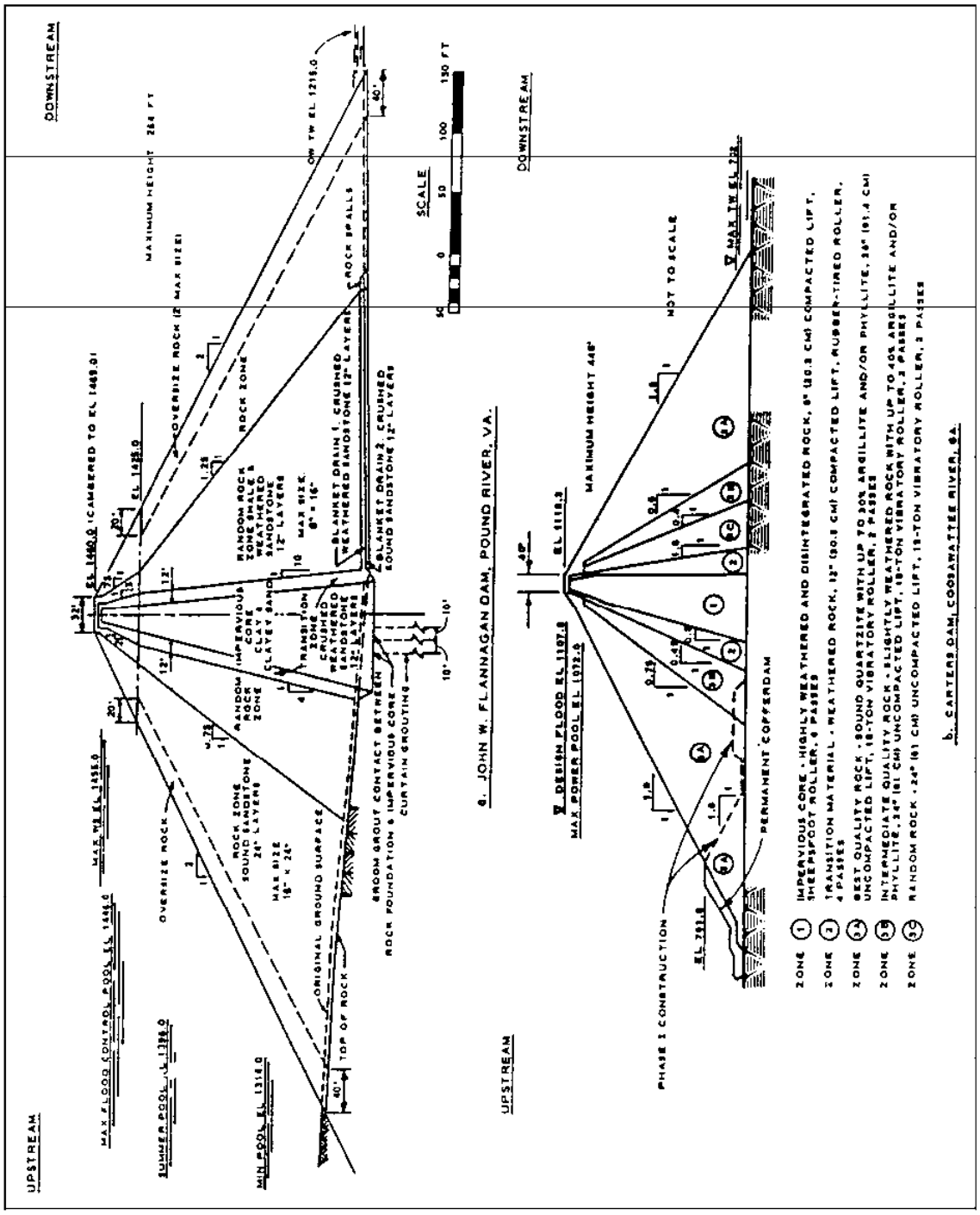

Figure 7-4. Embankment sections, rock-fill dams (John W. Flannagan and Carters Dams)

