PLUME GATE

SOMETHING WICKED THIS WAY COMES

THE WORLD'S LARGEST
PROVABLE COVER-UP

Hatrick Penry

Chapter 1

Plume-Gate: the world's largest, provable cover-up and conspiracy

"For we are opposed around the world by a monolithic and ruthless conspiracy that relies on covert means for expanding its sphere of influence–on infiltration instead of invasion, on subversion instead of elections, on intimidation instead of free choice, on guerrillas by night instead of armies by day. It is a system which has conscripted vast human and material resources into the building of a tightly knit, highly efficient machine that combines military, diplomatic, intelligence, economic, scientific and political operations. Its preparations are concealed, not published. Its mistakes are buried not headlined. Its dissenters are silenced, not praised. No expenditure is questioned, no rumor is printed, no secret is revealed."~JFK from his "President and the Press" speech to the U.S. press core on April 27th, 1961

Historically speaking, Plume-Gate is the world's largest, provable, cover-up and conspiracy. If the Guinness Book of World Records considered 'cover-up and conspiracy' as a legitimate category, then certainly Plume-Gate would be at the very top of the list…above 9/11, above Watergate, above Fast and Furious, above even the JFK assassination, and not just for the sheer size and scope of the conspiracy, not because of the many alphabet agencies involved, not because President Obama is implicated, not because it reveals the truth about nuclear power and everything that goes with it, but because Plume-Gate is PROVABLE. And that proof is available to the public in the form of the Nuclear Regulatory Commission's Freedom of Information documents. The simple fact is: all one needs is the desire to know and the ability to read to familiarize oneself with this grandiose cover-up.

(below) From the Nuclear Regulatory Commission's (NRC) Freedom of Information Act (FOIA) documents: Coincidence theorists are abuzz about this email that proves the NRC and Japanese "Utility Execs" were conducting a "Japan Earthquake and Tsunami Drill" as the March 11th, 2011 disaster unfolded.

From: Howard, Tabitha
Sent: Friday, March 11, 2011 10:24 PM
To: Morris, Scott; McDermott, Brian; Ross-Lee, MaryJane; Correia, Richard; Grant, Jeffery; Joseph.Himes@nrc.gov; Campbell, Stephen; McMurtray, Anthony; Gott, William; Marshall, Jane; Waig, Gerald; Jolicoeur, John; Bower, Anthony; Zahira.Cruz-Perez@nrc.gov; Reed, Wendy; Schrader, Eric; DiFrancesco, Nicholas; Carlson, Donald; Rubin, Stuart; Arndt, Steven; Jackson, Karen; Stransky, Robert; Khan, Omar; Figueroa, Roberto; Hickman, John; Karas, Rebecca; Kratchman, Jessica; Scarbrough, Thomas; Salus, Amy; Williamson, Linda; Crutchley, Mary Glenn; Manahan, Michelle; Larson, Emily; Howard, Tabitha; Wimbush, Andrea; Meyer, Karen; Levine, Michael; Guzzetta, Ashley; Darrel.Burrell@nrc.gov; Fiske, Jonathan; Anderson, James; Perin, Vanice; Mroz (Sahm), Sara; Chen, Yen-Ju; Pope, Tia; Christine.Merritt@nrc.gov; Stang, Annette; Hurd, Sapna
Subject: Incident Response: Japan Earthquake and Tsunami Drill

Good evening,

If you have participated in the "Japan Earthquake and Tsunami Drill" that began today (Friday March 11, 2011), please be sure to apply your time spent on this activity to the TAC Number listed below:

D92374 – Incident Response: Japan Earthquake and Tsunami Drill

If your time has already been approved please see myself or acting T&L Coordinator Bridget Curran in order to do a corrected card

Thanks, Tabitha

Now I ask you, my fellow Americans: what does it mean that 2-1/2 years after the Fukushima catastrophe that I seem to be the only English writing journalist reporting on the world's largest, provable cover-up and conspiracy?

I tell you it is a testament to our government's ability to suppress information.

Furthermore, I cannot stress enough that Plume-Gate is the 'silver bullet' we have waited so long for. It reveals the truth about nuclear power. It reveals the truth about the conspiracy of which John F. Kennedy spoke of. It is an opportunity we dare not waste and it rides on the lives of all who have died and all who will die from Fukushima.

I ask the parents of America, how much do you love your children? Do you love them enough to protect them from an immediate danger, a biting dog or perhaps a kidnapper? Of course you do. But then I must ask: why more do not join the fight to shut down nuclear power? Is it because the danger is an unseen one? Is it because the danger is too great? Is it because the fight is too time

consuming? Do they not understand the grave threat of nuclear power? Do they not know about the fallout from Plume-Gate and its consequences?

I say again it is clear to me that information is being suppressed on a scale never before known in the United States of America. *The general public simply does not know the facts*.

I put it to you now, that when life-saving information is withheld from the public, in an orchestrated fashion, by agencies of our government, corporate entities and the media, that this is disloyalty to our country and our citizens: IT IS TREASON!

