

Group B

FOIA/PA NO: 2014-0348

RECORDS BEING RELEASED IN THEIR ENTIRETY

From: mailserver@omaha.com on behalf of Omaha World-Herald <mailserver@omaha.com>
Sent: Thursday, August 12, 2010 12:02 PM
To: Perkins, Richard; Beasley, Benjamin; Kauffman, John; Criscione, Lawrence
Subject: Ft. Calhoun plant's flood risk studied

Lawrence Criscione (LSC4@NRC.GOV) has sent you a message.

Fort Calhoun story.

Link to the story: <http://www.omaha.com/article/20100812/MONEY/708129899>

From: Perkins, Richard
Sent: Friday, August 26, 2011 1:14 PM
To: Criscione, Lawrence

Screening Analysis ML110740482
Communication plan package ML112220477
GI Panel memo ML111890588

Richard H. Perkins, P.E.
Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Risk Analysis
Operating Experience and Generic Issues Branch
Phone - 301/251-7479

From: Kanney, Joseph
Sent: Thursday, November 10, 2011 10:07 AM
To: Philip, Jacob; Criscione, Lawrence
Cc: Bensi, Michelle; Perkins, Richard
Subject: CDA Case History on Taum Sauk Dam Failure

Written by some guys from Ameren...

— Joe

Joseph Kanney
RES/DRA/ETB
CSB 02C32
(301)-251-7600

Scientific consensus is not, by itself, a scientific argument.

Criscione, Lawrence

From: Perkins, Richard
Sent: Friday, December 02, 2011 1:33 PM
To: Criscione, Lawrence
Attachments: ScreenCapture.pdf

Richard H. Perkins, P.E.
Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Risk Analysis
Operating Experience and Generic Issues Branch
Phone - 301/251-7479

Document Properties - [Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures-12]

Properties Profile Security Versions Packages Folders

Class: Official Record

Document Properties	Value
Author Name (MV)	Bans M T, Perkins R H, Philp J, Saricaktar S
Author Affiliation (MV)	NRC/RES/DRA
Addressee Name (MV)	
Addressee Affiliation (MV)	
Docket Number (MV)	
License Number (MV)	
Case/Reference Number (MV)	
Document/Report Number (MV)	
Keyword (MV)	MD 3.4 Non-Public A.7, rep, OARC20110616sh-Replaced with user supplied document., OARC20110719sh-Replaced with user supplied document., OARC20110728nj--Replaced with con
Date Reviewed for Public Release	
Package Number	ML111450843
Document Date Received	
Date Docketed	
Related Date	
Comment	ccsl
Vital Records Category	No
Document Status	
Media Type	Electronic
Physical File Location	ADAMS
FOIA Document	No
Date to be Released	
Distribution List Codes	
Contact Person	Perkins Richard, RES/DRA 301-251-7479
Text Source Flag	Native Application
Official Record?	Yes
Date Declared	06/08/2011 4:47:45 PM
Document Sensitivity	Sensitive- Internal-no review reqd (atty work prod&client predic enforcement)
Replicated	No
ForeMost File Code (Latest)	
ForeMost Document Number	
ForeMost File Code Set (MV)	
DDMS Item ID	
ASLBP Number	
LSN Number	
Hearing Transcript Page Range	
Hearing Party Exhibit Number	
Hearing Official Exhibit Number	
Hearing Issues	
Hearing Party Identifier	

OK Cancel

Start | [Icons] | Inbox - Microsoft Outlook | ADAMS Find | [Icons] | 3:20 PM

From: Perkins, Richard
Sent: Monday, December 05, 2011 2:07 PM
To: Criscione, Lawrence
Attachments: ScreenCapture2.pdf

Richard H. Perkins, P.E.
Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Risk Analysis
Operating Experience and Generic Issues Branch
Phone - 301/251-7479

Document Properties - Memo from W. Rutland to B. Sharon Re: Generic Issue Review Panel Recommendation for the Proposed Generic Issue Pertaining to Flooding of Nuclear Power Plant Sites Following Upstream

Properties Profile Security Versions Packages Folders

Class: Draft

Document Properties	Value
Item ID	111672131
Accession Number	ML111672131
Estimated Page Count	4
Document Date	10/13/2011
Document Type (MV)	Memoranda
Availability	Non-Publicly Available
Title	Memo from W. Rutland to B. Sharon Re: Generic Issue Review Panel Recommendation for the Proposed Generic Issue Pertaining to Flooding of Nuclear Power Plant Sites Following Upstream
Author Name (MV)	Rutland W. H.
Author Affiliation (MV)	HRC/HRR
Addressee Name (MV)	Sharon B. W.
Addressee Affiliation (MV)	HRC/RES
Docket Number (MV)	
License Number (MV)	
Case/Reference Number (MV)	
Document/Report Number (MV)	
Keyword (MV)	MD 3.4 Non-Public B-1, RES-006
Package Number	ML111890388
Document Date Received	
Date Docketed	
Related Date	
Comment	ccsl 10/13/11 memorandum signed by William Rutland. Pkg passed to RES for review and approval on 10/14/11.
Vital Records Category	No
Document Status	
Media Type	Electronic
Physical File Location	ADAMS
FACA Document	No
Date to be Released	
Distribution List Codes	
Contact Person	Bengt, Michele RES/DRA 301-251-7570
Text Source Flag	Native Application
Official Record?	No
Document Sensitivity	Non-Sensitive
Replicated	No

OK Cancel

Start | Inbox - Microsoft Outlook | ADAMS Find | 2:00 PM

From: Perkins, Richard
Sent: Tuesday, December 13, 2011 11:44 AM
To: Criscione, Lawrence
Subject: FW: GI-204 Status Update

FYI

From: Tifft, Doug
Sent: Tuesday, December 13, 2011 11:21 AM
To: Perkins, Richard
Subject: RE: GI-204 Status Update

Hi Richard,

Thanks for the update. I've been out of the office for a little while and I'm trying to catch up. Our notification timeline doesn't kick off until the RES Director approves the GI, correct.

By the way, I noticed the memo approving the comm. plan is available publicly. Was that the intent?
<http://adamswebsearch.nrc.gov/idmws/ViewDocByAccession.asp?AccessionNumber=ML112201350>

Thanks,
-Doug

From: Perkins, Richard
Sent: Tuesday, December 13, 2011 10:14 AM
To: Barker, Allan; Bartley, Jonathan; Beasley, Benjamin; Beaulieu, David; Bensi, Michelle; Burnell, Scott; Cahill, Christopher; Caverly, Jill; Chaput, Peter; Coe, Doug; Compton, Kelth; Correla, Richard; Emche, Danielle; Erlanger, Craig; Felsher, Harry; Ferrante, Fernando; Gaddy, Vincent; Hills, David; Hilton, Nick; Hollan, Brian; Ibarra, Jose; Imboden, Andy; Kauffman, John; Khanna, Meena; Logaras, Haral; Maler, Bill; Marciano, Jonathan; McNamara, Nancy; Meghani, Vijay; Miller, Chris; Miltman, Jeffrey; Mrowca, Lynn; Perkins, Richard; Phillip, Jacob; Pohida, Marie; Raione, Richard; Riley (OCA), Timothy; Rosenberg, Stacey; Ruland, William; Sancaktar, Selim; Schmidt, Wayne; Screnci, Diane; See, Kenneth; Sheehan, Neil; Tifft, Doug; Trojanowski, Robert; Virgilio, Rosetta; Wilson, George; Wilson, Peter; Woodruff, Gena; Wray, John
Subject: GI-204 Status Update

Status - Proposed Generic Issue on *Flooding of Nuclear Power Plant Sites Following Upstream Dam Failure* (anticipated as GI-204)

At the request of the RES Director, the GI-204 Review Panel revised their October 13, 2011 recommendation memorandum (ML111672131) to include discussion on the status of three subject areas outside of the scope of the proposed issue. On December 7, 2011, the review panel issued the revised recommendation memorandum (ML113260158), to the RES Director, unanimously recommending the approval of the proposed issue as a Generic Issue. If approved, the issue will be established as GI-204. The panel's recommendation is with the RES Director for review and consideration of approval.

Regards,

Richard H. Perkins, P.E.

Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Risk Analysis
Operating Experience and Generic Issues Branch
Phone - 301/251-7479

From: Criscione, Lawrence
Sent: Thursday, September 13, 2012 6:09 PM
To: 'Lawrence Criscione'
Subject: GI 204 FOIA page

<http://pbadupws.nrc.gov/docs/ML1222/ML122230055.html>

Criscione, Lawrence

From: HomelandSecurity [Homeland.Security@mail.house.gov]
Sent: Tuesday, September 18, 2012 7:26 PM
To: Criscione, Lawrence
Subject: Receipt Acknowledgment

Your message has been received by the Committee on Homeland Security. It will be directed to the appropriate staffer. Should the Committee require additional information, we will be in contact with you.

Criscione, Lawrence

From: Congressman Peter King [ny03ima@mail.house.gov]
Sent: Wednesday, September 19, 2012 11:40 AM
To: Criscione, Lawrence
Subject: Reply From Representative Pete King

I am in receipt of your recent e-mail and appreciate you taking the time to contact my office.

I receive over a thousand phone calls, letters and e-mails every day. While I make it a point to read every contact that comes through my office, I cannot always respond to each one but I certainly will do my best.

Please be assured that your e-mail is important to me and that I will do all I can to address your concerns.

All the best.

Pete King

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 5:53 PM
To: jim_mcgee@hsgac.senate.gov
Subject: FW: Summary of Call with Duke on GI-204
Attachments: ML12188A239.pdf

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 11:52 AM
To: 'Freedhoff, Michal'
Subject: RE: Summary of Call with Duke on GI-204

If you quickly scan the redacted version of the report (see attached) you will see that concerns regarding Oconee are mentioned all over the place. What is redacted are risk numbers that show a trained engineer (e.g. Lochbaum or Blanch) what the real risk is from natural phenomena and latent construction/engineering flaws. Terrorists do not care what the calculated risks are from natural disasters. They just want the names of the plants and we give them the names on numerous occasions.

All I know about DHS is what's in the emails below. I imagine that – just like the NRC – there are differing opinions at DHS.

However, if either DHS or the NRC tells you there are security concerns, then some Democrat in the House (if not Congressman Markey then maybe Bennie Thompson on the Homeland Security Committee) should ensure that the plant is adequately protected from security threats. And adequate protection involves much more than just withholding from the public the fact that the plant lies 11 miles downstream of a dam and obviously it would be bad if the dam broke. Adequate protection means active measures to secure access to vital areas of the dam commensurate with the assessed threat. If these have been taken, then publicly discussing the SAFETY (not security) issues associated with a dam break should not be a problem. If these have not been taken, then wholly separate from the safety concerns we have a glaring security problem at both DHS and NRC.

From: Freedhoff, Michal [mailto:Michal.Freedhoff@mail.house.gov]
Sent: Wednesday, September 19, 2012 11:05 AM
To: Criscione, Lawrence
Subject: RE: Summary of Call with Duke on GI-204

I was told earlier today that the assertion that DHS did not share the concerns is not true and that perhaps there was some dispute there. But I am sure I will hear more about that later.

Michal Ilana Freedhoff, Ph.D.
Policy Director
Office of Congressman Edward J. Markey (D-MA)
2108 Rayburn House Office Building
Washington, DC 20515
202-225-2836

From: Criscione, Lawrence [mailto:Lawrence.Criscione@nrc.gov]
Sent: Wednesday, September 19, 2012 11:51 AM

To: Freedhoff, Michal
Subject: FW: Summary of Call with Duke on GI-204

Michal,

The emails below are from February 8, 2012. They concern notes taken by Ben Beasley during a call with Duke Energy regarding the redacting of GI-204 prior to its release. That is, the redactions made prior to the NRC releasing the report voluntarily last February.

When we voluntarily release a report, there are no requirements regarding what we cannot redact. We do not need to make any justifications. If the public doesn't like what we released, then they can FOIA it. Once it is FOIA'd, however, it is an entirely different situation. We are now required by law to release everything without redaction unless the redacted items meet certain FOIA exemptions.

The redactions we exempted in the FOIA release are the exact same redactions we had made in the voluntary release. The notes below concern the voluntary release and not the FOIA release.

I am forwarding this to you because of the following two sentences:

George Wilson responded that the review of the Analysis by the Department of Homeland Security did not reflect those concerns. DHS did not identify anything in the Oconee section of the Analysis as being sensitive.

I suggest you speak with George Wilson. I have never spoken with George Wilson about anything, but I heard from Richard Perkins that he was adamant regarding the redactions because he thought there was a clear national security concern. Based on the concerns of Mr. Wilson (and possibly others) the GI-204 screening report was sent to the Department of Homeland Security for review. I don't know what Mr. Wilson's opinion is following the review, but according to Perkins he was pretty adamant against public release prior to the DHS review. The DHS determination may have swayed him or may not have.

