

From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Monday, February 23, 2009 8:04 AM
To: 'FOIA.resource@nrc.gov'
Subject: FW: questions about your NRC document request

Dear NRC;

Although I have already requested documents regarding the subject specified below and NRC has already completed a search for relevant documents, I was directed by the PDR Resource Dept. to forward my request for a formal FOIA response on this search to this email address. Please confer with your PDR Resource Dept. and formally confirm that there are no documents relevant to my search request within the possession of the NRC. As stated below, since you have already conducted the search gratis, I would not expect any cost associated with an additional formal response pursuant to FOIA. Sincerely; Tom Lakosh 2429 Forget Me Not Lane Apt. 5 Anchorage, Alaska 99508 (907) 563-7380

From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Monday, February 23, 2009 7:27 AM
To: 'PDR Resource'
Subject: RE: questions about your NRC document request

Karen;

Your response regarding your document search is somewhat confusing. If you completed a comprehensive search of NRC documents related to the probability of an eruption of the Yellowstone and Long Valley super volcanoes and any mitigation measures that might be taken for ash fall at nuclear reactor facilities, why would I pursue additional searches on ADAMS? In order to obtain a formal response to my request for documents relevant to the questions above please consider this a request under the Freedom of Information Act. Since you have already conducted the search gratis, I would not expect any cost associated with an additional formal response pursuant to FOIA. Sincerely; Tom Lakosh (907) 563-7380

From: PDR Resource [mailto:PDR.Resource@nrc.gov]
Sent: Thursday, February 12, 2009 5:07 AM
To: 'lakosh@gci.net'
Cc: Fred Lyon; Scott Burnell; Tanya Mensah
Subject: RE: questions about your NRC document request

Tom,

Both Adam and I in the Public Document Room have completed our searches on your request.

We have found no documents on the microfiche.

You can follow the instructions below to access documents electronically in ADAMS on the NRC web site.

Thanks,
Karen
USNRC/PDR

301-415-4737
pdr.resource@nrc.gov

From: PDR Resource
Sent: Friday, January 30, 2009 3:56 PM
To: 'lakosh@gci.net'
Subject: RE: questions about your NRC document request

Tom,

I have only come up with a few things, but I wanted to get back to you before we leave for the day.

I have also forwarded your e-mail to the NRC Office of Public Affairs (opa.resource@nrc.gov ; 301-415-8200), asking for an expert on this topic. OPA has a list of technical experts in the agency. So I will let you know if I hear back from them.

There are 23 publicly available documents in ADAMS with Long Valley in the Title. Nothing came up when I searched Yellowstone. Here is how I searched the documents with Long Valley in Title - some may be helpful in your search.

Begin at Web-based ADAMS, <http://www.nrc.gov/reading-rm/adams/web-based.html> .
Click on "Begin ADAMS Search", and then on "Advanced Search".
In the Title field, enter Long Valley (with no quotes).
Click Search.
You should see a list of 23 document titles.

To view the official agency record, you will need to click on the PDF Image File, not the linked title.

There may also be documents on this topic in the Energy Citations Database from the Department of Energy, at <http://www.osti.gov/energycitations/index.jsp> .

Search in their Fielded Search at <http://www.osti.gov/energycitations/advancedsearch.jsp> .
Example searches I did was the term Yellowstone and Long Valley (as separate searches) in the Title field.

I will let you know what I find out from the Office of Public Affairs staff, and please let me know if you have any questions on searching ADAMS or need more information. So far, I also could not locate any documents in the microfiche.

Thanks.