Inside the NRC FOIA documents

Allow me to summarize what I have learned thus far from reading the NRC FOIA documents pertaining to Fukushima:

1) The damage to the Fukushima Daiichi facility was much greater and the ability to respond was much more difficult than we have been led to believe. There is a reference to a 46 foot tsunami, the height of which was measured by TEPCO on the walls of Unit's 1 and 2. There is evidence Spent Fuel Pool (SFP) #4 and #3 went dry, experienced a 'zirc fire' and were a 'melt on the floor'. The NRC and Naval Reactors were concerned if the melted fuel in the spent fuel pools would reach ablation temperature and burn through concrete and rebar into the torus below. At times, dose rates at the facility were lethal or near lethal and as such workers were, at times, unable and unwilling to make repairs. There is talk of 450-600 REM/hr between Unit's 2 and 3 and MOX sludge causing access problems. Remote control bulldozers were used to push rubble into piles to reduce the dose rates. Engineers and workers were unable to follow protocol as there was/is no known procedure that will rectify a prolonged station blackout due to saltwater inundation of switch boards, circuitry, electrical components, diesel generators etc. from a tsunami. The force of the wave dislodged and damaged the diesel fuel tanks that held the fuel that would have powered back-up generators and when the diesel generators themselves were not damaged from being submerged, the control panels that operated them were. The water-cannons and helicopter water drops were marginally effective and did little to cut dose rates. There is discussion of shipping a series of pumps made by Bechtel from Perth, Australia to Japan in an effort to cool the reactors and spent fuel pools with seawater. At least one pumping unit was delivered to Japan on March 22nd, 2011 but in the end the Bechtel pumps were NOT used. DOD foot the bill on the Bechtel pumps which means John Q. Taxpayer actually covered the cost…approximately 9.6 billion dollars. It was at least two weeks before power began to be restored to any significant level in what can only be described as a slow, painstaking effort. There is proof of multiple radioactive plumes being emitted from the Fukushima facility...some well into the month of April, 2011. There is discussion that NOAA tracked a 19 mile radioactive cloud along the Japanese coast. There are TEPCO maps of measured (not modeled) plumes, some of which are over 60 kilometers long.

(below) From the NRC FOIA documents: March 13th, 2011…an excerpt from the Eliot Brenner memo to NRC OPA staffers:

Please take the time Monday morning to review all the press releases that went out and the blog posts as well. Please use these to guide any media responses you provide. While we know more than what these say, we're sticking to this story for now.

2) The world's largest, provable cover-up is indicated in the NRC FOIA documents. Some of the agencies/figureheads implicated are: NRC, DOE, EPA, CDC, HHS, DHS, FEMA, NOAA, USAID, DOD (Navy, Naval reactors), DOS, White House, President Obama, Bechtel, GE, IAEA, INPO, NEI, and others in an orchestrated attempt to downplay and conceal the radioactive plume and fallout from Americans. Documents, plume models and SitReps (situation report) were denied to China, US states and global 'stakeholders'. NEI and the 'Federal Family' utilized a password protected database for US nuclear power plant (NPP) 'rooftop grabs'. Information was suppressed by use of prefabricated 'talking points', Questions and Answers and Press Releases. NRC spends millions to search for negative press and to actively and aggressively perform countermeasures in the form of disinformation and careful gatekeeping by their agents (bloggers) online, on TV or in print (i.e.; we know them as trolls and shills). In one memo Eliot Brenner states (in regards to the NRC press release): 'while we know more than what these say, we're sticking to this story for now'. There is evidence of subversion of the Freedom of Information Act by the NRC. There is evidence that plume and fallout models were based on 96 hours or 4-5 days of emissions and there is proof that emissions continued up to the end of March and beyond. Officials did NOT issue rainwater warnings or ANY warnings based on these models. There is talk of modeling fallout in Alaska, California, Hawaii, and Midway. Conservative estimates ranged around 4.5 REM to children in a transpacific model. There was plenty of discussion of a 'President's worst case' scenario…it was also based on 4-5 days of emissions. There is discussion about having the benefit of knowing all about Chernobyl and evidence of modeling based on Chernobyl depositions. FEMA was told to 'stand down'. There is concern about a 'diverging perspective' and discussions about staying 'aligned'.

3) It is obvious by the level of importance that the NRC, Japanese authorities and others placed on Potassium Iodine (KI) throughout the FOIA documents that it is a very important part of protecting oneself from fallout following a meltdown. This contradicts what US authorities have led us to believe over the years…that KI is not that big of a deal. I am not aware of any requirement that US nuclear power plants (NPPs) must stock KI in case of an accident.

4) There is evidence that ships from the US Navy were not relocated but that officials knew there were plumes and high levels of radiation all around the coast of Japan. NOAA tracked a 19 mile long radioactive cloud along the coast of Japan and on at least two occasions TEPCO measured (not modeled) radioactive plumes over 60 kilometers long. NRC officials state that most of the emissions blew offshore.