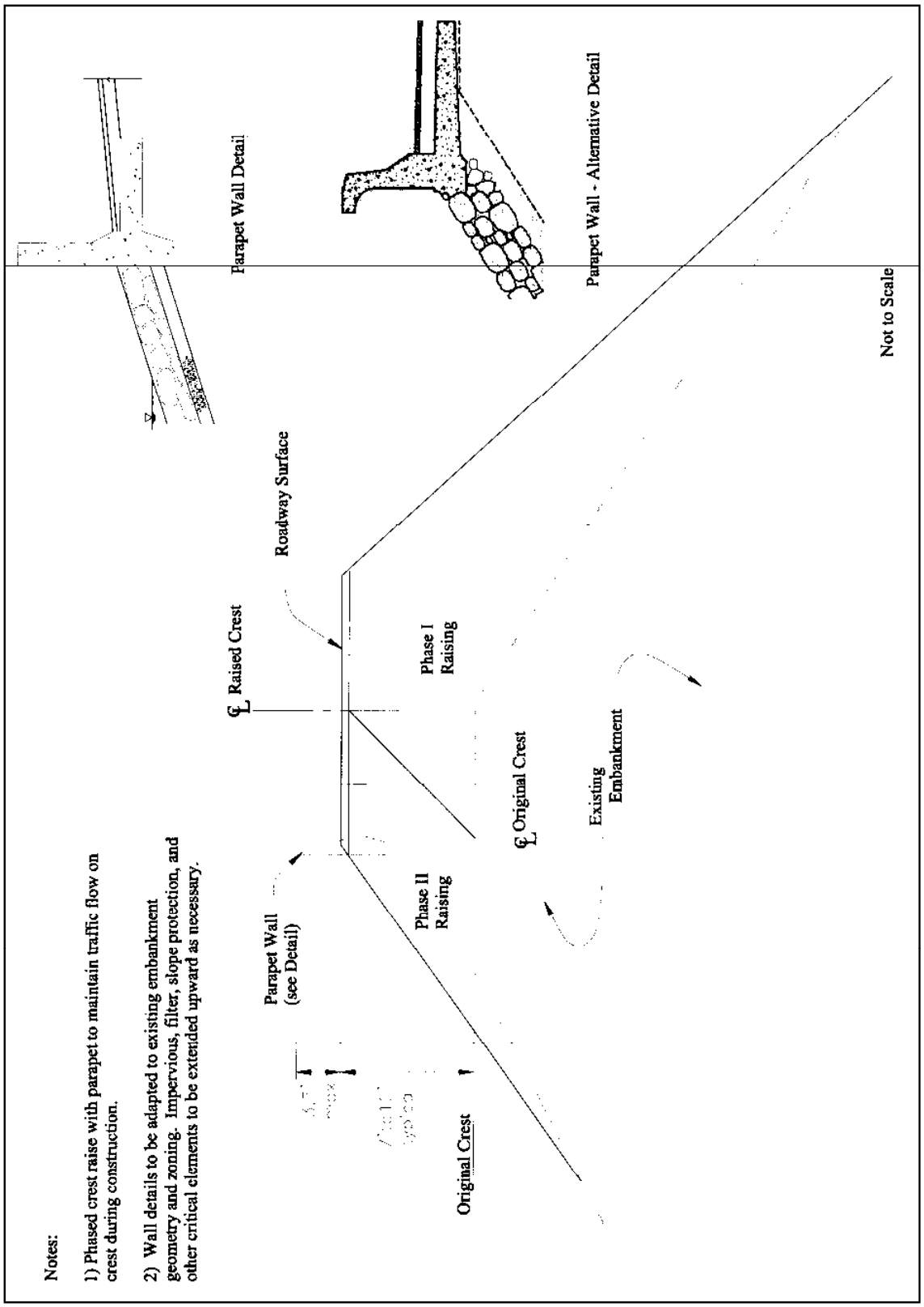

Figure F-4. Embankment raising with parapet wall

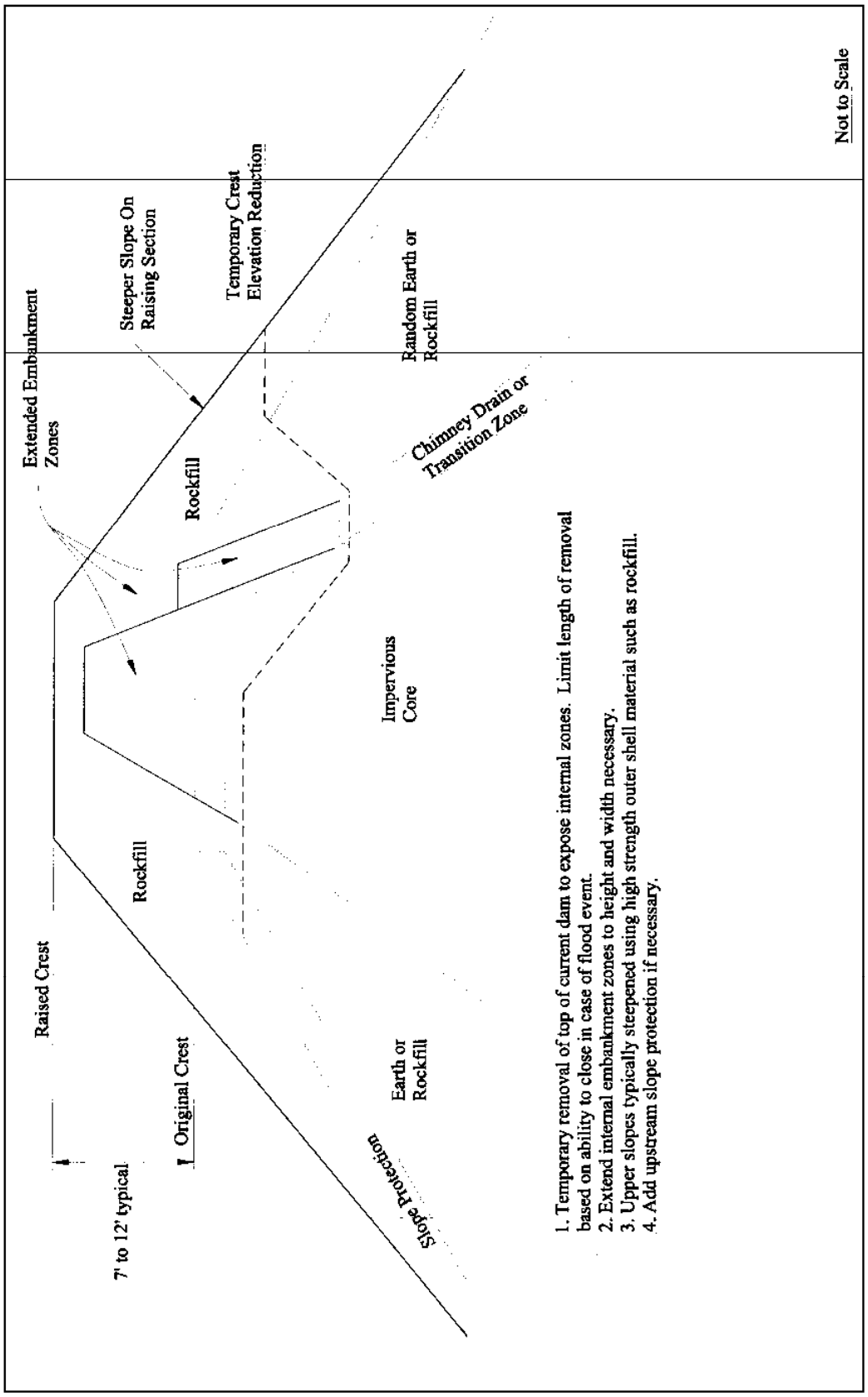

Figure F-5. Embankment crest raising

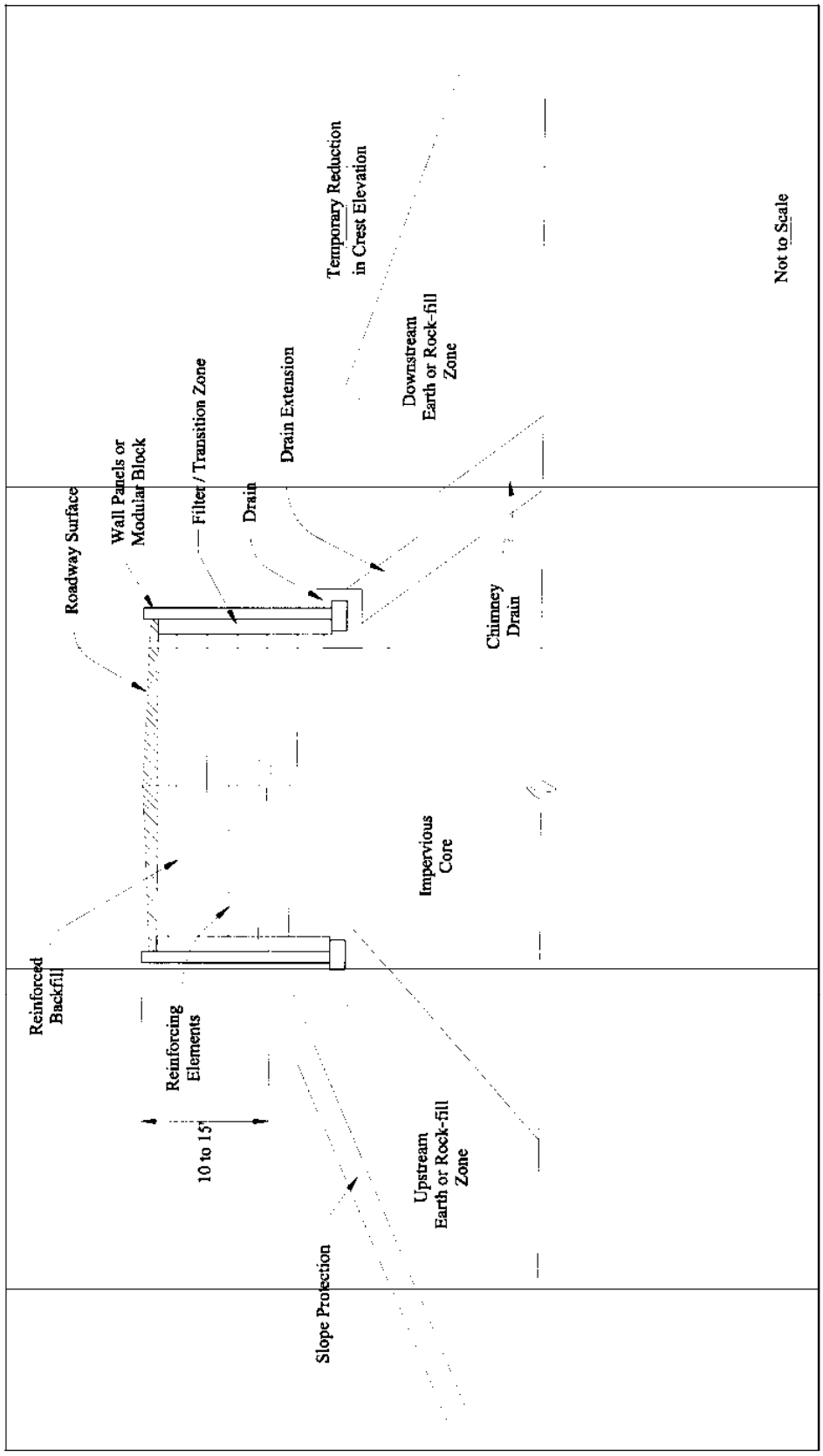

Figure F-6. Embankment raising with mechanically stabilized earth raising

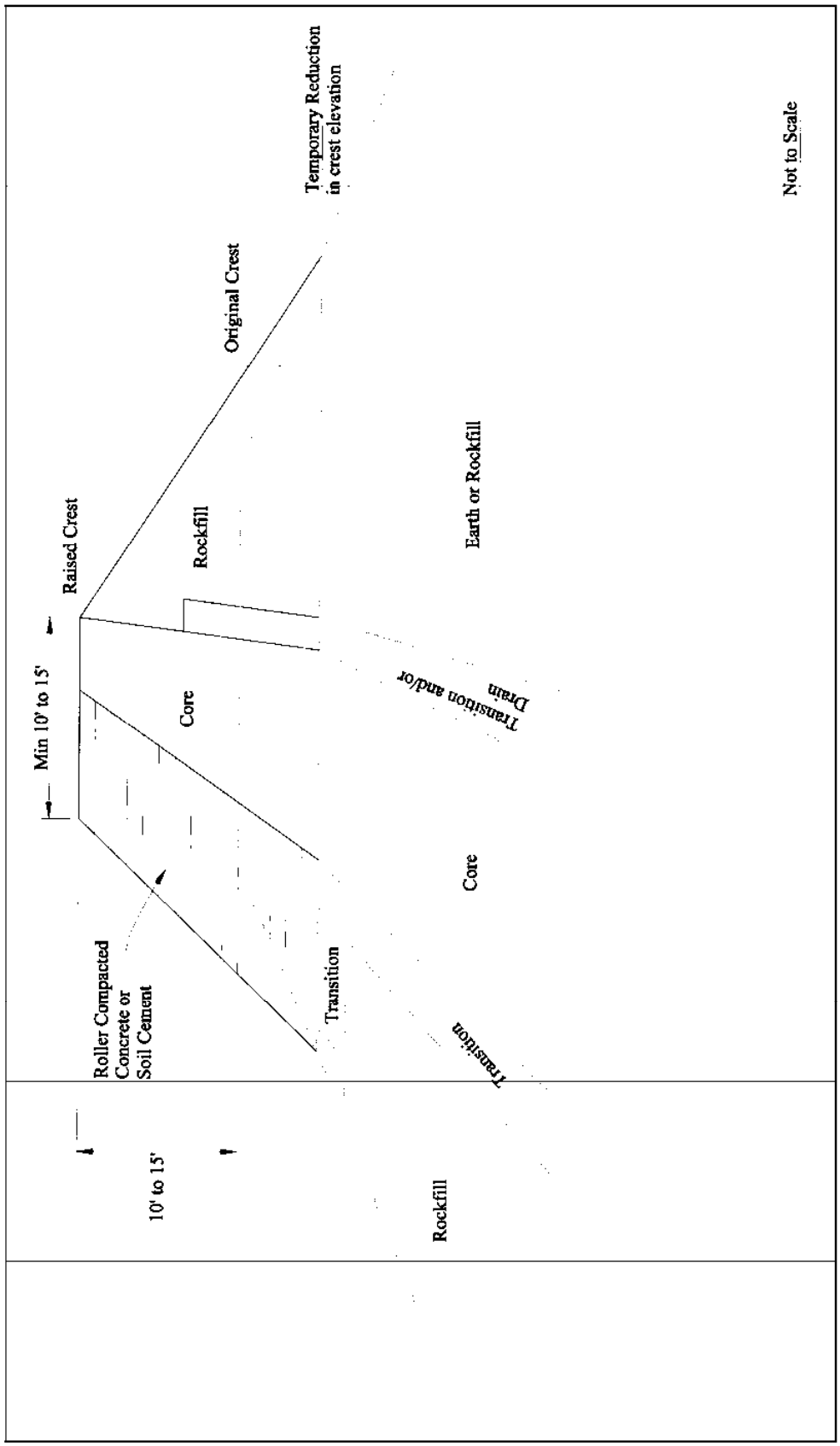

Figure F-7. Embankment raising with modified fills

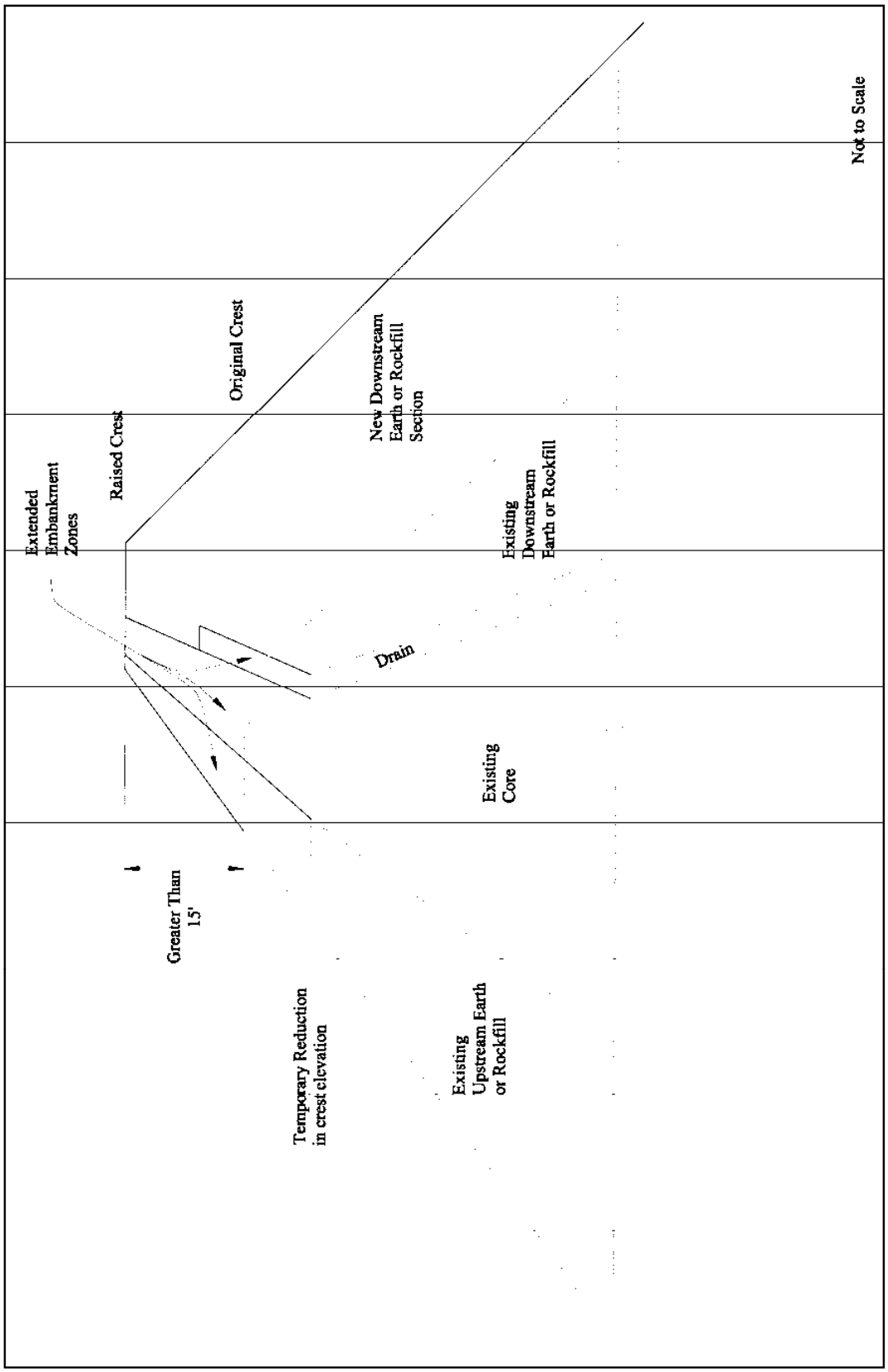

Figure F-8. Downstream raising of embankment dam

Jocassee Dam