Sincerely,
Karen
USNRC/PDR
301-415-4737
pdr.resource@nrc.gov

From: lakosh@gci.net [mailto:lakosh@gci.net]
Sent: Friday, January 30, 2009 12:31 PM
To: PDR Resource
Subject: RE: questions about your NRC document request

Karen;

That sounds like a reasonable process as if there were documents generated in the ADAMS time frame they would be most relevant. I've already done multiple searches using "volcanic ash", modified by reactor and similar searches but could only find reference to dispersion of waste from the volcano below Yucca Mt. I may have missed some documents but I suspect that if any relevant studies were done, they pre-dated the commissioning of most of our existing reactors. Please call ASAP anytime, 24/7, if you find a relevant publication as Fred is waiting on me to proceed with a 2.206 and/or a 2.802 review of the need for additional mitigation efforts. Tom (907) 563-7380

From: PDR Resource [mailto:PDR.Resource@nrc.gov]
Sent: Friday, January 30, 2009 5:48 AM
To: lakosh@gci.net
Subject: questions about your NRC document request

Tom,

I have read the e-mails below, and am working on answering your request for documents regarding the risk/probability of catastrophic eruptions from Yellowstone and Long Valley and their potential effect on reactor operations.

Are you interested in recent documents? Do you have a specific time-frame in mind? Please let me know if there are specific years, so I can narrow down my search.

The reason I ask is because our microfiche collection pre-dates ADAMS, the Agencywide Documents Access and Management System at <http://www.nrc.gov/reading-rm/adams.html> , which came online on November 1, 1999. However, some documents dated before this date have been scanned into ADAMS.

The easiest way to search ADAMS is via the Web-based search, at <http://www.nrc.gov/reading-rm/adams/web-based.html> .

There is a different database we search for documents in our microfiche collection. Our copy service contractor copies our microfiche, and other documents, for the public. Information about our copy service is at <http://www.nrc.gov/reading-rm/pdr/copy-service.html> and at <http://www.nrc.gov/reading-rm/pdr/fee-schedule.html> .

I will begin by searching ADAMS for electronic documents on your topic. If you would like me to search our microfiche collection as well (that goes back to at least 1975), please also me know.

Thanks, and sorry about the delay in getting back to you.

Sincerely,
Karen

Librarian
USNRC Public Document Room
301-415-4737; 1-800-397-4209
(8 am - 4 pm, Eastern Time, Mon-Fri)
pdr.resource@nrc.gov

From: lakosh@gci.net [mailto:lakosh@gci.net]
Sent: Tuesday, January 27, 2009 11:53 AM
To: PDR Resource
Subject: ATTN: Karen FW: Rulemaking

Dear Karen;

You'll find discussion of the pertinent issue below. Mr. Lyon contended that the NRC concluded that the probability of a super eruption was too low to require planning for such events but later said he was unaware of any probability/risk analysis done on this topic. I would like to review any documents considered by the NRC regarding the risk/probability of catastrophic eruptions from Yellowstone and Long Valley and their potential effect on reactor operations. Tom (907) 563-7380

From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Friday, January 23, 2009 7:39 AM
To: 'Fred Lyon'
Subject: RE: Rulemaking

Mr. Lyon;

My decision on which process to pursue, 2.206 and/or 2.802, will depend largely on the pertinent information requested in our conversation regarding the risk assessment of super eruptions from Yellowstone or Long Valley and the mitigation measures appropriate to such events. I am still unsure of the extent of effects on reactor operations and the applicable regulations and guidelines that control such operations. While the potential impact to the ultimate heat sink regulations is clear, the other potential impacts, (e.g. availability of plant consumables and retention/accommodation of personnel, etc.), could be far reaching both in terms of geographic and mitigation requirements given such a catastrophic event. I could envision proceeding with both administrative procedures where both immediate orders to resolve the probability issue is warranted and new regulations to address design issues would be applicable as well. I hope we can discuss the ramifications to a greater extent and assess the reliability of the risk assessment that have been performed to date and any need to update those assessments given subsequent dynamic events that may have altered the prior assessment scope and/or parameters. Tom (907) 563-7380

From: Fred Lyon [mailto:Fred.Lyon@nrc.gov]
Sent: Friday, January 23, 2009 6:53 AM
To: lakosh@gci.net
Subject: Rulemaking