I get the sense from the notes below that Duke Energy was placing pressure on the NRC to heavily redact the report.

Larry

From: Perkins, Richard
Sent: Wednesday, February 08, 2012 1:27 PM
To: Criscione, Lawrence
Subject: FW: Summary of Call with Duke on GI-204

FYI

From: Beasley, Benjamin
Sent: Wednesday, February 08, 2012 12:07 PM
To: Correlia, Richard; Peters, Sean; Sheron, Brian; Hollan, Brian
Cc: Perkins, Richard; Bensl, Michelle
Subject: Summary of Call with Duke on GI-204

All,

NRR included me on the conference call with Duke at 10:30 today. A summary of the call is provided below.

The bottom line is that Duke will provide specific concerns to NRR by close of business Monday. In a subsequent conversation with George Wilson and Nancy Salgado, I expressed concern that Monday does not

support the schedule for the JLLD SECY on 50.54(f) letters. George and Nancy were going to talk with their management about the schedule.

Ben

**Summary of February 8, 2012, 10:30 a.m. Conference Call with Duke
On GI-204 Screening Analysis**

On the call from the NRC were:

George Wilson, NRC Dam Safety Officer and NRR point for this issue
Nancy Salgado, NRR / DORL Branch Chief for Oconee
John Stang, Oconee PM
Jonathan Bartley, Region II Branch Chief
Andy Sabisch, Oconee Senior Resident
Ben Beasley, RES

George Wilson led the call for NRC. Terry Patterson led the call for Duke. Chris Nolan (Duke) expressed general concern about the sensitivity of the information in the Screening Analysis. He cited the guidance in criterion B of the Critical Infrastructure Information Act of 2002. He felt that the information presented in the Screening Analysis identified a vulnerability at Oconee and should be withheld under criterion B. Chris stated that discussion of gaps in the licensing basis, core damage frequencies and impacts to the Station were the source of his concern.

Jonathan Bartley pointed out that although much of the information used in the Analysis is available to the public, putting it all together into one place created the sensitivity. Chris Nolan (Duke) echoed that the Analysis does a good job painting the picture which causes the vulnerability. George Wilson responded that the review of the Analysis by the Department of Homeland Security did not reflect those concerns. DHS did not identify anything in the Oconee section of the Analysis as being sensitive.

Terry Patterson (Duke) stated that the Analysis did not use current data. He expressed concern that the utility will have to respond (to the media) based on what is in the Analysis. I pointed out that the Analysis is just a preliminary study using readily available information to determine only whether or not the issue should become a Generic Issue.

Rich Freudenberger (Duke) stated that a few items in the Analysis are not consistent with information in the NRC's January 2011 SER. I replied that, although we are just now issuing the Analysis, it was nearly complete by last January.

George Wilson asked Duke to give us specific input on the statements they felt were sensitive or needed updating. Duke agreed to provide that and asked for a week to prepare their input. George asked for my input on the schedule and I stated that we have a strong need to approve the Generic Issue this week. Duke and NRR agreed on a deadline of close of business Monday.

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 7:08 PM
To: 'McGee, Jim (HSGAC)'
Subject: RE: Unredacted Screening Report for GI 204 on Flooding due to Upstream Dam Failures

I think that George Wilson (the NRC's Dam Safety Office) was the one who interfaced with the Department of Homeland Security.

I've never met George and don't know how he'd respond if you called him, but his number is 301-415-1711 and his George.Wilson@nrc.gov.

From: McGee, Jim (HSGAC) [mailto:Jim_McGee@hsgac.senate.gov]
Sent: Wednesday, September 19, 2012 5:19 PM
To: Criscione, Lawrence
Subject: RE: Unredacted Screening Report for GI 204 on Flooding due to Upstream Dam Failures

Thanks. Opened just fine. Does anyone have the DHS analysis?

Jim McGee
Professional Staff/Investigations
Senate Committee on Homeland Security and Governmental Affairs
202-224-2627

From: Criscione, Lawrence [<mailto:Lawrence.Criscione@nrc.gov>]
Sent: Wednesday, September 19, 2012 6:17 PM
To: McGee, Jim (HSGAC)
Subject: Unredacted Screening Report for GI 204 on Flooding due to Upstream Dam Failures

Jim,

Hopefully this file opens for you. The actual file is 20 MB but I reduced it to 1 MB. If it opens for you using Adobe 9.0 then it should be the entire report. If you cannot open it, let me know and I'll figure something else out. The 20 MB bounced back from your server.

Larry

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 5:09 PM
To: 'jim_mcghee@hsgac.senate.gov'
Subject: Unredacted Screening Report for GI 204 on Flooding due to Upstream Dam Failures

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 7:24 PM
To: 'McGee, Jim (HSGAC)'
Subject: Dated 2010 but mostly done in 2007 or 2008
Attachments: ML1007800843.pdf

This is publicly available as
ML13039A084

Jim,

This is the study done by James Vail, Fernando Ferrante, and Jeff Mitman to document their 2007 generic failure rate for Jocassee Dam.

The analysis was done in 2007 or possibly 2008. I think what occurred was this (speculation on my part but Jeff Mitman and/or Melanie Galloway could confirm what's right and what's not):

1. The NRC found out in 2006 that the flood wall at Oconee was 7 to 11 feet to short (not speculation contained in publicly available inspection report from April 2006).
2. Region II (the NRC region for the southeast US who regulate Oconee) did not have the technical expertise in hydrology/civil engineering/seismology/ probability/etc. to adequately assess the risk at Oconee so sometime in late 2006 or 2007 they referred the issue to NRC headquarters (i.e. NRR the Office of Nuclear Reactor Regulation).
3. Mitman and/or Fernando and/or Vail were asked to come up with a reasonable failure probability for Jocassee Dam. If the NRC could force Duke Energy to deterministically address the flood wall issue (vice probabilistically) then Duke would have no option but to build the flood wall. In order to force the issue to be addressed deterministically, the NRC needed to show a dam break was a credible scenario and that was the reason for the analysis. I believe it was done in 2007 but may have been 2008.
4. Based on the analysis, the NRC took the issue very seriously and sent the August 15, 2008 letter to Duke which in a sense began this whole issue. Although the NRC had known about it in 2006, the real first serious action at addressing the issue was the 2008-08-15 letter.
5. Duke responded to the 2008-08-15 letter on 2008-09-26. Their response is where they admit that if the dam breaks the three reactor cores melt down in 8-9 hours (prior to the flood waters receding so there's nothing that can be done), the flood waters recede at the 10 hour point and, if cooling cannot be restored within the next 49 to 58 hours (i.e. 59 to 60 hours after the dam break) then the containment building will start to fail.
6. In April 2009, The NRC was preparing a response to Duke's 2008-09-26 letter. Melanie Galloway disagreed with the response. At the time, she was the Deputy Director for the Division of Risk Assessment at NRR (there is also a Division of Risk Assessment in the Office of Research and another one in the Office of New Reactors, so when you hear DRA it could be NRR/DRA, RES/DRA or NRO/DRA which are all different divisions but essentially have the same expertise I'm part of RES/DRA). She filed a Non Concurrence form which I will be sending in another email due to the size.
7. Melanie Galloway's Non-Concurrence was rejected and the NRC's response to Duke Energy went out on 2009-04-30. Part of the issue during the internal review of the letter was whether or not the NRC's risk assessment for the Jocassee Dam failure was accurate. This led to the formalization of it in the attached report.
8. The attached report was issued on 2010-03-15. As you can see, it is marked "Security-Related Information" but nowhere in it does it contain the words security, terrorism, sabotage, vandalism, Duke Energy, Oconee Nuclear Station, Oconee County, radiation, nuclear, reactor, core, etc. No one reading this report would know it had anything to do with a dam 11 miles upstream of a nuclear plant. This report was supposed released publicly in a form that didn't name Jocassee Dam. I don't have the public version but Jeff Mitman probably does.

Again, I'm in the Office of Research and am on the margins of this issue. Melanie Galloway or Jeff Mitman should be able to let you know the inside information.

B/12

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 7:43 PM
To: 'McGee, Jim (HSGAC)'
Subject: Jeff Mitman's Non-Concurrence
Attachments: ML1102604432.pdf

This is publicly available as
ML110260443

Jeff Mitman is a pretty blunt guy. He has my 2012-09-18 letter to the Chairman. I don't know what he thinks about it, but if you called him I'm sure he would tell you. I wouldn't be surprised if he agreed with it. I wouldn't be surprised if he disagreed with it. I'd be very surprised if he declined to give you his opinion.

Attached is his 2011-01-10 Non-Concurrence. In the non-concurrence he is concerned that Duke Energy has calculated the maximum level for Jocassee Lake using "sunny day" numbers. He's also concerned (although I don't think it's part of this non-concurrence) that the failure probability for Jocassee Dam is a "sunny day" probability.

A "sunny day" failure of a dam is one due to latent engineering or construction flaws which finally manifest themselves one day. All dams are susceptible to what is called "piping". In dam failure analysis, "piping" refers to very small leaks through the dam. So small, that they are typically unnoticeable. All dams have "piping" to some extent. A "piping" failure is when some latent construction flaw allows a very small leak to become large enough to start eroding the "pipe". Once this happens, the failure develops rather quickly (somewhere between an hour to a few months, but that's quick for a dam that's supposed to last centuries). If it occurs quickly enough, the dam could fail before an evacuation.

Another type of "sunny day" failure would be a rock slide which weakens the wall of the dam in some part.

If you want a good analysis of dam failures outside the NRC, a good resource might be Dr. Baecher at the University of Maryland (gbaecher@umd.edu).

Mitman believes that a "sunny day" failure is overly optimistic. He believes that in addition to "piping" failures, abnormally high amounts of rainfall should be considered.

Jeff's phone number is: 301-415-2843. His email address is: Jeffrey.Mitman@nrc.gov. A lot of people at the NRC are hesitant to talk to outsiders. I would be surprised if Jeff Mitman referred you to the NRC's congressional liaison, but he might.

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 7:49 PM
To: 'McGee, Jim (HSGAC)'
Subject: Melanie Galloway's Non-Concurrence
Attachments: ML0911701041.pdf

This is publicly available
as ML091170104

I know Melanie but I have never spoken to her. She is a Deputy Division Director which places her three levels above me in the food chain.

Attached is her 2009-04-06 non concurrence.

Her email address is: Melanie.Galloway@nrc.gov. Her phone number is: 301-415-1183.

I would hope that she'd welcome the chance to speak with you, but I don't know her well enough to know what she's likely to do.

She was one of the many NRC people copied on my 2012-09-18 letter to the Chairman. She can certainly assess for you where my concerns are valid and where my arguments are weak. Whether or not she will, I do not know. From reading her Non-Concurrence I believe she shares the same concerns I do, but things may have changed since 2009.

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Wednesday, September 19, 2012 8:08 PM
To: 'McGee, Jim (HSGAC)'
Subject: Richard Perkins - 301-801-1237
Attachments: Inspector General Letter[1].pdf

Richard Perkins (Richard.Perkins@nrc.gov) was the lead author for the GI 204 Screening Report. Attached is a letter he sent to the NRC Inspector General on 2012-09-14 concerning redactions to the report.

I know Richard would be willing to speak with you. His email files have the details concerning the routing of the GI 204 report and the various meeting concerning redactions to it.

The report was finalized on March 10, 2011 which was the day before the earthquake and tsunami which triggered the Fukushima accident.

The reason the report is redacted is because Richard refused to edit it. As the report circulated through the various offices for concurrence, the offices requested that certain sections be removed or grossly edited. Richard fought back and basically got his way in terms of the completeness of the report. However he lost in terms of it being redacted (which he also opposed). But if he would have caved in there would have been no need to redact the report because there would have been no examples in it of the enormous (from a nuclear perspective compared to many other hazards they are small) risks associated with a few nuclear plants due to dam failure.

Richard worked at the Nuclear Weapons Council for almost two decades. Every day most of his work revolved around Top Secret weapons designs. He was used to working with classified material and refused the recognized "Security-Related Information" which, unlike national security classifications, has no basis in law without strong justification. In his view, the stamp of "Security-Related Information" was being used to conceal information which makes Duke Energy and NRR look bad.

As he's put it, there are foreign governments both enemy and ally who have well organized and well funded networks to steal our nuclear weapons secrets. For that reason, the weapons labs are by law and necessity highly secretive and compartmentalized. However, the NRC is the opposite. It is by law and necessity transparent and collaborative. You cannot have the credibility necessary to regulate nuclear power without being transparent and you will not be effective without collaborative efforts across many disciplines of expertise.

Richard understands that there are well organized and well funded terrorist networks. He just has seen nothing in the GI 204 stuff that is of any security concern. If Jocassee Dam is a security threat, then the credible threat to it needs to be identified and guarded against. The way to address a security threat is to guard access to the dam, not to inane try to keep from the public the existence of the dam and the danger it poses to the nuclear plants.