(below) From the NRC FOIA documents: 'angst' about moving Navy ships…

CHARLIE MILLER: If, if you're getting angst about moving naval ships and things like that, the worst-case scenario isn't necessarily the one you want to run.

MARTY VIRGILIO: Right, Charlie. This is what we're all thinking, that there's, you know, you run at least two cases.

5) The NRC's response to nuclear catastrophe is inhibited, in particular the ability to speak freely and communicate openly, because participants know they are being recorded and email saved for the Freedom of Information Act. In many cases participants were not at liberty to discuss the extent of the meltdowns as they really were. There is evidence of a 'non-recorded' line. There is at least one example of a conversation being taken offline because it was considered 'politically sensitive'.

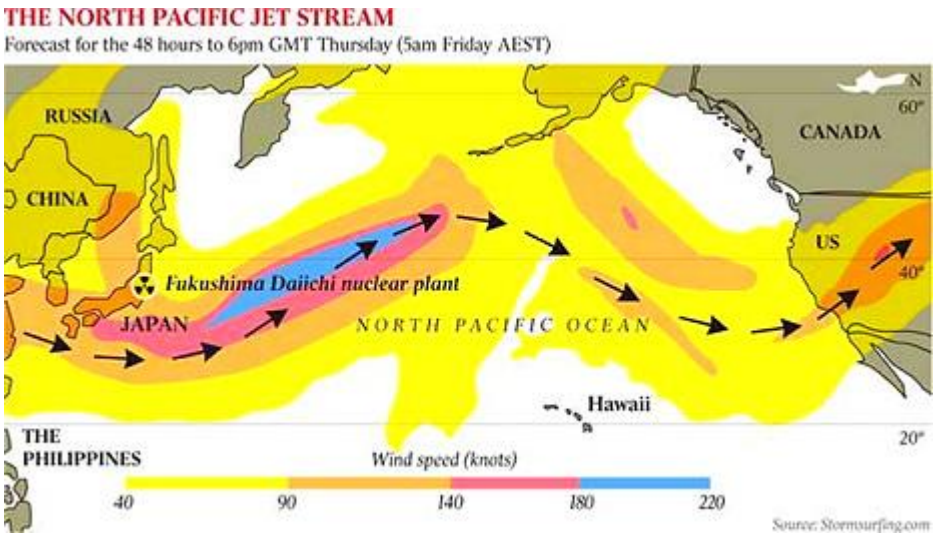
6) President Obama called for a review of our domestic fleet of reactors but to my knowledge no action is taken to rectify any of several critical issues. There are emails that indicate we have many non-seismically qualified spent fuel pools here in the US and that our nuclear plants may not be able to withstand a co-event 8.9 earthquake with a 46 foot tall tsunami (or tsunami of that height alone). NRC official admits that GI-99 manual proves they do not know everything about the seismicity of the CEUS (Central and Eastern United States), thus East Coast NPPs are vulnerable to a significant earthquake.

7) TEPCO intentionally discharged radioactive water into the Pacific beginning in March of 2011 and there is abundant proof of this in the NRC FOIA documents (the NRC has known all along). Interestingly enough, not long after I reported on this fact and provided proof in the form of evidence from NRC FOIA documents, mainstream media began to report it as well.

Chapter 2

Something Wicked This Way Comes

"The conspiracy, the infiltration, the corruption of our government, is the highest national security priority of all." ~Hatrick Penry



Throughout the NRC Freedom of Information documents pertaining to Fukushima there is evidence that officials are very much aware of the effects of the fallout from Chernobyl. There is discussion of using data recovered following the Chernobyl event in modeling of the fallout from Fukushima. There is even discussion of the number of fatalities that resulted from Chernobyl fallout. Officials cannot claim ignorance when you consider they admit they know all about Chernobyl, even using the data from the 1986 incident to aid in modeling. And consider also this: we are in the direct line of fire from the Pacific Jetstream…the same Jetstream that pilots 'piggyback', when returning from the orient, to save fuel. Can officials claim ignorance of the Pacific Jetstream?

(below) From the NRC FOIA documents: "We've got the benefit of knowing everything there is to know about Chernobyl."

MALE PARTICIPANT: We know about Chernobyl. And if we were to have (inaudible) where we are today, and U.S. citizens in the Ukraine, what would we have told them? We've got the benefit of knowing everything there is to know about Chernobyl. How far out would we (inaudible)? Would that be roughly consistent with the recommendation we would have made then?

(below) From the NRC FOIA documents: a discussion of fatalities from Chernobyl fallout. Note the (inaudible) at the most convenient times. Note that the number 49 is low enough for us to see…no (inaudible) there. Also note that a common tactic of the nuclear shills and propagandists is to downplay the number of Russians who died from Chernobyl by using the number of those killed in the initial event (49?). This evidence proves that officials know the difference between the deaths related to the initial event (i.e.: from explosions and fire) and those from the fallout from Chernobyl. It also proves they know there is a vast difference between the two figures.