Mr. Lakosh, based on your telephone call to me this morning, I recommend you refer to the NRC webpage <http://www.nrc.gov/about-nrc/regulatory/rulemaking.html> for links that discuss the

rulemaking process. I will call you back to discuss your decision as to whether to proceed with the 2.206 process. Thanks, Fred Lyon

From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Wednesday, December 31, 2008 7:32 PM
To: 'allegation@nrc.gov'
Cc: 'ucs@ucsusa.org'
Subject: Reserve water for extended blow down

Dear NRC;

The earthquakes at Yellowstone Lake continue in a pattern suggesting that a highly pressurized chimney has developed between the surface and a depth of 7.2 km. If the worst case scenario ensues, dozens of plants will have to cease utilization of surface water within hours and clean reserve cooling water to replace steam lost in blow downs and evaporation at spent fuel storage ponds extending for months on end will be very hard to come by. I might suggest an order by the NRC to all operating US reactors detailing the threat and requiring immediate acquisition of sufficient temporary water storage, water filtration systems and pumps with spare parts to accommodate the loss of direct access to surface water for a period of no less than three months. Arrangements should be made in advance with local pumping and firefighting assets to fill the acquired water storage in a timely manner should notice of eruption be issued. If the dreaded event happens in short order, it will be necessary for the NRC to obtain cooperation of the USCG to seize all available tank vessels for diversion to nuclear facilities to provide the required clean water storage. I've supplied some links to storage bladders below but full reserve capacity may not be needed where the use of several large bladders may permit sufficient settling time for stored ash-contaminated water augmented by a filtration process between two of the bladders. If time allows, the bedding for all pillow tanks should be established for all plants West of the Mississippi and pre-positioning of some of the tanks with emergency contracts with construction equipment for additional bed preparation should be maintained elsewhere. If towable/floating tanks are acquired, no bedding is required but anchor systems should be pre-positioned to allow for timely deployment/filling of the bladders.
Sincerely, Tom Lakosh (907) 563-7380

http://www.canflexinc.com/ocean_towable_bladders_en.cfm
<http://www.mpccontainment.com/military-applications.shtml?qclid=CKvu4vy17JcCFSAUagod5FUnEA>
http://www.bergco.com/integrated_systems/products/khcms_tanksdivision_largecapacitybladder.aspx
http://www.interstateproducts.com/fuel_storage_bladders.htm
<http://www.musthane.com/english/products/tanks-muststore.htm>
http://store.interstateproducts.com/water_bladders.htm?qclid=CNTd46O57JcCFQ8Qagodlw8UEA

From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Tuesday, December 30, 2008 7:47 AM
To: 'allegation@nrc.gov'
Cc: 'ucs@ucsusa.org'
Subject: Shutdown after Yellowstone eruption

Dear NRC;

Would please quickly devise a plan for immediate systematic shutdown and cooling of all reactors that may be downwind of a major Yellowstone caldera eruption? I am concerned that water pumps will not survive for long with significant ash contamination in feed water and there should be a plan to dissipate latent heat in reactor cores and spent fuel storage given a fairly short pump lifetime after ash fall. While the quakes listed below may not be anything more than hydrothermal indigestion, the long term and wide spread radioactive contamination from a failure to properly plan for multiple ash-induced water pump failures is too catastrophic to evade a modicum of preparatory planning.

Sincerely, Tom Lakosh (907) 563-7380

Update time = Tue Dec 30 16:18:40 UTC 2008

Here are the earthquakes in the [Map Centered at 44°N, 110°W area](#), most recent at the top.

(Some early events may be obscured by later ones.)