I have more documents (e.g. correspondence between Duke Energy and the NRC) but sending them all would be overwhelming for you. There's only about a dozen, but some of them are 40 pages and more. If there is anything more you think you need, just let me know.

Richard H. Perkins, P.E.
Division of Risk Analysis
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission

September 14, 2012

Hubert T. Bell
Office of the Inspector General
U.S. Nuclear Regulatory Commission, MS 05-E13
11555 Rockville Pike
Rockville MD 20852

Dear Mr. Bell,

Subject: Concealment of Significant Nuclear Safety Information by the U.S. Nuclear Regulatory Commission

I allege that the Nuclear Regulatory Commission (NRC) has intentionally mischaracterized relevant and noteworthy safety information as sensitive, security information in an effort to conceal the information from the public. This action occurred in anticipation of, in preparation for, and as part of the NRC's response to a Freedom of Information Act request for information concerning the *generic issue* investigation on *Flooding of U.S. Nuclear Power Plants Following Upstream Dam Failure*. Specifically requested was the completed screening analysis report for this issue, of which I am the lead author. Portions of the publically released version of this report are redacted citing security sensitivities, however, the redacted information is of a general descriptive nature or is strictly relevant to the safety of U.S. nuclear power plants, plant personnel, and members of the public. The Nuclear Regulatory Commission staff has engaged in an effort to mischaracterize the information as security sensitive in order to justify withholding it from public release using certain exemptions specified in the Freedom of Information Act. Evidence supporting this allegation includes the redacted text from the analysis report, e-mails and written correspondence within the NRC, and e-mail correspondence with other Government agencies. The Nuclear Regulatory Commission staff may be motivated to prevent the disclosure of this safety information to the public because it will embarrass the agency. The redacted information includes discussion of, and excerpts from, NRC official agency records that show the NRC has been in possession of relevant, notable, and derogatory safety information for an extended period but failed to properly act on it. Concurrently, the NRC concealed the information from the public.

Because this concern involves a violation of law and is not related to a technical opinion or distinction, I am not submitting this concern to (or through) the NRC's Differing Professional Opinion Program. It is my intention to cooperate fully with NRC Office of the Inspector General. It is also my intention to make a copy of this letter available to the public shortly after I have submitted it to your office; therefore, please consider this allegation to be public information.

Respectfully submitted,



Richard H. Perkins

Enclosure: Response to Freedom of Information Act / Privacy Act Request, 2012-0106, Final

cc: Rep. Donna Edwards,
8730 Georgia Avenue, Suite 610
Silver Spring, Maryland 20910

Criscione, Lawrence

From: McGee, Jim (HSGAC) [Jim.McGee@hsgac.senate.gov]
Sent: Thursday, September 20, 2012 6:01 PM
To: Criscione, Lawrence
Subject: RE: Update on Jocassee Dam contacts
Attachments: NRC Letter Post Fuk after Oconee Inspection ML111330175.pdf; NRC Special Inspection of Oconee ML11187A122.pdf; NRC Post Fuk Order ML12054A735.pdf; NRC Post Fuk Request for Hazard Assessments ML12053A340.pdf

Larry,

Working my way through this material. I'd be interested in your thoughts on the attached, which includes a summary of findings from a post-Fukushima inspection, and NRC orders or requests for information. Would these have generated any information on Oconee that is relevant to the GI or issues you've raised?

Wondered if the following documents are available:

The 1992 FERC inundation study on Oconee
The 2008 and 2010 Duke studies
The DHS analysis of the Screening Study, or its assessment
Duck Action Plan to address issues
Was there earlier GI re: Oconee in 2006, reference a power cable?

And had these couple questions:

Is there a general weakness with the FSAR's and IPEEE documents for these plants? Or is result of the fact that most of these were developed several decades ago?

Why didn't estimates of risk include earthquakes or seismic risks? See page 9 of screening study

Did NRC expand this GI study to include the other plants? See page 21 of screening study

Thanks for your help

Jim McGee
Professional Staff/Investigations
Senate Committee on Homeland Security and Governmental Affairs
202-224-2627

From: Criscione, Lawrence [mailto:Lawrence.Criscione@nrc.gov]
Sent: Thursday, September 20, 2012 1:31 PM
To: McGee, Jim (HSGAC)
Subject: Update on Jocassee Dam contacts

Jim,

Yesterday I told you the NRC's Dam Safety Officer was George Wilson. Earlier this year he turned over to Kenneth Karwoski (301-415-2752, Kenneth.Karwoski@nrc.gov).

I spoke with George Wilson this morning (I had never met him until today). He informed me that in addition to the Department of Homeland Security, the NRC also sent the GI 204 Screening report to the Federal Energy Regulatory Commission. He said that it is possible that FERC was the source of the redactions and not DHS.

This has become an issue which I cannot resolve without the assistance of a congressional staffer since it involves one federal agency (the NRC) saying it is redacting documents due to the concerns of two other federal agencies (FERC and DHS).

I was told by George Wilson (the old Dam Safety Officer) that he does not have records of DHS's review from earlier in the year, but his contact at DHS was Craig Conklin. I don't know Craig's phone number, but his email is Craig.Conklin@dhs.gov.

I don't have a contact at FERC, but attached is a page out of their phone directory. I would think an appropriate contact would be William Allerton in Washington or Wayne King in Atlanta.

What I desire to know is whether or not there is anything in Section 2.2 (pp. 5-9) of the attached screening report which (1) DHS believes needs to be withheld from the public and (2) FERC believes needs to be withheld from the public.

There are at least two other entities (the TVA and the Army Corp of Engineers) which the NRC sent to review the report, but neither of these entities would have requested redactions to section 2.2 on Jocassee Dam because this dam falls under FERC. The Corp was concerned with dams along the Missouri River and the TVA with dams in the Tennessee Valley.

I don't know exactly what was told to Michal, but I'm under the impression that the NRC claimed the redactions to section 2.2 were at the request of either FERC or DHS. This may be true, but I would feel more comfortable about the redactions if I knew that DHS and FERC had been specifically contacted and asked to state which parts of section 2.2 cannot be released to the public.

Although there are certainly some merit into not broadcasting our infrastructure vulnerabilities, if you were a resident of Oconee County, South Carolina I assume you would want to know both the security and the purely safety liabilities which the Oconee Nuclear Station poses to you. The same is true for the residents of Nebraska and other affected sites. Withholding a detailed drawing showing the weak areas of Jocassee Dam is one thing, withholding merely the failure probability of that dam due to natural phenomena is something entirely different.

Larry



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

May 13, 2011

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

**SUBJECT: OCONEE NUCLEAR STATION – NRC TEMPORARY INSTRUCTION 2515/183
INSPECTION REPORT 05000269/2011014, 05000270/2011014,
05000287/2011014**

Dear Mr. Gillespie:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station using Temporary Instruction 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on May 12, 2011, with you and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of Oconee to respond to extraordinary consequences similar to those that have recently occurred at the Japanese Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States, will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report. You are not required to respond to this letter.

DEC

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

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

Enclosure: NRC 05000269/2011014, 05000270/2011014, 05000287/2011014

cc w/encl: (See page 3)

DEC

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cc w/encl:

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DEC

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Letter to T. Preston Gillespie, Jr. from Jonathan H. Bartley dated May 13, 2011

SUBJECT: OCONEE NUCLEAR STATION – NRC TEMPORARY INSTRUCTION 2515/183
INSPECTION REPORT 05000269/2011014, 05000270/2011014,
05000287/2011014

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-269, 50-270, 50-287

License Nos: DPR-38, DPR-47, DPR-55

Report Nos: 05000269/2011014, 05000270/2011014, 05000287/2011014

Licensee: Duke Energy Carolinas, LLC

Facility: Oconee Nuclear Station, Units 1, 2 and 3

Location: Seneca, SC 29672

Dates: March 23, 2011, through April 29, 2011

Inspectors: A. Sabisch, Senior Resident Inspector
G. Ottenberg, Resident Inspector
K. Ellis, Resident Inspector

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

Enclosure

INSPECTION RESULTS

IR 05000269/2011-014, 05000270/2011-014, 05000287/2011-014; 03/23/2011 – 04/29/2011; Oconee Nuclear Station, Units 1, 2 and 3; Temporary Instruction 2515/183 – Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event

This report covers an announced Temporary Instruction (TI) inspection conducted by the resident inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

INSPECTION SCOPE

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

INSPECTION RESULTS

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report.

Enclosure

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines (SAMGs) and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe what the licensee did to test or inspect equipment.
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee identified equipment required to address B.5.b events as well as those considered to be "beyond design basis" and covered under Oconee Severe Accident Guidelines (OSAG) for inspection & testing. Testing of permanently installed equipment was verified to be current and did not have any outstanding deficiencies. Equipment used to implement B.5.b mitigation strategies was reviewed to ensure the equipment was available and functional. Active equipment (e.g., Hale pumps) was tested and all passive equipment in the procedures was walked down, verified to be in-place, and in good condition. Vehicles designated for transporting the equipment were verified to be available; the pathways they would use were unobstructed and would remain so following an event; and were the correct ones to use.</p>

None of this equipment would lower the probability of the dam breaking or enable the operators to prevent the cores from melting down within 8-9 hours. However, this B.5.b equipment and strategies could be crucial in preventing containment failures. After the flood waters recede, the installed equipment cannot be relied upon as all the electric motors of the pumps will have been wetted. B.5.b equipment and strategies vary greatly, but many of them rely on diesel driven pumps and other non-electric equipment. If the operators are able to bring in diesel driven equipment to restore cooling to the reactors, then - even though they are too late to prevent the fuel from melting - if they can remove enough decay heat they can prevent the containment structures from failing. Three melted cores inside intact containment domes are not that big a deal. It's newsworthy (e.g. Three Mile Island) and something that could bankrupt Duke Energy. But as long as the containment structures survive there's no Fukushima style release.

Enclosure

The question is: how well do you trust their B.5.b strategies? I don't think the NRC has an estimate but at this point they should. Do you give them 90% odds at preventing containment failure or only 10% odds? Considering this is the difference between TMI and Fukushima, this is a number that should be well analyzed.

	<p><i>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</i></p> <p>The inspectors reviewed the results of the licensee's walkdowns and performed walkdowns of selected procedures to ensure the required equipment was properly staged and ready for use. The walkdowns were done without prior review of the licensee's results to provide for an independent assessment of the equipment's readiness and availability.</p> <p>The inspectors observed the functional test of the second Hale pump and reviewed testing that the licensee performed in mid-March which included test procedures and any work orders resulting from the testing.</p> <p>Following completion of the walkdowns, the inspectors reviewed the results of the licensee's walkdowns to assess issues the licensee had identified and the actions that had been taken or initiated to address them. The inspectors met with the licensee to discuss any additional issues the inspectors had identified during their independent walkdowns and ensured the issues were entered into the licensee's Corrective Action Program (CAP).</p>
	<p><i>Discuss general results including corrective actions by licensee.</i></p> <p>In general, all required equipment in the station procedures was available and functional with a few minor issues noted as a result of the licensee's and inspector's walkdowns. The licensee incorporated the observations resulting from the inspector walkdowns into their CAP and will address them in conjunction with the issues they identified.</p>

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Licensee Action	<i>Describe the licensee's actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.)</i>
<p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee reviewed several groups of procedures including the OSAG, Accident Mitigation (AM) guidance, Extensive Damage Mitigation (EDM) procedures, Loss of Spent Fuel Cooling and/or Level procedures and Beyond Design Basis Mitigation Strategies (BDBMS). Personnel from operations, maintenance and engineering performed walkdowns of these procedures to ensure the guidance / direction could be performed as written. An issue affecting the option to vent the Unit 2 reactor building (RB) pressure when in the OSAG procedures was identified and entered into the licensee's CAP for resolution.</p> <p>A table top review of the EDM and the Loss of Spent Fuel Cooling and/or Level Abnormal Operating Procedures (APs) was performed followed by an actual walkdown of all field actions to ensure the actions called for could be performed as directed and that the necessary equipment was in fact available.</p> <p>The BDBMS were all walked down to ensure the guidance provided was clear and that the required equipment was available.</p> <p>Procedures governing actions called for by Security personnel, providing access past security barriers or the use of Security vehicles to transport severe damage mitigation equipment were reviewed and walked down to verify they could be performed as written.</p>

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	<p><i>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</i></p> <p>The inspectors reviewed the B.5.b, EDM, BDBMS, and the OSAG strategies and performed independent reviews and walkdowns of selected procedures to ensure the actions were clear, executable as written, and reflected the current plant conditions. The walkdowns were done without prior review of the results of the licensee's walkdowns and table top reviews to provide for an independent assessment of the procedures required to implement the strategies associated with B.5.b and 10 CFR 50.54(hh). The inspectors determined that the procedures were in place and executable.</p> <p><i>Discuss general results including corrective actions by licensee.</i></p> <p>The licensee identified some issues during the walkdown and review of the procedural guidance and instructions. Corrective actions were immediately initiated to address discrepancies; i.e., procedures revised, communications sent out, or changes made as to where specific equipment or supplies were stored. Items flagged as "Enhancements" were collected and were evaluated for prioritization; development of corrective actions and resolution. For areas that were identified as having "Discrepancies" or "Enhancements," the inspectors reviewed the immediate actions taken as well as the proposed corrective actions intended to address the identified issues.</p> <p>The licensee incorporated the observations resulting from the inspector walkdowns into their CAP and plans to address them in conjunction with the issues they identified.</p>
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It's really good that the NRC is looking at these things and that Duke Energy is responsive to their comments. What the NRC is doing is what they did at Fort Calhoun. At Fort Calhoun they told the inspector that they could sandbags on top of a wall if needed. The inspector didn't believe it (in his opinion the wall was too thin to support more than one row of sandbags and one row deep would like be forced over by the hydrostatic pressure of the water). In challenging the station about the ability of the sandbag wall to survive, he asked to see the sandbags so he had an idea of their dimensions and if they had anything special to them to hold them in place (most sandbags do not and just rely on the inertia of a heavy thick wall). When the crew could produce neither bags nor sand, it brought his challenge to a whole new level.