MALE PARTICIPANT: One question the Chairman got today down in the hearing was, how many people died at Chernobyl? (Inaudible.)

(Multiple inaudible speakers.)

MALE PARTICIPANT: I have like 49.

MALE PARTICIPANT: Oh, no, because the (inaudible). Is that what the question was about?

MALE PARTICIPANT: No. It's how many

---

people died?

MALE PARTICIPANT: Do you include like the children that died of cancer or whatever? Because then you get into (inaudible). The number is about (inaudible); 49 is (inaudible).

(Multiple inaudible speakers.)

(below) From the NRC FOIA documents: using deposition rates from Chernobyl.

MR. LEWIS: What we did during the past shift was looked at the actual deposition rates in California from the Chernobyl accident in 1986 and extrapolated that out and came up with a comparable dose rate on the order of one to 10 millirem. So that kind of reinforced our disbelief of the DITTRA number when we saw it. But then, separately, Research is working with Sandia to do a separate run.

(below) From the NRC FOIA documents: more evidence that officials used data from Chernobyl fallout for modeling Fukushima fallout. Note the discussion of doses for children based on conservative assumptions.

MALE PARTICIPANT: Had to modify the MAC code. They -- NARAC did do their evaluation of -- using our source term, and they -- they were calculating doses, particularly for children -- thyroid doses of (inaudible) after -- that the one-year dose, assuming some very conservative assumptions about ingestion, and (inaudible) practices.

So we had the group -- the PMT look at some of the actual data from deposits from Chernobyl, which we had from DITTRA.

BRIAN: Right.

MALE PARTICIPANT: Historical data. And convert those to doses using the same update techniques. And they have some calculations -- they hadn't shown them to be (inaudible), but they are showing millirem range doses, like one to 10 millirem.

MALE PARTICIPANT: (Inaudible.)

(below) NOT FROM THE NRC FOIA DOCUMENTS: this is an independent study of the effects of Chernobyl fallout on file at the Annals of the New York Academy of Sciences.

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES
Volume 1181

Chernobyl

Consequences of the Catastrophe for People and the Environment

ALEXEY V. YABLOKOV
VASSILY B. NESTERENKO
ALEXEY V. NESTERENKO

Consulting Editor
JANETTE D. SHERMAN-NEVINGER

(below) From the study mentioned above: Chernobyl fallout produced an estimated 985,000 additional deaths from April 1986 to the end of 2004.

Thus the overall mortality for the period from April 1986 to the end of 2004 from the Chernobyl catastrophe was estimated at 985,000 additional deaths. This estimate of the number of additional deaths is similar to those of Gofman (1994a) and Bertell (2006). A projection for a much longer period—for many future generations—is very difficult. Some counter-directed aspects of such prognoses are as follows:

(below) From *Chernobyl: Consequences of the Catastrophe for People and the Environment*: Note that Officials in Oregon issued rainwater warnings in 1986.

There is still a high probability of small but dangerously radioactive areas in the Caucasus; Trans-Caucasia; lower, central, and middle Asia (including Turkey, Iran, Iraq, and Afghanistan); China; and the Persian Gulf area, continuing until the present time.

1.2.3. North America

Areas in North America were contaminated from the first, most powerful explosion, which lifted a cloud of radionuclides to a height of more than 10 km. Some 1% of all Chernobyl radionuclides—nearly several PBq—fell on North America.

1. CANADA. There were three waves of Chernobyl airborne radioactivity over eastern Canada composed of: Be-7, Fe-59, Nb-95, Zr-95, Ru-103, Ru-106, I-131, La-140, Ce-141, Ce-144, Mn-54, Co-60, Zn-65, Ba-140, and Cs-137. The fallout of May 6 and 14 arrived via the Arctic, and that of May 25 and 26 via the Pacific (Roy *et al.*, 1988). By the official "Environmental Radioactivity in Canada" report for 1986 (RADNET, 2008) Chernobyl Ru-103, Ru-106, Cs-134, and Cs-137 were consistently measurable until about mid-June.

2. UNITED STATES. The Chernobyl plumes crossed the Arctic within the lower troposphere and the Pacific Ocean within the mid-troposphere, respectively. Chernobyl isotopes of Ru-103, Ru-106, Ba-140, La-140, Zr-95, Mo-95, Ce-141, Ce-144, Cs-134, Cs-136, Cs-137, I-132, and Zr-95 were detected in Alaska, Oregon, Idaho, New Jersey, New York, Florida, Hawaii, and other states (Table 1.4).

An Associated Press release on May 15, 1986, noted "Officials in Oregon have warned that those who use rainwater for drinking should use other sources of water for some time."

(below) From the study above: fallout from Chernobyl detected in the Southern Hemisphere.

1.2.4. Arctic Regions

A high level of Chernobyl contamination is found in Arctic regions. The moss *Racomitrium* on Franz Josef Land contained up to 630 Bq/kg (dry weight) of Cs-137 of which 548 Bq/kg (87%) came from the Chernobyl fallout (Rissanen *et al.*, 1999).