Low Erodibility Classification

(b)(7)(F)

NRC FORM 183
(09-2012)
NRCMD 12.1

U.S. NUCLEAR REGULATORY COMMISSION

REPORT OF SECURITY INCIDENT/INFRACTION/VIOLATION

TO:	FROM: (DIVISION/OFFICE IN WHICH INFRACTION OCCURRED)
Division of Facilities and Security	DRA / RES
NAME(S) OF PERSON ACKNOWLEDGING RESPONSIBILITY Lawrence Criscione	TITLE Risk and Reliability Engineer
TYPE OF SECURITY REPORT:	☐ INCIDENT ☑ INFRACTION ☐ VIOLATION
DATE OF OCCURRANCE: 9/18/2012	DATE REPORTED: 9/20/2012

HIGHEST CLASSIFICATION OF MATERIAL INVOLVED: ☑ SUNSI ☐ SGI ☐ CONFIDENTIAL ☐ SECRET ☐ TOP SECRET

WAS RESTRICTED DATA INVOLVED? ☐ YES ☑ NO ☐ N/A

REASON OR CAUSE FOR INFRACTION

A RES/DRA staff sent an email to Chairman Macfarlane and others within the agency and outside the agency. Those on distribution outside the agency include the U.S. Office of Special Counsel and House and Senate oversight committee members and staff. The email and both attachments contain sensitive information (SUNSI) but were not properly marked. The reason for not properly marking the information is unknown.

DESCRIPTION OF INCIDENT AND ASSOCIATED MANAGEMENT DIRECTIVES SECTION INVOLVED:

Sensitive information (SUNSI) was not appropriately labeled or marked and was transmitted outside the agency to other federal government entities. The email message does not appear to have been sent to anyone outside the federal government. Neither the email nor the attached letter was marked as containing sensitive information. Management Directive sections involved are MD 12.1 section V, "Infractions and Violations" and Part II of MD 12.6, "Protection and Control of Sensitive Unclassified Information."

IMMEDIATE CORRECTIVE ACTION TAKEN: *(See Page 2 for suggested disciplinary action.)*

The transmittal outside the agency of sensitive information (SUNSI) without proper markings was reported to the Division of Facilities and Security on 9/20/2012. Additional corrective actions are under consideration.