In doing these B.5.b inspections, the NRC is making sure the plant has more than just B.5.b procedures: they are looking at (1) do they have the equipment readily accessible, (2) is it stored such that it will survive the flood and can be retrieved once the water recedes, and (3) is the crew knowledgeable and proficient with regard to the procedures. But in the end, as mentioned above this will not prevent the meltdown - just possibly the containment failure. This is all good stuff but it has only a minor effect on the overall risk. The plant needs an adequately sized flood wall. To keep the cores from melting down, they need to prevent the flood - not respond to it after it recedes.

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Licensee Action	<i>Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.</i>
<p>c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).</p>	<p>The licensee reviewed the training and qualification matrix for members of the On-Shift personnel called out for having training requirements to support responding to accident / severe event conditions, the Security force, Maintenance and the Emergency Response Organization.</p> <p>Due to a deficiency in the process used to maintain the qualification matrix for on-shift personnel, some qualification lapses occurred. However, based on the specifics and the number of personnel involved, it was determined that there was no adverse impact to the ability of the overall on-shift staff to respond to an event as adequate shift resources remain available on all shifts to complete these tasks if needed.</p> <p>The Security Force and Emergency Response Organization training qualification matrices were reviewed and no members were found to be deficient in their qualifications.</p> <p>The training qualification matrix for the Maintenance personnel designated as B.5.b and SAMG responders was reviewed and no members were found to be deficient in their qualifications.</p>

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	<p><i>Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff.</i></p> <p>The inspectors reviewed the results of the licensee's training and qualification assessment and independently reviewed a sample of training records for individuals in On-Shift operations department, the Security force, Maintenance, and the Emergency Response Organizations to verify that their required training was current and properly documented to ensure that the individuals were qualified for their assigned tasks.</p> <p><i>Discuss general results including corrective actions by licensee.</i></p> <p>Personnel that were not current with all required training were scheduled for the training needed to complete their qualifications. They had already been flagged as requiring the training and had not been assigned to the duty area in their normal on-shift rotation. There are sufficient personnel that are qualified to avoid reducing manning below minimum required levels on all shifts. No other gaps or areas requiring action were identified by the licensee or the inspectors.</p>
<p>Licensee Action</p>	<p><i>Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.</i></p>
<p>d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee had the following agreements / contracts in-place to support the mitigation of events covered by this TI:</p> <p><u>Local Fire Departments:</u> Agreement letters were in-place with the four local fire departments that are designated as responders to the site. They have been selected to provide response from different directions so that support will be available regardless of what access roads are not available. The Fire Chief of each department was contacted to ensure their capabilities to respond to site emergencies as specified in letters of agreement had not changed or been compromised and all stated that their capabilities had not changed and confirmed their capability to respond as requested.</p> <p><u>Radiological Emergency Assistance Center / Training Site Oak Ridge (REAC/TS) and Department of Energy:</u> Agreements were in place to provide support and response as</p>

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	<p>requested. These agencies were contacted by the licensee and it was verified that the existing agreements were still in effect and nothing had changed which would limit their ability to respond as requested.</p> <p><u>Vendor Support:</u> The vendor used by all three Duke sites for maintenance of their B.5.b / SAMG pumps was contacted and verified the agreement to provide repair services for the pumps if required remained in place and that they were available to provide support on demand.</p> <p><u>Law Enforcement:</u> Oconee Site Security Management contacted local law enforcement (Pickens and Oconee County and SC State Law Enforcement Division) and the local Federal Bureau of Investigation offices to confirm their ability to support the sites security needs on request.</p>
	<p><i>For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).</i></p> <p>The inspectors reviewed the licensee's matrix that documented the verifications performed to ensure the agreements remained in effect and were understood by the current contact points for the offsite agencies for which agreements were in place. The inspectors also independently contacted a sample of the agencies for which agreements were in place to verify that the specific agreement was current and understood.</p> <p><i>Discuss general results including corrective actions by licensee.</i></p> <p>Based on the licensee's assessment of this area, no corrective actions were identified. No issues were identified by the RIs in their review that required immediate actions to be taken by the licensee.</p>

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Licensee Action	<p><i>Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.</i></p>
<p>e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.</p> <p>These are the types of problems which the licensee walkdowns and the NRC inspectors should be identifying. These are encouraging signs in the sense that they show quality walkdowns are occurring and finding vulnerabilities. However, they are examples of how hard it is to think of everything in advance.</p>	<p><u>Problem Investigation Program reports (PIP) O-11-2808 & 2926:</u> A review of the SAMGs identified that a 2010 modification removed the piping that was used to vent the Unit 2 RB. The guidance in the SAMG removed the blank flange from the end of the unused hydrogen recombiner piping and opened the RB radiation monitor penetration valves to vent the RB should RB pressure exceed 100 psig. The Unit 2 piping was cut and capped rendering the reactor building vent path unavailable. The piping on Unit 1 and 3 is still intact; however, these pipes will also be capped when the tornado modifications are completed.</p> <p><u>PIP O-11-2928:</u> A review of the equipment that would be used to remove water from the low pressure injection LPI or high pressure injection HPI rooms in the event of flooding in the Auxiliary Building identified that the lugs on the sumps that would be lowered into the rooms did not fit an outlet in the area. If the air system was not available alternate capabilities to remove water using air operated sumps would not be available. The lugs on all sump pump drop cords were changed to allow them to be used with the available outlets.</p> <p><u>Work Request 01030170:</u> During functional tests of the sump pumps that would be used to pump water from the LPI or HPI rooms, the start capacitor failed on two of four pumps tested. Plans to replace the capacitors are in place and periodic tests are being developed to ensure the pump will start when required. Alternate capabilities to remove water were available through the use of air operated pumps.</p> <p><u>PIP O-11-2927:</u> Following a review of procedures that would be used to maintain spent fuel pool cooling following various events, it was recognized that when certain Accident Mitigation or Abnormal Operation procedures were being used the backup spent fuel pool level indication would be unavailable if offsite power and power from the SSF was unavailable which would require personnel to visually verify spent fuel pool levels – an unacceptable requirement under some scenarios. Engineering is reviewing options that could be implemented to provide level indication without requiring personnel to physically enter the SFP area under all conditions. If spent fuel pool levels are decreasing, this requirement could impact the ability to determine actual level.</p>

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03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power," and station design, is functional and valid. Refer to TI 2515/120, "Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22" as a guideline. It is not intended that TI 2515/120 be completely re-inspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	<i>Describe the licensee's actions to verify the adequacy of equipment needed to mitigate an SBO event.</i>
a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.	<p>The licensee reviewed the applicable design documents and licensing bases to identify the equipment required to mitigate a SBO. The plant procedures were reviewed to identify specific equipment credited for SBO as well as other selected equipment that was expected to actuate and maintain the units in Mode 3.</p> <p>Equipment reviewed included the SSF (and support systems), the Class 1E batteries, circulating cooling water (CCW) components required to support refill of the CCW header, steam valves credited to close to control cooldown, auxiliary feedwater isolation system along with related main and startup feedwater control valves, diesel air compressors and portions of the instrument air system and the turbine driven emergency feedwater system (although the turbine driven emergency feedwater pump is not credited for SBO, the licensee stated that it should be available and hence was included in the review / walkdown). The licensee verified that all of the equipment identified in their review was available and functional.</p> <p>Actual testing to address the Institute of Nuclear Power Operations Event Report recommendation was not performed as the referenced equipment is tested on a periodic basis under Technical Specification (TS) or Selected Licensee Commitment (SLC) surveillance requirements and all testing was found to be current.</p>

Enclosure

	<p><i>Describe inspector actions to verify equipment is available and useable.</i></p> <p>The Inspectors conducted independent walkdowns to verify that the equipment called for in the applicable procedures was located where it was called out to be, that it was readily accessible and that it was identifiable based on the description in the procedure or through the use of markings or signage on the equipment itself. No issues were identified in the Inspectors' walkdown of the equipment and supplies staged to mitigate a SBO event.</p> <p>As stated above, the licensee did not need to perform any testing of equipment as it was all covered under existing TS / SLC surveillance procedures and all of the testing was current. As a result, the inspectors did not observe the testing of the required equipment during the processing of this TI.</p> <p><i>Discuss general results including corrective actions by licensee.</i></p> <p>The licensee's review identified the following deficiencies associated with the service air system: 1) some of the preventive maintenance activities had been deferred several times and were currently outside of the recommended frequency for performance; and 2) full system capacity would not be available if one of the backup air dryers was isolated for routine maintenance. These issues were captured in the CAP (PIP O-11-3218) and actions are being developed to address them.</p> <p>An issue similar to that under Section 03.01 was identified based on observations and feedback from both licensee's and the inspectors' walkdowns. To ensure that SBO equipment was available when called upon, the licensee has initiated several corrective actions. Areas that are being addressed under these actions include: 1) securing equipment with the standard EOP tamper seals rather than combination locks; 2) conducting routine inventory inspections of designated storage areas to ensure equipment is available as was performed on EOP and EFM equipment; and 3) clearly marking required equipment and storage areas as being for SBO use and communicating the new markings to the station staff.</p>
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Enclosure

Licensee Action	<i>Describe the licensee's actions to verify the capability to mitigate an SBO event.</i>
b. Demonstrate through walkdowns that procedures for response to an SBO are executable.	Reviews and walkdowns of procedures including EPs, APs, Operating procedures, and Emergency Maintenance (EM) procedures were conducted by the licensee to ensure the procedures could be performed as written and that there were no revisions required. Once the applicable procedures were identified, the licensee performed a review of DocuTracks to determine if there were any outstanding changes pending on these procedures.
	<i>Describe inspector actions to assess whether procedures were in place and could be used as intended.</i>
	The inspectors independently performed walkdowns of the procedures to mitigate a SBO event to ensure the actions were clear and executable as written. Overall, there were no issues identified that would have adversely impacted the licensee's ability to perform the procedures as written. Two minor items were identified by the Inspectors during the procedure validation. The licensee initiated corrective actions to address these issues.
	<i>Discuss general results including corrective actions by licensee.</i>
	The licensee determined that all procedures were executable as written. The licensee did identify several procedural enhancements that were captured in the CAP and entered into DocuTracks.

Enclosure

<p>03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, "Adverse Weather Protection," Section 02.04, "Evaluate Readiness to Cope with External Flooding" as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.</p>	
Licensee Action	<p><i>Describe the licensee's actions to verify the capability to mitigate existing design basis flooding events.</i></p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee reviewed, walked down, inspected, and/or tested materials, equipment and procedures required to mitigate internal and external floods to verify their availability and functionality. In some situations, periodic testing was verified as current to ensure functionality. The list of equipment that was inspected was developed based on a review of licensing basis documents (TS, SLC, Updated Final Safety Analysis Report), Site Directives, and procedures including operating procedures, APs, EPs and OSAGs.</p>
	<p><i>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</i></p>
	<p>The inspectors performed walkdowns of staged equipment and the associated procedures that would be used to mitigate internal and external flooding. Several of these procedures were also reviewed as part of section 03.01 as much of the equipment serves a dual role in mitigating beyond design basis events and site flooding events.</p> <p>The inspectors provided feedback to the licensee on some procedures which identified potential enhancements and/or clarifications that were entered into the licensee's CAP.</p>

Enclosure

	<p><i>Discuss general results including corrective actions by licensee.</i></p> <p>The licensee identified some issues requiring immediate resolution to restore functionality to equipment. Work orders were initiated to address equipment-related issues and set on an expedited schedule to be completed. One example, which was discussed under Section 03.01, pertained to start capacitor failures on sump pumps that would be used to pump water from the LPI or HPI rooms. Plans were in place to replace the capacitors and periodic tests were developed to ensure the pump will start when called upon. In addition, the plug on the sump pump cords was of a different style than the outlets in the general area and was replaced to ensure they could be used. It was also noted that when the plugs were replaced the cords had been spliced using an unapproved method which would not have supported use in a submerged environment.</p>
<p>03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. Assess the licensee's development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, "Component Design Basis Inspection," Appendix 3, "Component Walkdown Considerations," as a guideline to assess the thoroughness of the licensee's walkdowns and inspections.</p>	
<p>Licensee Action</p>	<p><i>Describe the licensee's actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.</i></p>
<p>a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee reviewed, walked down, and inspected systems and components required for fire suppression and flood mitigation to verify availability and functionality. Also, as part of this assessment, their seismic vulnerabilities were evaluated.</p> <p>For fire suppression response, walkdowns and inspections were performed by three teams which consisted of a system engineer or cognizant person responsible for the area/function inspected and a civil engineer. These teams walked down portable fire protection equipment and permanent fire suppression components such as hydrants, interior power</p>

Enclosure

Fire fighting equipment is used for more than just fires. It is heavily relied upon in B.5.b scenarios.