Click on the underlined portion of an earthquake record in the list below for more information.

| <u>MAG</u> | <u>UTC DATE-TIME</u> <u>y/m/d h:m:s</u> | <u>LAT</u> <u>deg</u> | <u>LON</u> <u>deg</u> | <u>DEPTH</u> <u>km</u> | <u>LOCATION</u> |
|------------------------|--|--------------------------|--------------------------|---------------------------|--|
| MAP2.4 | 2008/12/30 11:59:07 | 44.523 | -110.401 | 10.3 | 58 km (36 mi) ESE of West Yellowstone, MT |
| MAP1.7 | 2008/12/30 01:35:08 | 44.530 | -110.361 | 12.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.5 | 2008/12/30 01:15:37 | 44.522 | -110.360 | 2.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.1 | 2008/12/30 00:51:20 | 44.505 | -110.373 | 0.2 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.0 | 2008/12/30 00:41:35 | 44.522 | -110.361 | 1.8 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.8 | 2008/12/30 00:36:39 | 44.525 | -110.362 | 1.2 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.4 | 2008/12/29 21:25:15 | 44.525 | -110.360 | 2.0 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.6 | 2008/12/29 21:18:51 | 44.521 | -110.362 | 2.2 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.8 | 2008/12/29 21:18:36 | 44.522 | -110.359 | 2.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.9 | 2008/12/29 20:38:25 | 44.514 | -110.381 | 2.1 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP2.3 | 2008/12/29 20:38:04 | 44.511 | -110.385 | 2.3 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP1.0 | 2008/12/29 20:26:29 | 44.520 | -110.355 | 2.2 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/29 20:14:26 | 44.498 | -110.364 | 2.3 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.4 | 2008/12/29 20:13:31 | 44.508 | -110.359 | 2.2 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.2 | 2008/12/29 19:56:46 | 44.522 | -110.365 | 1.2 | 61 km (38 mi) ESE of West |

[MAP1.2](#) [2008/12/29 19:53:5044.511-110.3772.2](#)
[MAP1.1](#) [2008/12/29 19:46:1344.515-110.3862.4](#)
[MAP1.7](#) [2008/12/29 19:44:5044.525-110.3730.0](#)
[MAP1.7](#) [2008/12/29 19:40:2744.511-110.3792.5](#)
[MAP2.4](#) [2008/12/29 19:37:0744.502-110.3661.8](#)
[MAP1.2](#) [2008/12/29 19:36:0844.521-110.3852.0](#)
[MAP1.7](#) [2008/12/29 19:35:2744.511-110.3852.4](#)
[MAP2.9](#) [2008/12/29 19:29:3844.513-110.3810.5](#)
[MAP2.5](#) [2008/12/29 19:28:5544.515-110.3810.0](#)
[MAP1.8](#) [2008/12/29 19:26:2144.519-110.3702.0](#)
[MAP1.5](#) [2008/12/29 19:24:4344.520-110.3422.3](#)
[MAP3.3](#) [2008/12/29 19:14:4944.521-110.3691.8](#)
[MAP1.2](#) [2008/12/29 18:47:4544.523-110.3712.1](#)
[MAP1.4](#) [2008/12/29 18:40:0044.533-110.3594.8](#)
[MAP1.1](#) [2008/12/29 16:32:1244.494-110.3602.4](#)
[MAP1.6](#) [2008/12/29 16:31:5544.491-110.3602.3](#)
[MAP1.2](#) [2008/12/29 16:15:2844.480-110.3632.3](#)
[MAP1.5](#) [2008/12/29 14:58:3744.486-110.3541.3](#)
[MAP1.7](#) [2008/12/29 10:25:1844.523-110.3712.4](#)
[MAP1.8](#) [2008/12/29 09:14:0444.527-110.3760.3](#)
[MAP2.4](#) [2008/12/29 08:57:5544.527-110.3780.5](#)
[MAP2.4](#) [2008/12/29 08:28:2444.527-110.3820.4](#)
[MAP2.0](#) [2008/12/29 05:30:3544.517-110.3721.0](#)
[MAP2.3](#) [2008/12/29 05:30:0444.477-110.3496.5](#)

Yellowstone, MT
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Yellowstone, MT
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Yellowstone, MT
63 km (39 mi) ESE of West
Yellowstone, MT