1.2.5. Northern Africa

Radionuclide fallout in northern Africa came from the most powerful emissions on the first day of the catastrophe and that area has been subject to more than 5% of all Chernobyl releases—up to 20 PBq.

1. EGYPT. The Cs-137 to Pu-239/Pu-240 ratio in accumulated Nile River sediment is evidence of significant Chernobyl contamination (Benninger *et al.*, 1998).

1.2.6. Southern Hemisphere

In the Southern Hemisphere Cs-137 and Cs-134 from Chernobyl have been found on Reunion Island in the Indian Ocean and on Tahiti in the Pacific. The greatest concentration of Cs-137 in the Antarctic was found near the South Pole in snow that fell from 1987 to 1988 (UNSCEAR, 2000).

1.3. Estimates of Primary Chernobyl Radionuclide Emissions

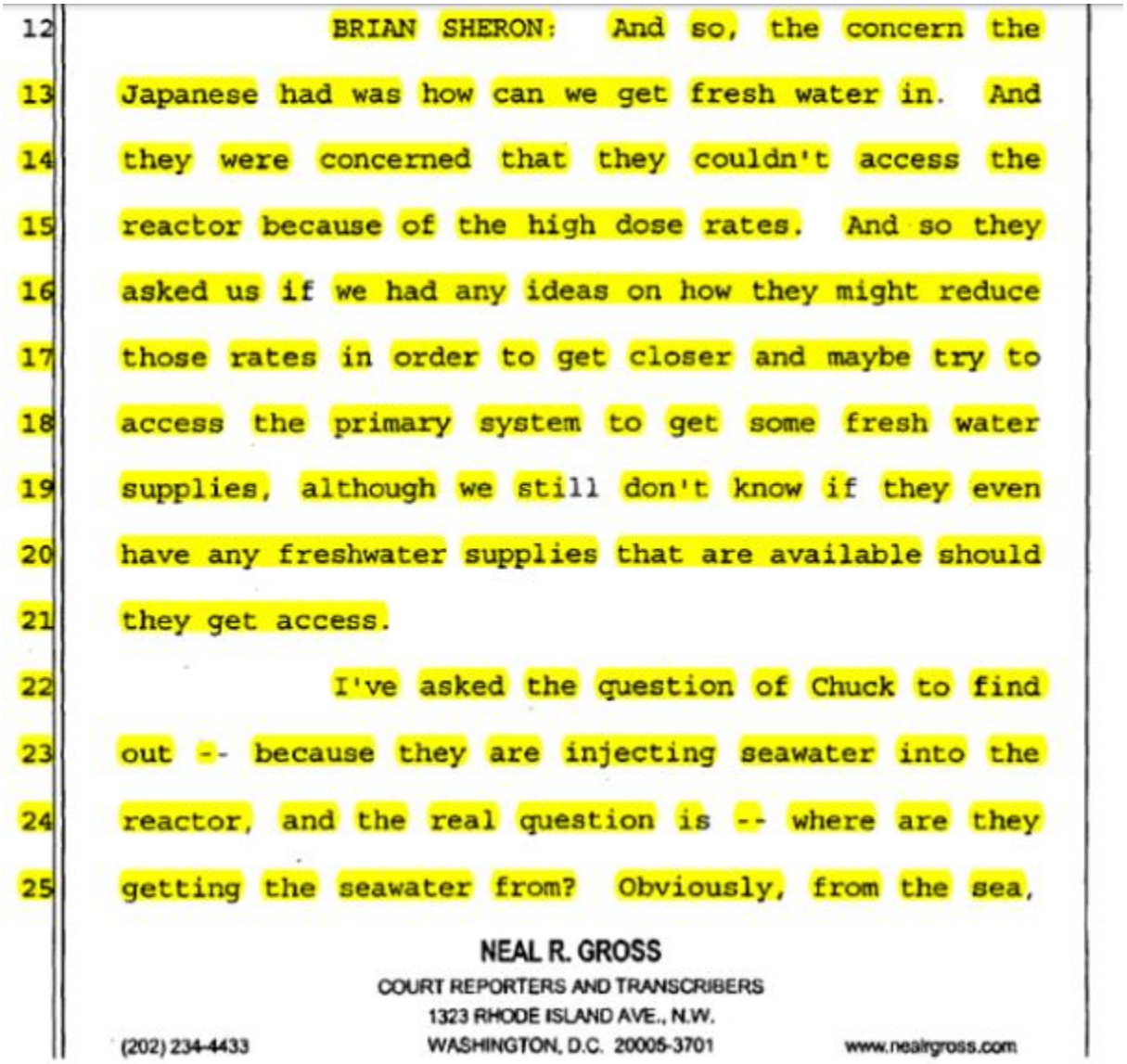
The official view was that the total radionuclide emissions calculated for May 6, 1986, the

How bad it really was

While it is true TEPCO withheld information from NRC officials they still had an excellent idea of what was unfolding and that the Fukushima Daiichi facility was experiencing a 'worse-case-scenario'…i.e.: a prolonged station blackout (PSBO). Ultimately this meant the nuclear reactors would be without power and proper cooling for weeks. When the nuclear fuel gets hot enough it begins to melt and will eventually take the form of a 'corium' blob, sublimating through concrete, rebar, steel and eventually down into the earth…forever irretrievable.