I've never visited Oconee, but every plant I've worked at has had at least one diesel driven fire pump. During a Station Black Out, the diesel driven pump is one of the few things that work.

At Callaway Plant there were two diesel driven fire pumps and they could be used to inject water into the steam generators as a last resort to cool the reactors.

They could also be used to provide some cooling to containment. They were just a band-aid, but better than nothing. Losing them, however, would greatly increase risk. So the stuff highlighted in red affects more than just the ability to fight a fire. It affects the ability to survive a station blackout (such as one caused by a failure of Jocassee Dam flooding the diesel generator at the SSP).

block fire suppression systems and components, and Keowee fire suppression and components. The walkdowns and inspections addressed material condition (i.e. the readiness of the equipment to suppress a fire) and the potential for seismic interactions. A table top drill was performed by Operations of the fire brigade response procedure.

Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.

The inspectors reviewed the licensee's procedural guidance for responding to flooding in the turbine or auxiliary buildings as well as a seismic event. Areas of the protected area and power block containing equipment that would be used to respond to flooding and fire events were walked down to identify vulnerabilities as a result of a seismic event.

In walking down the applicable seismic or flooding event response procedures, the inspectors identified some areas where additional clarification or guidance was warranted to ensure the intended actions were performed in a timely and consistent manner. In reviewing the auxiliary building flooding procedures, the inspectors identified the need to evaluate the step sequence that would ensure personnel could access components before they were submerged. The AP did not have direction on where to start searching for the source of the leak based on the indications received by the operators.

Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.

[REDACTED]

Enclosure

<p>This is one of the reasons they want to use the "sunny day" random failure of the dam. When seismic failure of the dam is considered, they cannot show adequate protection.</p>	<p>A review of potential additional pre-planning and staging of equipment such as the Hale pumps was underway. The relocation of some portable equipment was being evaluated which would place the firefighting equipment in a more protected, seismically-rated area. Supplemental protection for fire hydrants was being reviewed.</p> <p>Scaffolding that could have impacted equipment that would be used for firefighting following a seismic event was identified. Some was removed and other scaffolds required for in-progress work was planned to be removed when the work was completed. Communications have been distributed to groups involved in scaffold installation to prevent this issue from recurring in the future.</p> <p>Some of the flooding issues identified by the licensee resulted from the non-seismic design of the affected structures, systems and components and may be unavailable or damaged following a DBE. The licensee did not identify any new mitigating strategies to address flooding caused by events considered beyond DBE.</p> <p>Some procedural enhancements were identified by the licensee during the walkdowns and tabletops and from feedback received from the inspectors. Procedure Change Requests were initiated for all identified enhancements/clarifications and corrective actions initiated for other issues that require correction or review.</p>
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Enclosure

4OA6 Meetings

On May 12, 2011, the inspectors presented the inspection results to Mr. T. Preston Gillespie, Jr., Oconee Vice President, and other members of licensee management. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Attachment: Supplemental information

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

K. Alter, Regulatory Compliance Manager
S. Batson, Station Manager
S. Boggs, Emergency Services Coordinator
J. Bohlmann, Organization Effectiveness Manager
E. Burchfield, Superintendent of Operations
D. Crowl, Emergency Services
M. Dunton, Maintenance Manager
P. Fisk, Engineering
R. Freudenberger, Regulatory Support Manager
P. Gillespie, Site Vice President
C. Hamlin, Engineering
T. King, Security Manager
B. Meixell, Regulatory Compliance Engineer
T. Patterson, Safety Assurance Manager

Nuclear Regulatory Commission

G. Hopper, Branch Chief, DRP Branch 7, RII

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events

Number	Description or Title	Date or Revision
OP/0/A/1106/042	Hale Portable Pump Operation	002
AM/0/A/1300/089	Pumping water from LPI and HPI Pump Rooms in Case of AB Flood	004
PT/0/B/0120/032	Field Equipment and Procedure Surveillance	37
SP/0/1303	Security Patrol Requirements, Section 6.5, Security Patrol Vehicle Availability for Movement of EDM Hose Trailer	
SP/0/1305	Vehicle Barrier System (VBS) Access Control and Search Requirements	

Attachment

SP/C/1600	Security Event Response	
AP/0/A/1700/046	Extensive Damage Mitigation	005
EM 5.1	Engineering Emergency Response Plan, Enclosure F, Makeup and Monitoring of the SFP and Recovery From a Boiling Condition and Enclosure U, Loss of SFP Level	
EM.5.2	Evaluations by Station Management in the TSC - Beyond Design Basis Mitigation Strategies	
AM/0/A/1300/059	Pump - Submersible - Emergency SSF Water Supply - Installation And Removal	008
AP/1-2/A/1700/035	Loss of Spent Fuel Cooling and/or Level	010
AP/3/A/1700/035	Loss of Spent Fuel Cooling and/or Level	010
RP/0/B/1000/022	Procedure For Major Site Damage Assessment And Repair	011
AP/0/A/1700/025	SSF EOP	049
EP/1,2,3/A/1800/001B	Station Blackout	37, 39, 37
AM/0/A/1300/059	Pump – Submersible – Emergency – SSF Water Supply	8
AM/0/A/3009/12 A	Emergency Plan for Refilling Spent Fuel Pools	006
N/A	Training records for personnel assigned to the fire brigade, Emergency Response Organization, Security force and selected personnel in the Maintenance organization	
Emergency Plan, Appendix 5	Support agreements in-place with local fire departments, local law enforcement and offsite support agencies	

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions

Number	Description or Title	Date or Revision
EP/1,2,3/A/1800/001B	Station Blackout	37, 39, 37
AP/1,2,3/A/1107/22	Loss of IA	
OP/0/A/1107/003	100 kV Pwr Supply	077
OP/0/A/1107/003A	Furnishing Pwr to Ocone	004
OP/0/A/1107/011F	Sharing Startup Transformers	009
OP/0/A/1106/027	Compressed Air - Monitor Operation of Diesel Air Compressors	104
EM/0/A/1500/013	Manual Lowering of Fuel Assembly in SFP	
Engineering Calculation OSC-2322	ECCW system	
Tech Spec 3.7.1	Main Steam Relief Valves	
Tech Spec 3.7.3	Main FS Control Valves & Startup FCVx	
SLC 16.10.9,	AOVs Required to Support SSF During SBO	
SLC 16.9.10	CC & HPI Seal Injection to RC Pumps	
PT/1/A/0600/001	Periodic Instrument Surveillance	318
OSS-0254.00-00-2026	AFIS DBD; section 2.1.1.3, Loss of All AC Power, Station Blackout	
EP/1/A/1800/001B	EOP Blackout	037

OP/1,2,3/A 1102/010	Unit Shutdown	206,196, 223
EM 5.1	Engineering Emergency Response Plan	
AP/0/A/1700/025	Standby Shutdown Facility Emergency Operating Procedure	
AP/2/A/1700/022	Loss of Instrument Air	037
UFSAR	Various sections applicable to this area (Section 8 and 15)	

03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design

Number	Description or Title	Date or Revision
AP/1,2,3/A/1700/10	Turbine Building Flood	7, 7, 6
AP/1,2,3/A/1700/30	Auxiliary Building Flood	16, 16, 14
AM/0/A/1300/89	Pumping Water from LPI/HPI Rooms	004
Engineering Manual 5.3	Beyond Design Basis Mitigation Strategies for External Flood Mitigation	
SLC 16.9.11	Turbine Building Flood Protection Measures	
SLC 16.9.11a	Auxiliary Building Flood Protection Measures	
SLC 16.9.21	SSF External Flood Protection	

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events

Number	Description or Title	Date or Revision
RP/0/B/1000/029	Fire Brigade Response	16
SLC 16.9.11	Turbine Building Flood Protection Measures	
SLC 16.9.11.a	Auxiliary Building Flood Protection Measures	
SLC 16.9.21	SSF External Flood Protection	
SD 3.2.16	Control of Passive Design Features	0
AP/1-2, 3/A/1700/010	Turbine Building Flood	7, 7, 6
AP/1,2,3/A/1700/030	Auxiliary Building Flood	16, 16, 14
AM/0/A/1300/89	Pumping Water from LPI/HPI Rooms	4
EM 5.3	Beyond Design Basis Mitigation Strategies for External Flood Mitigation	
SLC 16.9.1	Fire Suppression Water Supply System	
SLC 16.9.2	Sprinkler and Spray Systems	
SLC 16.9.3	Keowee CO2 System	
SLC 16.9.4	Fire Hose Stations	
AP/0/A/1700/005	Earthquake	23
AP/0/A/2000/001	Keowee Hydro Station – Natural Disaster	5
AP/0/A/1700/006	Natural Disaster	21

Corrective Action Program Documents

PIP O-11-2789; IER L1-11-1, Fukushima Daiichi Nuclear Station Fuel Damage Caused by Earthquake and Tsunami Assessment

PIP O-11-2808; During review of severe accident mitigation strategies following the Japan OE, it appears that the reverse osmosis modification removed the hydrogen recombiner piping that the SMAG document uses to vent the U2 RB

PIP O-11-2925; INPO IER 11-1 required an assessment of the capability to mitigate Beyond Design Basis Accidents. Part of this capability is the ability to plug a SFP leak per EM 5.2 Encl 1.7. (See detailed problem description). Some warehouse material could not be located during the assessment performed on weekend of March 19, 20 2011

PIP O-11-2926; Documentation of the results of the review of plant readiness for SAMG

PIP O-11-2927; Documentation of the results of the review of plant readiness for loss of spent fuel pool cooling

PIP O-11-2928; Results of detailed walk down of Oconee Nuclear station Emergency Plan to determine current state of readiness to address conditions beyond design basis events

PIP O-11-2931; Independent Nuclear Oversight (INOS) evaluator (ER/EN/CM evaluator) assistance requested to support the Line Organization at ONS in the development of the site's response associated with INPO Event Report Level 1 11-1 issued: Fukushima Daiichi Nuclear Station Fuel Damage Caused by Earthquake and Tsunami.

PIP O-11-2995; This PIP is to document all the enhancement items that have not been previously captured in PIPs 11-2927 (Assessment of SF Cooling per INPO IER 11-1) or 11-2926 (Assessment of SAMG per INPO IER 11-1).

PIP O-11-3018; Some SAMG manuals were not up to date

PIP O-11-3020; Results of field walkdowns of fire protection equipment

PIP O-11-3021; EM 5.2 (Evaluations by Station Management in the TSC - Beyond Design) Encl 1.2 (Portable Spray Strategies) Step 2.6 needs clarification

PIP O-11-3066; Vehicles designated for movement of the Extensive Damage Mitigation (EDM) hose trailer

PIP O-11-3142; Maintenance walkdown of the ONS Emergency Plan to assess readiness

PIP O-11-3263; Walkdowns identified enhancements to AP/0/A/1700/025 (Standby Shutdown Facility Emergency Operating Procedure).

PIP O-11-3266; Walkdowns identified enhancements to OP/0/A/1107/003 (100 KV Power).

PIP O-11-3269; Walkdowns identified enhancements to EOPs

PIP O-11-3410; Cabinets on CCW intake are close to CCW pumps and SSW piping

PIP O-11-3418; Items requiring removal were noted on LPSW walkdowns

PIP O-11-3419; Results of EFFM pump run

PIP O-11-3575; AM/0/A/3009/012A (Emergency Plan for Refilling Spent Fuel Pools) drawings do not depict current location of security fence.