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|------------------------|--|---|
| MAP1.7 | 2008/12/29 05:29:2344.489-110.3544.2 | 63 km (39 mi) ESE of West Yellowstone, MT |
| MAP2.4 | 2008/12/29 05:23:3644.516-110.3616.4 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/29 04:29:1844.522-110.3851.0 | 59 km (37 mi) ESE of West Yellowstone, MT |
| MAP2.8 | 2008/12/29 04:25:5344.514-110.3700.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.6 | 2008/12/28 23:57:5644.521-110.3711.4 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP2.0 | 2008/12/28 23:08:2544.491-110.3901.7 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP3.1 | 2008/12/28 19:55:1744.511-110.3530.7 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP3.0 | 2008/12/28 19:32:1544.511-110.3562.7 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.8 | 2008/12/28 15:37:4044.514-110.3590.0 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.2 | 2008/12/28 09:25:1444.508-110.3641.9 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP3.2 | 2008/12/28 09:23:5744.511-110.3610.4 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.5 | 2008/12/28 08:41:3344.509-110.3592.5 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.2 | 2008/12/28 08:23:4144.506-110.3690.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.1 | 2008/12/28 08:22:4644.499-110.3622.5 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.3 | 2008/12/28 08:22:2444.499-110.3612.3 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.7 | 2008/12/28 08:15:3344.499-110.3642.1 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.0 | 2008/12/28 08:14:5844.501-110.3805.3 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/28 07:16:1344.513-110.3742.0 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP2.5 | 2008/12/28 07:15:1844.495-110.3590.0 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP2.5 | 2008/12/28 06:37:4144.492-110.3562.6 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP2.0 | 2008/12/28 06:37:2044.497-110.3792.1 | 60 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/28 05:28:4944.498-110.3832.3 | 60 km (37 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/28 05:28:0544.485-110.3712.5 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.8 | 2008/12/28 05:26:1444.484-110.3592.0 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP1.2 | 2008/12/28 05:26:0344.470-110.3555.2 | 63 km (39 mi) ESE of West Yellowstone, MT |

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|------------------------|--|---|
| MAP1.3 | 2008/12/28 05:24:3944.489-110.3594.1 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP2.8 | 2008/12/28 05:23:5444.489-110.3542.5 | 63 km (39 mi) ESE of West Yellowstone, MT |
| MAP1.9 | 2008/12/28 05:21:1644.480-110.3444.0 | 64 km (40 mi) ESE of West Yellowstone, MT |
| MAP1.7 | 2008/12/28 05:20:1044.494-110.3792.4 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.6 | 2008/12/28 05:19:1144.492-110.3722.2 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP3.9 | 2008/12/28 05:15:5644.502-110.3660.3 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.6 | 2008/12/28 00:08:5044.493-110.3540.4 | 63 km (39 mi) ESE of West Yellowstone, MT |
| MAP3.3 | 2008/12/27 22:30:0344.498-110.3584.3 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP1.5 | 2008/12/27 22:28:5344.500-110.3682.1 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.8 | 2008/12/27 22:27:3644.499-110.3672.5 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.0 | 2008/12/27 21:28:0644.500-110.3623.5 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.6 | 2008/12/27 21:22:0844.495-110.3722.6 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.1 | 2008/12/27 21:08:4944.496-110.3702.0 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP3.2 | 2008/12/27 20:26:2744.505-110.3642.4 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP3.5 | 2008/12/27 20:17:3344.488-110.3574.1 | 62 km (39 mi) ESE of West Yellowstone, MT |
| MAP2.3 | 2008/12/27 18:56:3544.484-110.3670.5 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP3.0 | 2008/12/27 18:23:0744.495-110.3642.8 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.0 | 2008/12/27 18:21:3644.493-110.3627.2 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP1.2 | 2008/12/27 17:01:4644.484-110.3732.4 | 61 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.7 | 2008/12/27 17:01:0744.490-110.3661.2 | 62 km (38 mi) ESE of West Yellowstone, MT |
| MAP2.6 | 2008/12/27 16:30:5444.498-110.3622.5 | 62 km (38 mi) ESE of West Yellowstone, MT |