CORRECTION MEASURES TAKEN PENDING LONG TERM RESOLUTION:

None yet identified.

SUBMIT

~~OFFICIAL USE ONLY – SENSITIVE INTERNAL INFORMATION~~

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

MEMORANDUM TO: Richard P. Correia, Director
Division of Risk Analysis
Office of Nuclear Regulatory Research

FROM: Mary Jane Ross-Lee, Director
Division of Facilities and Security
Office of Administration

SUBJECT: REPORT OF SECURITY INCIDENT (INFORMATION SPILL)

On September 20, 2012, the Division of Facilities and Security (DFS) notified the Computer Security Office, Policy Standards and Training of the subject infraction (see attached NRC Form 183 "Report of Security Incident/Infraction/Violation," from Benjamin Beasley and emails detailing this incident) which occurred September 18, 2012. DFS staff concluded that since this incident does not involve protection of classified information, a security infraction did not occur. Instead, this report will be identified as a security incident for failure to follow applicable Sensitive Unclassified Non-Safeguards Information (SUNSI) guidelines.

To prevent recurrence of additional incidents involving the inadvertent release of SUNSI documents, the person or individuals responsible for the security incident must review the SUNSI guidance located on the NRC internal web at http://www.internal.nrc.gov/sunsi. Once the SUNSI training has been completed, send a confirmation email to the Facilities Security Branch indicating that the person(s) responsible for the incident has completed their review and understands the information.

Please be advised that no infraction will be issued for the subject incident. DFS has noted corrective measures are implemented to prevent recurrence. This memorandum closes this incident.

Enclosures:
1. NRC Form 183 "Report of Security Incident/Infraction/Violation," (September 27, 2012)
2. Email detailing this incident

CONTACT: Daniel Cardenas, ADM/DFS
(301) 415-6184

~~OFFICIAL USE ONLY – SENSITIVE INTERNAL INFORMATION~~

EXHIBIT 3

A/1

VERIFICATION OF IDENTITY AND SWORN AUTHORIZATION FOR RELEASE OF INFORMATION

I, ___Lawrence S. Criscione___, hereby affirm my identity. I understand that penalties for false statements may be imposed upon me pursuant to 18 U.S.C. 1001, and that pursuant to 5 U.S.C.552a(i)(3), any person who knowingly and willfully requests or obtains any record concerning an individual from an agency under false pretenses shall be guilty of a misdemeanor and fined not more than $5,000.

I also authorize the U.S. Nuclear Regulatory Commission to release to the FOIA requesters in FOIA-2016-0607, FOIA-2016-0664, and FOIA-2016-0665 and any other FOIA requests seeking access to records that I have placed into ADAMS during the time period, July 19-August 29, 2016, if there may be other requests, the records that I placed in ADAMS for the express purpose that they could be referenced in public comments concerning an NRC report. These records are: ML16195A368, ML16195A369, ML16201A086, ML16201A093, ML16201A095, ML16201A100, ML16202A536, ML16202A537, ML16202A538, ML16204A001, ML16204A002, ML16216A702, ML16216A703, ML16216A704, ML16216A705, ML16216A706, ML16216A707, ML16216A708, ML16216A709, ML16216A710, ML16216A711, ML16216A712, ML16216A713, ML16232A001, ML16236A018, ML16236A019, ML16236A021, ML16236A230, ML16237A004, ML16237A005, ML16237A006, ML16237A007, ML16238A005, ML16238A006, ML16238A007, ML16238A008, ML16238A009, ML16238A010, ML16238A011, ML16238A013, ML16238A014, ML16239A085, ML16242A333, ML16242A343, ML16242A344 and any other records associated with OIG Case 13-001, OIG Case 13-005 or OSC File No. DI-15-5254 or in ADAMS package ML16195A365. I also authorize the U.S. Nuclear Regulatory Commission to place the agency's FOIA response, and any released records including my personally identifiable information (PII) or other information in which I may have privacy interests, in public ADAMS.

I, ___Lawrence S. Criscione___, declare (or certify, verify, or state) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Lawrence S. Criscione
[SIGNATURE]

Lawrence S. Criscione
[PRINTED NAME]

March 2, 1968
[DATE OF BIRTH]

Executed on: August 29, 2016

ML16242A344