PIP O-11-4127; RP/0/B/1000/029 (Fire Brigade Response) was table top validated with enhancements identified

PIP O-11-4285; Walkdowns and inspection were conducted of systems and components credited for fire suppression, in response to INPO Event Report 11-1, Fukushima Daiichi Nuclear Station Fuel Damage

PIP O-1104389; Long Term effectiveness of changes to the communications standards within Operations identified during walkdowns and tabletops

PIP O-11-4411; Fire Hose Station was found partially removed from its rack

PIP O-11-4383; Valves identified where a change in torque switch settings is needed to support SAMG use

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
AM	Accident Mitigation
AP	Abnormal Operating Procedure
BDBMS	Beyond Design Basis Mitigation Strategies
CAP	Corrective Action Program
CCW	circulating cooling water
CFR	Code of Federal Regulations
DBE	Design Basis Earthquake
EDM	Extensive Damage Mitigation
EFM	External Flood Mitigation
EM	Emergency Maintenance
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
HPI	high pressure injection
IP	Inspection Procedure
LPI	low pressure injection
NRC	United States Nuclear Regulatory Commission
OSAG	Oconee Severe Accident Guidelines
PIP	Problem Investigation Program
RB	Reactor Building
RI	Resident Inspector
SAMG	Severe Accident Mitigation Guideline
SBO	Station Blackout
SLC	Selected Licensee Commitment
SSC	Structures, Systems, and Components
SSF	standby shutdown facility
TI	Temporary Instruction
TS	Technical Specification
TSC	Technical Support Center

From: McGee, Jim (HSGAC) <Jim_McGee@hsgac.senate.gov>
Sent: Thursday, September 20, 2012 6:16 PM
To: Criscione, Lawrence
Subject: RE: Update on Jocassee Dam contacts
Attachments: Documents_Screening Report ML1107404821 - Adobe 9 or later.pdf

Also would appreciate your guidance on which of the documents on this list may be worth obtaining. I've highlighted those that look useful, or that strike me as worth seeing. Any thoughts you have along this line would be appreciated.

Thanks.

Jim McGee
Professional Staff/Investigations
Senate Committee on Homeland Security and Governmental Affairs
202-224-2627

From: McGee, Jim (HSGAC)
Sent: Thursday, September 20, 2012 6:01 PM
To: 'Criscione, Lawrence'
Subject: RE: Update on Jocassee Dam contacts

Larry,

Working my way through this material. I'd be interested in your thoughts on the attached, which includes a summary of findings from a post-Fukushima inspection, and NRC orders or requests for information. Would these have generated any information on Oconee that is relevant to the GI or issues you've raised?

Wondered if the following documents are available:

The 1992 FERC inundation study on Oconee
The 2008 and 2010 Duke studies
The DHS analysis of the Screening Study, or its assessment
Duck Action Plan to address issues
Was there earlier GI re: Oconee in 2006, reference a power cable?

And had these couple questions:

Is there a general weakness with the FSAR's and IPEEE documents for these plants? Or is result of the fact that most of these were developed several decades ago?

Why didn't estimates of risk include earthquakes or seismic risks? See page 9 of screening study

Did NRC expand this GI study to include the other plants? See page 21 of screening study

Thanks for your help

Jim McGee
Professional Staff/Investigations
Senate Committee on Homeland Security and Governmental Affairs
202-224-2627

From: Criscione, Lawrence [mailto:Lawrence.Criscione@nrc.gov]
Sent: Thursday, September 20, 2012 1:31 PM
To: McGee, Jim (HSGAC)
Subject: Update on Jocassee Dam contacts

Jim,

Yesterday I told you the NRC's Dam Safety Officer was George Wilson. Earlier this year he turned over to Kenneth Karwoski (301-415-2752, Kenneth.Karwoski@nrc.gov).

I spoke with George Wilson this morning (I had never met him until today). He informed me that in addition to the Department of Homeland Security, the NRC also sent the GI 204 Screening report to the Federal Energy Regulatory Commission. He said that it is possible that FERC was the source of the redactions and not DHS.

This has become an issue which I cannot resolve without the assistance of a congressional staffer since it involves one federal agency (the NRC) saying it is redacting documents due to the concerns of two other federal agencies (FERC and DHS).

I was told by George Wilson (the old Dam Safety Officer) that he does not have records of DHS's review from earlier in the year, but his contact at DHS was Craig Conklin. I don't know Craig's phone number, but his email is Craig.Conklin@dhs.gov.

I don't have a contact at FERC, but attached is a page out of their phone directory. I would think an appropriate contact would be William Allerton in Washington or Wayne King in Atlanta.

What I desire to know is whether or not there is anything in Section 2.2 (pp. 5-9) of the attached screening report which (1) DHS believes needs to be withheld from the public and (2) FERC believes needs to be withheld from the public.

There are at least two other entities (the TVA and the Army Corp of Engineers) which the NRC sent to review the report, but neither of these entities would have requested redactions to section 2.2 on Jocassee Dam because this dam falls under FERC. The Corp was concerned with dams along the Missouri River and the TVA with dams in the Tennessee Valley.

I don't know exactly what was told to Michal, but I'm under the impression that the NRC claimed the redactions to section 2.2 were at the request of either FERC or DHS. This may be true, but I would feel more comfortable about the redactions if I knew that DHS and FERC had been specifically contacted and asked to state which parts of section 2.2 cannot be released to the public.

Although there are certainly some merit into not broadcasting our infrastructure vulnerabilities, if you were a resident of Oconee County, South Carolina I assume you would want to know both the security and the purely safety liabilities which the Oconee Nuclear Station poses to you. The same is true for the residents of Nebraska and other affected sites. Withholding a detailed drawing showing the weak areas of Jocassee Dam is one thing, withholding merely the failure probability of that dam due to natural phenomena is something entirely different.

Larry

5. References

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ANO1. "Arkansas Nuclear One, Unit 1 Safety Analysis Report, Amendment 22 (Section 2.4, Amendment 12)." (Not publically available).

ANO2. "Arkansas Nuclear One, Unit 2 Safety Analysis Report, Amendment No. 20." (Not publically available), 2007.

ANSI. "American National Standards Institute/American Nuclear Society: Determining Design Basis Flooding at Power Reactor Sites." N170-1976/ANS 2.8, Agencywide Documents Access and Management System (ADAMS) Accession No. 8005050493, 1976.

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<http://www.damsafety.org/news/?p=412f29c8-3fd8-4529-b5c9-8d47364c1f3e#FailureCauses> (accessed Jan 05, 2011).

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BVPS. "Beaver Valley Power Station, Unit 1 Updated Final Safety Analysis Report, Revision 25 (Section 2.3, Revisions 19 & 24)." (Not publically available).

BVPS. "Beaver Valley Power Station, Unit 2 Updated Final Safety Analysis Report, Revision 18 (Section 2.4, Revision 0)." (Not publically available).

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CNS. "Cooper Nuclear Station Individual Plant Examination of External Events Submittal."

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Duke. "Letter from Duke Energy to USNRC: Response to NRC Letter from Joseph G. Gutter 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 (Sept. 26, 2008)." ADAMS Accession No. ML082750106 (Not publically available), 2008.

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FCS. "Fort Calhoun Station, Unit 1 Updated Safety Analysis Report, Revision 16 (Section 2.7, Revision 8)." (Not publically available), 2010.

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PBAPS. "Peach Bottom Atomic Power Station - Updated Final Safety Analysis Report, Revision 22 (Section 2.4, Revision 21)." (Not publically available), 2009.

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Criscione, Lawrence

From: Criscione, Lawrence
Sent: Friday, September 21, 2012 3:06 PM
To: 'Jim_McGee@hsgac.senate.gov'
Subject: FW: Paleoflood info
Attachments: Seminar99_Aug232011_Slides.pdf

Here's the slides from a seminar we were given on Paleoflood data from Dr. Cohn of the US Geological Survey

From: Perkins, Richard
Sent: Friday, September 21, 2012 1:40 PM
To: Criscione, Lawrence
Subject: Paleoflood info

The Value of Paleoflood Information when Estimating Flood Risk
Dr. Timothy Cohn, U.S. Geological Survey
Presented to NRC on August 23, 2011

Slides are attached.

Still looking for bridge failure info.

Richard H. Perkins, P.E.
Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Risk Analysis
Operating Experience and Generic Issues Branch
Phone - 301/251-7479

Dr. Timothy Cohn

Tim Cohn serves as a hydrologist in the U.S. Geologic Survey's Office of Surface Water and has co-authored more than 35 papers on methods for estimating flood frequency and other topics. His recent research has focused on use of historical and paleoflood information to improve flood risk estimates and methods for quantifying the uncertainty when such data are incorporated into flood frequency studies. He has also worked on statistical procedures for identifying outliers in flood datasets.

Tim previously served as USGS Science Advisor for Hazards, where he helped coordinate USGS programs that apply science to the challenge of reducing the Nation's vulnerability to natural hazards.

Tim holds M.S. and Ph.D. degrees from Cornell University and a B.A. from Swarthmore College.

tacohn@usgs.gov

tim@timcohn.com

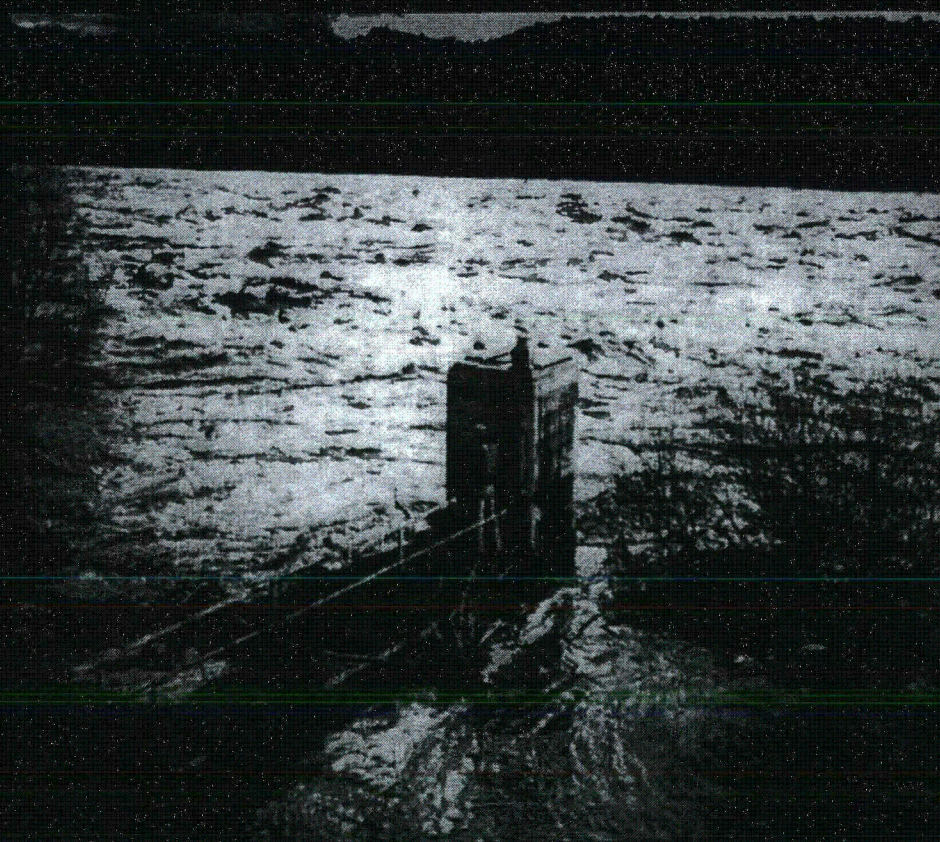
The Value of Paleoflood Information when Estimating Flood Risk

U.S. Nuclear Regulatory Commission
August 23, 2011

Tim Cohn
USGS

Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

Topic of Interest: Riverine Flooding



Verde River (AZ) 1993



The Problem: Characterizing Flood Risk

- Flood-risk models, statistical or physical, depend on calibration data
- Existing “systematic” streamgage records are short with respect to events we want to describe
- Systematic data are expensive and accumulate slowly
- “Noah” and “Joseph” effects