(below) NOT FROM THE NRC FOIA DOCUMENTS. Units 4 and 3 from left to right.

(below) From the NRC FOIA documents: evidence that access was restricted due to high dose rates.



BRIAN SHERON: And so, the concern the Japanese had was how can we get fresh water in. And they were concerned that they couldn't access the reactor because of the high dose rates. And so they asked us if we had any ideas on how they might reduce those rates in order to get closer and maybe try to access the primary system to get some fresh water supplies, although we still don't know if they even have any freshwater supplies that are available should they get access.

I've asked the question of Chuck to find out -- because they are injecting seawater into the reactor, and the real question is -- where are they getting the seawater from? Obviously, from the sea,

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

(below) From the NRC FOIA documents: a discussion of how to drop the lethal dose rates so workers can make repairs.

But you can only do what you can do, so we're -- also, you know, try to figure out how to drop the dose rate, so that, you know, people can install pumping systems or whatever strategy we have, so, you know, we are really trying to work that out and trying to decide whether, you know, to put lead in there or to put, you know, sand or -- to get the dose rates down, the big question -- you know, you really don't want to put anything around the fuel so you can keep it cool, but what's left of it, or whatever is there, keep it coolable, but you've got to get the dose rates down. That's kind of the challenge now.

You know, we're thinking HUMVEE's for workers, you know, to transit in there to pipe -- and some shielding, some mechanism to shield the workers, but some of these -- you know, these are lethal dose rates they're getting outside that building.

MALE PARTICIPANT: Yeah.

(below) From the NRC FOIA documents: workers bulldoze rubble into piles to cut dose rates but dose rates still are 'incredible'.

[redacted]

Now, what they're doing is they have

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.

[redacted]

72

bulldozers -- I mean, the dose sounds like not as much a shine from the building as when the building blew up. There is spent fuel and pellets and whatever all over the place around the plant. So they are taking the bulldozers through and pushing the rubble in piles, and they are saying that's cutting the dose down, you know, 60, 70 percent.

So they are trying to -- in these areas where the piping runs would go, they are trying to clean it up. But, I mean, the dose is still going to be, you know, incredible. I mean, they were talking yesterday, they said the resources they have were somewhere between 2- to 300 people, and that, you know, TEPCO and other licensees, the Civil Defense Force and some -- some police. [redacted]

[redacted]

(below) From the NRC FOIA documents: Japan unwilling to assemble Bechtel pumps due to high dose rates. Note that time and time again NRC officials state that the water cannons and helicopter drops are ineffective.

BRIAN: Good morning, Marty.

MR. VIRGILIO: The one thing about that is that we continue to hear from Chuck that the Chinese -- that the Japanese don't have much of an appetite for that approach, that they still believe that the water cannons and the helicopter dumping buckets of water on top of the units is the better strategy.

And, you know, we are assuming that they don't want to accept the dose that comes with hooking

up this pumping equipment.

BRIAN: Oh.

MR. VIRGILIO: So although the pumps are onsite, and Bechtel, in combination with our reactor safety team, has sort of sketched out, you know, how one would hook up the pumps to get the head necessary to provide water to the spent fuel pools, we are not getting any takers from the Japanese side of this equation.

[redacted]

(below) From the NRC FOIA documents: talk of 450-600 REM/hr between units 2 and 3.

MALE PARTICIPANT: Right.

MALE PARTICIPANT: I was wondering, is there anywhere we have like dose rate maps on site, so that we --

CHUCK CASTO: I think we have that somewhere. Yes, I think we do. And it's bad, Jack, between units -- I remember some numbers between Units 2 and 3, the two buildings, it's 450 to 600R.

MALE PARTICIPANT: Okay. Yes, I saw that, too.

CHUCK CASTO: So, you're talking lethal doses here, or certainly --

(below) From the NRC FOIA documents: no real plan, just making it up as they go along. Discussion of strapping lead to Humvees to be able to drive in to make repairs.

CHUCK CASTO: Right. Now, whether that's -- you know, modulizing the construction and flying it on a helicopter, as much as you can modulize it, and flying it in and have people go in and bolt it up. That's the question. If you could get some kind of nozzle that goes into the spent fuel pool, out the side of the floor, down the wall of the building, and then has an elbow that goes toward the ocean, have that as a piece, and hang that off the building on a helicopter, and then bring in another piece and lay it down towards the ocean, another straight piece of pipe, and another, and another until you get out to the ocean. And then you've got to have some poor people run in there and bolt it up in a Humvee.

We suggested to them last night, yesterday that they get some Humvees and strap lead to the Humvees like they strap metal. And order the Humvee itself, I don't know much how shielding a Humvee gives. But put lead on a Humvee, because one of the things is they're getting all that dose in the transit time to the job to and from.