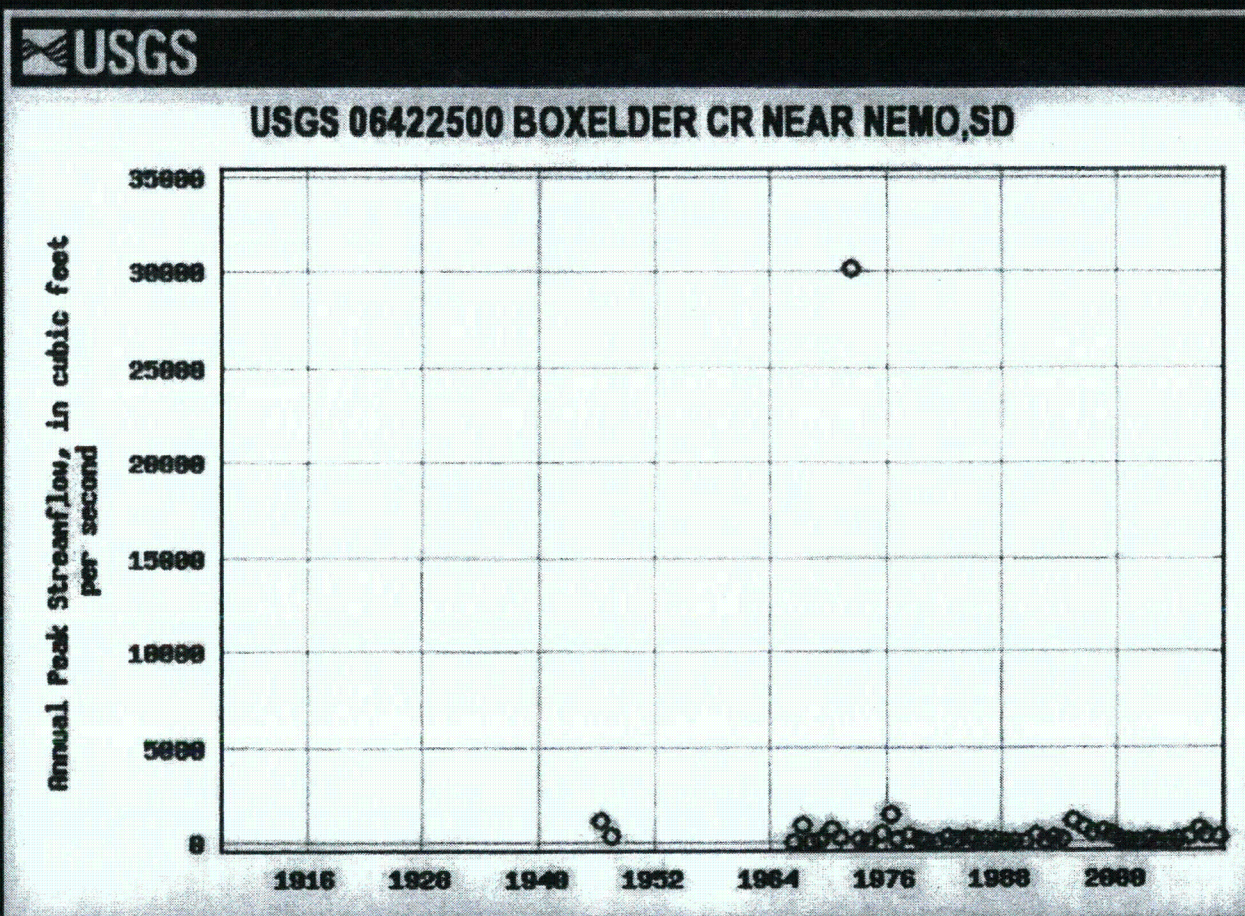
Two Challenges

1. Data

Two Challenges

2. Analytical methods

An Example



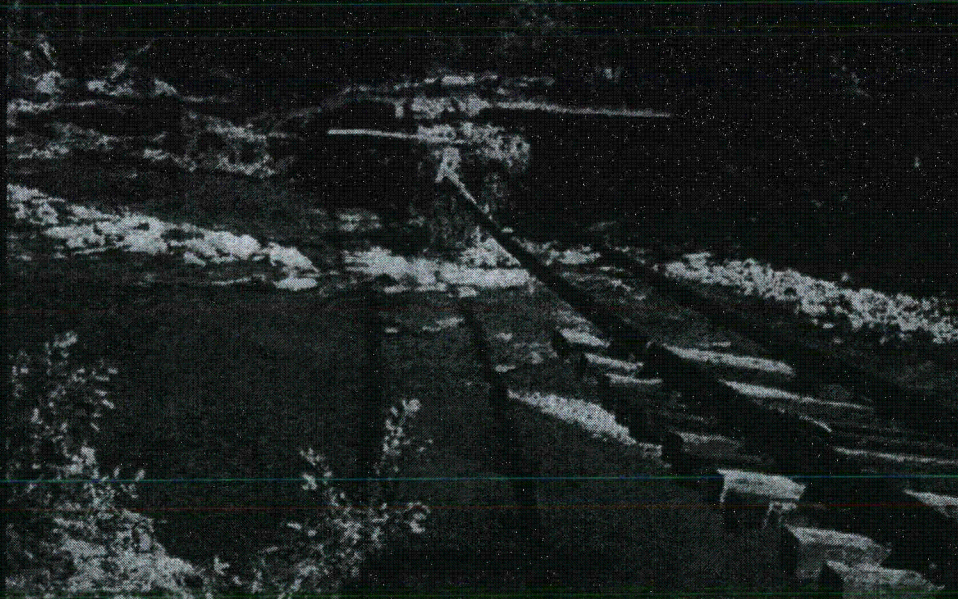
Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

Rapid City, South Dakota, 1972



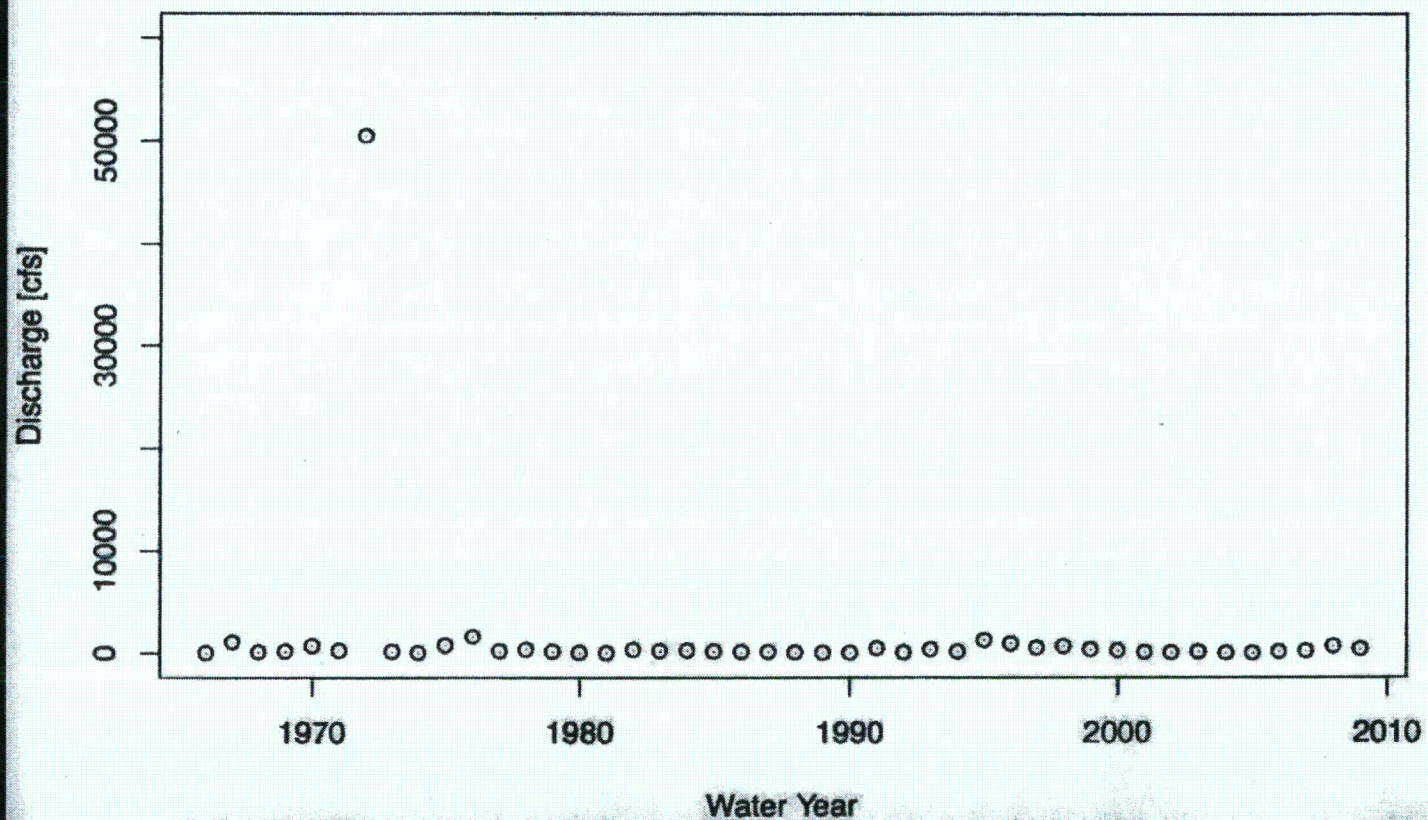
 USGS

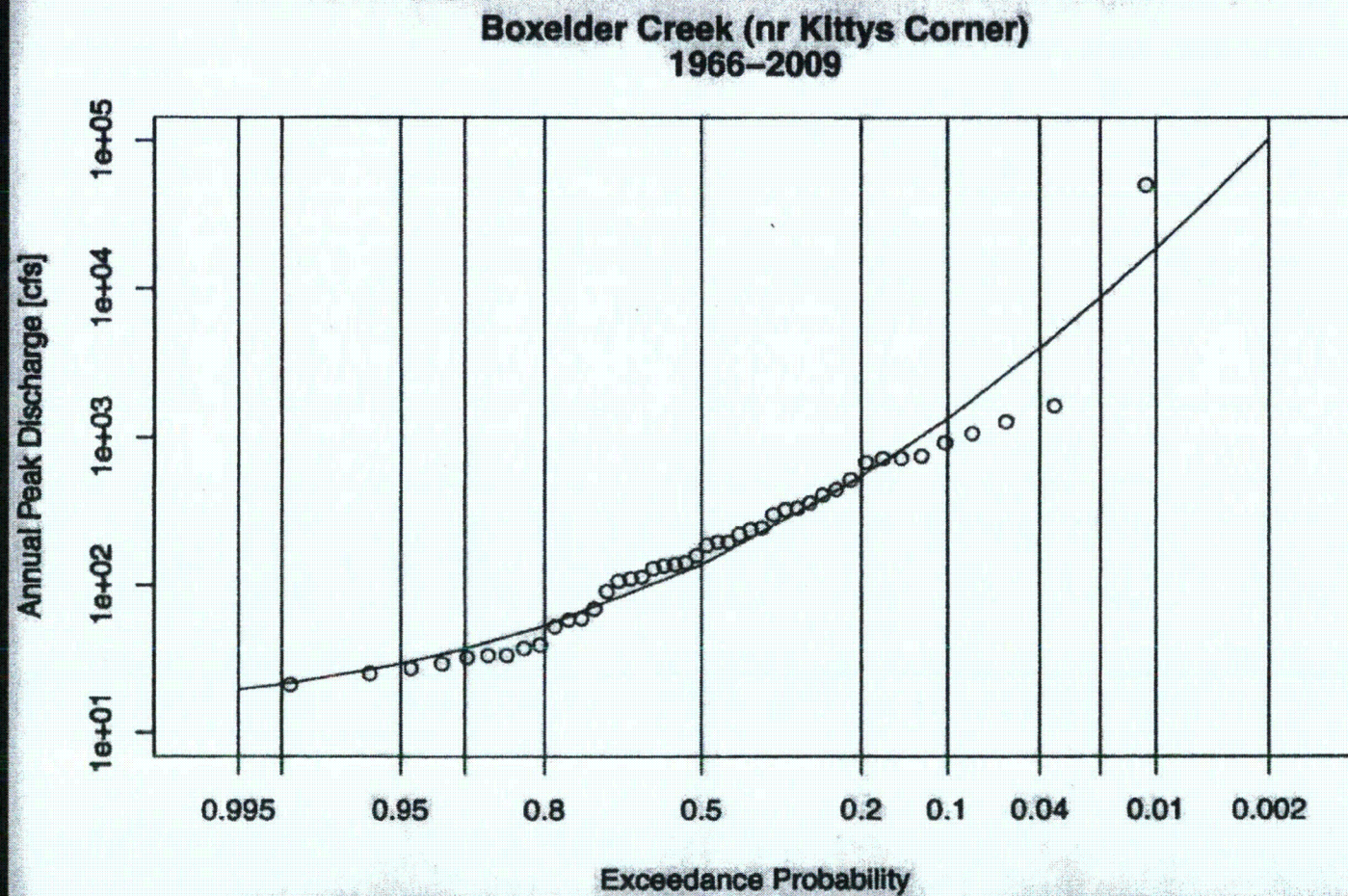
Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

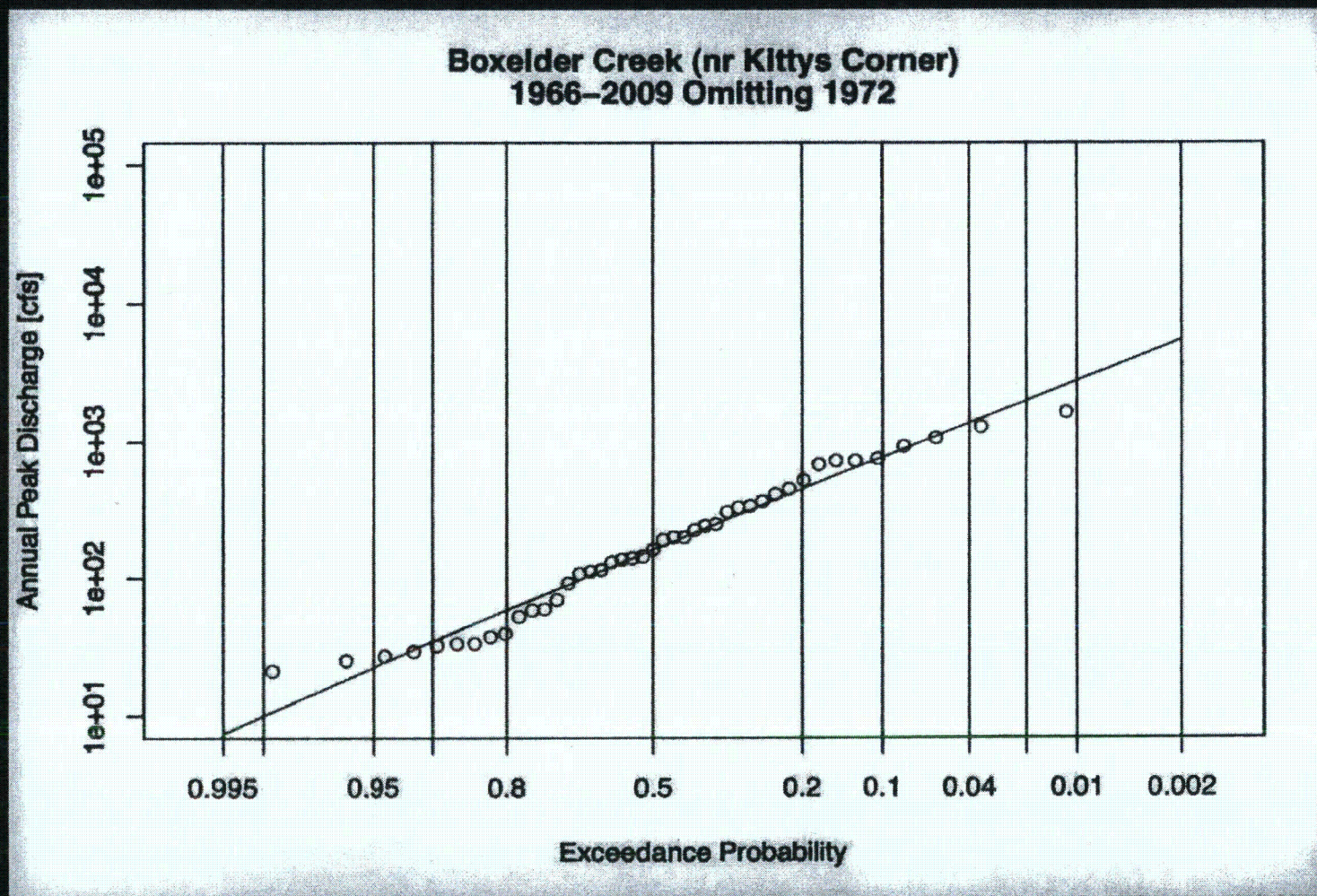


 USGS

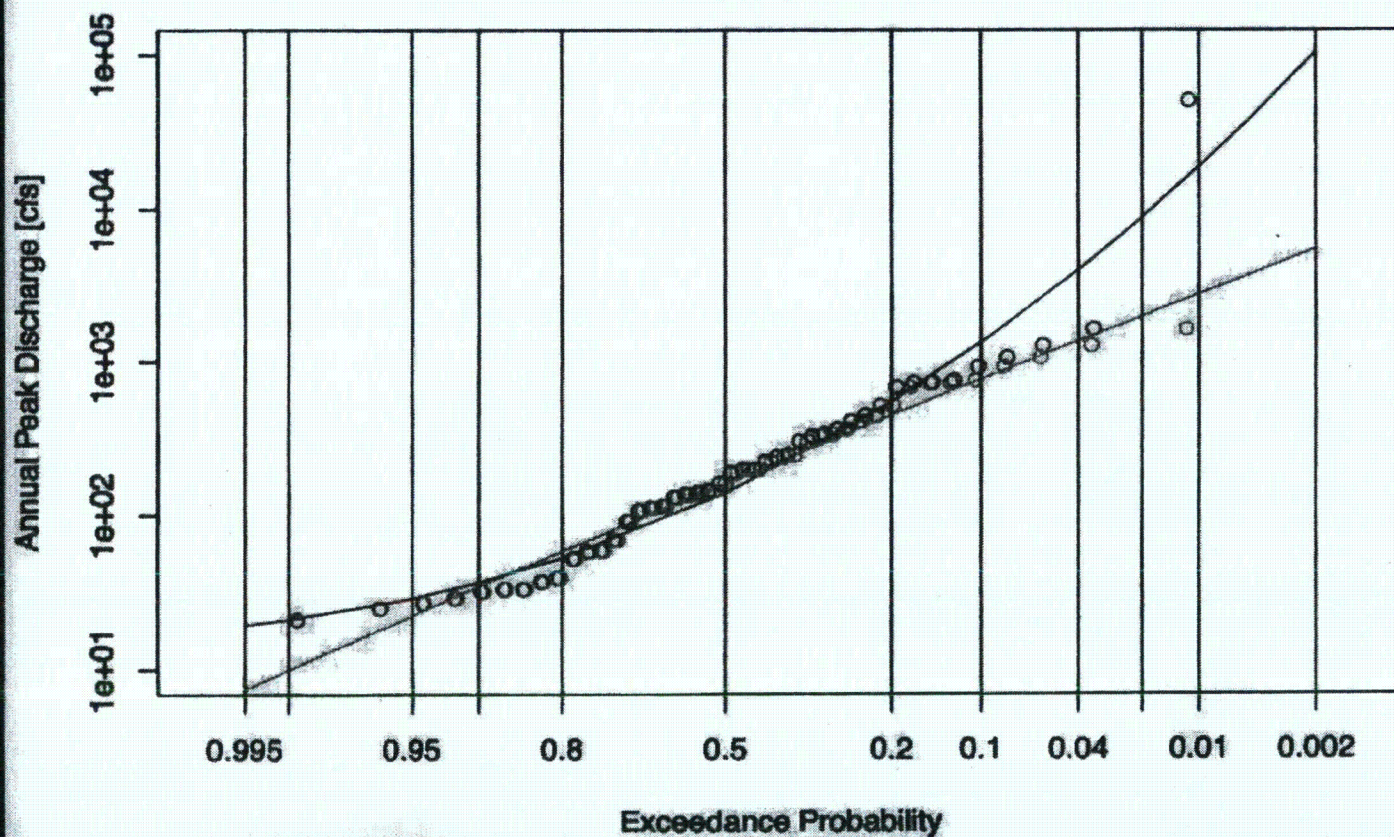
Boxelder Creek (nr Kittys Corner)
Annual Peak Flows 1966–2009







Boxelder Creek (nr Kittys Corner)
1966–2009, with (black) and w/o 1972 (green)



Can This Be Resolved?

- Modeling
- More data
- Something else?

Earthquakes



Floods



Hurricanes



Landslides



Tsunamis

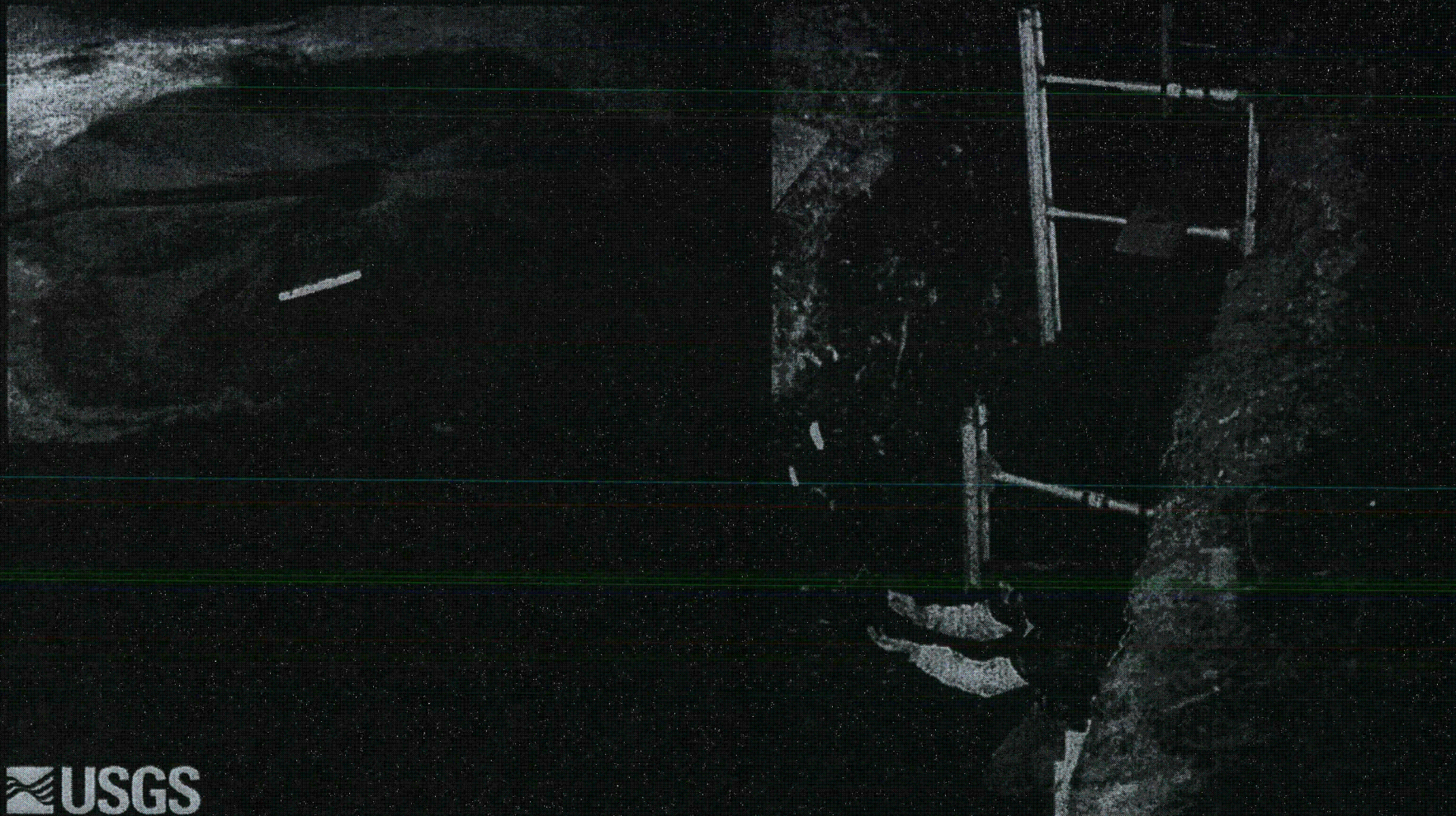


Volcanoes



Wildfires

Additional Data?



 USGS

Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

"Historic Flood" Information

Wheeling (Ohio) Flood (1907)



FLOOD POSTALS

Showing the Photographic views of Wheeling during the recent inundation. Our Camera Experts were active and caught everything worth seeing, much that is worth preserving. Our complete series makes a perfect pictorial story of one of the most important floods in Wheeling's history.

Send them to your Out-of-Town Friends.

PHOTOGRAPHIC SUPPLY STATION.

NICOLL'S ART STORE

1231 MARKET STREET

The worst flood since the memorable 1884 flood now holds sway in the Ohio valley. A new high water record has been established in Pittsburg, and though the mark of '84 was not passed at Wheeling the second flood stage to that destructive water will be attained here this morning.

-The Intelligencer, March 15, 1907, p. 1.



Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

Historical Flood Information



Earthquakes ★ Floods ★ Hurricanes ★ Landslides ★ Tsunamis ★ Volcanoes ★ Wildfires

*June 6.
5.92
?*

HISTORIC STORMS

NEW ENGLAND.

ITS GALE, HURRICANE, THUNDER, SNOWS WITH THUNDER AND
LIGHTNING, GREAT RAINY STORMS, RAIN, FURROWS, FLOODS,
DROUGHTS, COLD WINTERS, HOT SUMMERS, AVALANCHES,
EARTHQUAKES, DARK DAYS, COMETS, STORMS,
HURRICANE, THUNDER IN THE BRAYERS,
WHICH ALONE THE GALE.

WITH INCIDENTS AND ANECDOTES, ANECDOTES AND FATHERS.

BY

SIDNEY PERLEY,

Author of "History of Boston, Mass.," "Geography of Boston,"
"Facts of Boston County, Mass.," etc.



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THE SALEM FREE PUBLISHERS AND PRINTERS CO.
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**Boxelder Creek (nr Kittys Corner)
Annual Peak Flows 1904–2009**