(below) From the NRC FOIA documents: water drops were not effective according to NRC officials.

MALE PARTICIPANT: Okay. Go ahead.

MR. CASTO: I think maybe I told you -- I can't remember exactly what all I told you, but the water drops don't seem to be effective. The dose rates were not altered at all. You probably already know that.

MALE PARTICIPANT: Yeah. We're watching them on TV, and I can imagine they are not being very effective.

(below) From the NRC FOIA documents: pumper trucks also 'marginally effective'.

You know, the stuff they're doing, you know, initially, the fire trucks and now, then they had the, the riot spray pumps, and then yesterday or, you know, probably about 36 hours ago, they brought in that airport super high-capacity remote unmanned pumper truck --

BRIAN SHERON: Yeah.

JOHN MONNINGER: -- and also the, the helicopters. All those systems are really not highly effective, or actually just marginally effective. And, you know, the problem is, I mean, we're shooting from so far away, you have incredible losses.

BRIAN SHERON: Right.

JOHN MONNINGER: I mean, just with that powdering, the dropout, et cetera. So that's, so that's all that. So, yes, we've been concerned with Unit 4 all along.

(below) From the NRC FOIA documents: TEPCO considering entombment.

Unit 1 drywell continues to fill with water and is expected to reach TAF by April 27. Debris cleanup continues and Zeolite is being placed around site to absorb Cesium. (Source: Site Team 4/17).

TEPCO is considering adding boric acid to the core cooling water. (4/19)

TEPCO is considering: 1) entombment of the Unit 2 reactor building to stop leakage believed to be emanating from the suppression pool, 2) trying to ascertain whether the water in the Unit 2 basement may be coming from another unit, 3) requesting US assistance and expertise with processing high level radwaste, and 4) inerting Unit 3 drywell however difficult due to high rad levels and debris in the area.

(below) From the NRC FOIA documents: evidence of the 'President's source term' and more proof that Obama's administration knew the seriousness of the Situation.

JIM WIGGINS: Okay. Speaking of deposition and things like that, a couple, news.

We got, we reached agreement with NARAC on what -- let me also say the president's source term, the one that, you know, you had agreed to --

CHAIRMAN JACZKO: Yes.

JIM WIGGINS: And it's, it's been a bit challenging to get runs from NARAC, but we understand the running those now.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: And, you know, it took some cajoling with them. They had some issues with how the

source term was, was stated.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: But, again, I've seen (inaudible). They've agreed to run it.

CHAIRMAN JACZKO: Okay. Good. And remind me again what that is at this point. There's been so many back-and-forths on this.

(below and continued from above) From the NRC FOIA documents: discussion of the 'President's case' and multiple 'worst case' scenarios. Models were not only downplayed by basing them on source terms of limited duration but by running multiple 'worse case' scenarios and choosing the 'least-worst-case'.

JIM WIGGINS: Yeah. I, you know, I still won't let anybody use the word "worst case" in the room here --

CHAIRMAN JACZKO: Yeah.

JIM WIGGINS: -- because there's about five worst cases.

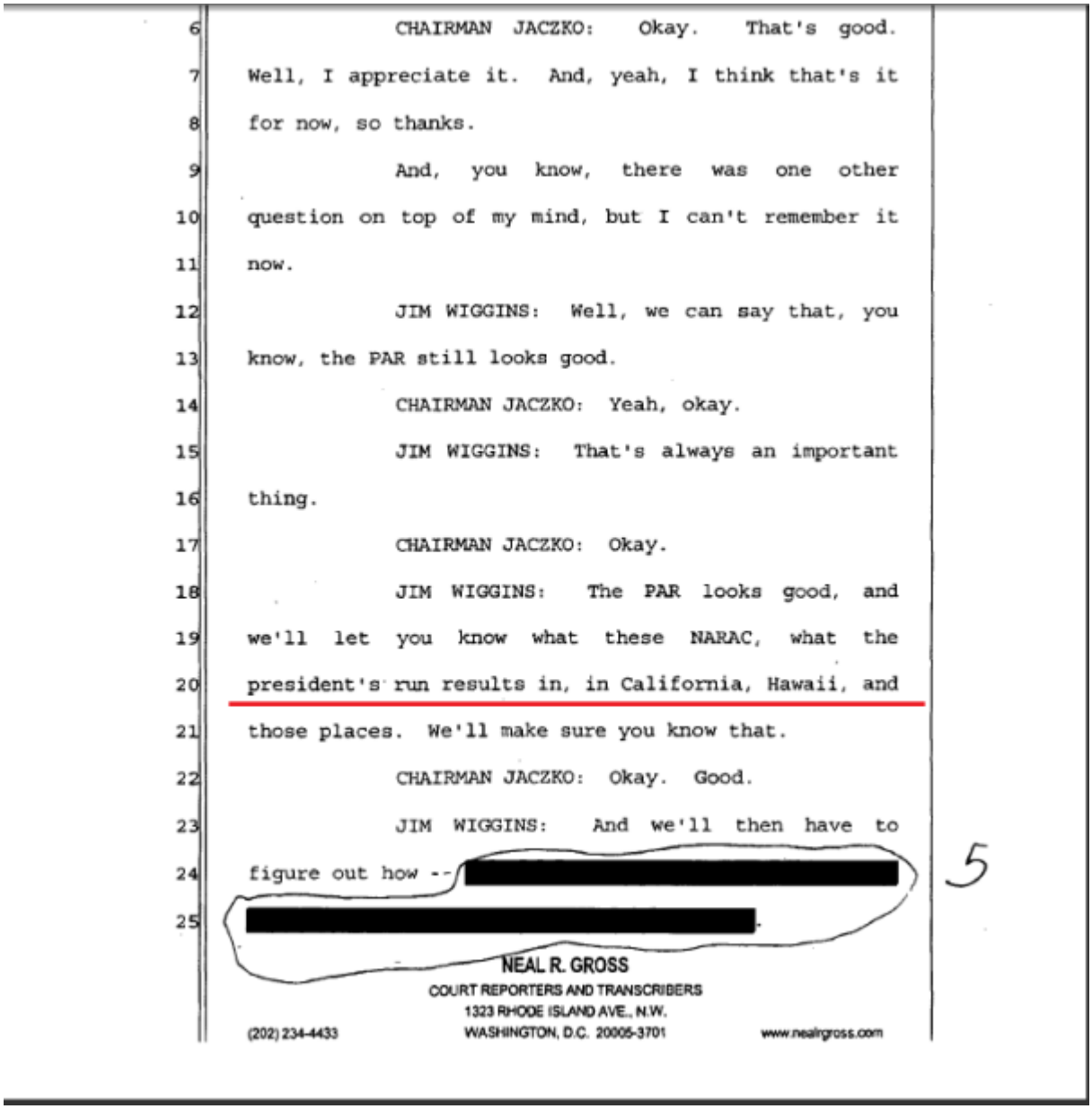
CHAIRMAN JACZKO: Right.

JIM WIGGINS: What, what's the, the president's case?

MALE PARTICIPANT: It's, it's bounding. It includes the, the fuel in the three reactors, the fuel in four spent fuel pools. It does not include the common spent fuel pool around Unit 4 nor reactors 5 and 6 or any spent fuel pools there. And it's assumed, a release based over a four- to five-day day period --

CHAIRMAN JACZKO: Okay.

(below) From the NRC FOIA documents: evidence of a 'President's run' in Hawaii and California.



CHAIRMAN JACZKO: Okay. That's good. Well, I appreciate it. And, yeah, I think that's it for now, so thanks.

And, you know, there was one other question on top of my mind, but I can't remember it now.

JIM WIGGINS: Well, we can say that, you know, the PAR still looks good.

CHAIRMAN JACZKO: Yeah, okay.

JIM WIGGINS: That's always an important thing.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: The PAR looks good, and we'll let you know what these NARAC, what the president's run results in, in California, Hawaii, and those places. We'll make sure you know that.

CHAIRMAN JACZKO: Okay. Good.

JIM WIGGINS: And we'll then have to figure out how -- [redacted]

5

[redacted].

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

(below) From the NRC FOIA documents: March 29th and lighting is just being returned to Unit 4 control room where there is still no access due to high dose rates.

TEPCO injecting fresh water into Units 1, 2 and 3; and *has transitioned* to temporary electric pumps for injection (all three units); Actions underway to pump water from flooded turbine building basements into condensers/other tanks. TEPCO plans to inject water into U-1 SFP from Cement Pumper truck on 30. March. Lighting returned to U-4 control room, currently no access due to dose rates. TEPCO is considering spraying Zeolite on the outside and interior of the Rx Bldgs in an effort to minimize re-suspension of fission products in the air but having difficulty planning application due to the elevated dose rates.

Highly radioactive water (approx 100 R/hr) found in a "trench" (pipe and cable chase) outside Unit 2; source of water unclear. TEPCO stated that this water is not flowing into the ocean, though the water will overflow this trench if it rises about 1 meter (trench is 4 meters deep). There is water in the trenches outside of Units 1 and 3 as well. Actions have been taken, or are in progress, to preclude contaminated water in trenches from reaching the ocean (e.g., sandbags, etc.).

(below) From the NRC FOIA documents: March 16th email suggests SFP of Unit 4 has lost all water. High dose rates make entry impossible.

McKelvey, Harold

From: Howell, Linda
Sent: Wednesday, March 16, 2011 7:23 AM
To: Collins, Elmo; Howell, Art; Kennedy, Kriss; Pruett, Troy; Vegel, Anton; Caniano, Roy; Uselding, Lara; Maier, Bill
Subject: FW: 0630 EDT (March 16, 2011) USNRC Earthquake/Tsunami SitRep
Attachments: NRC Status Update 3-16.11--0630am.pdf

Importance: High

Items to note: The U2 containment may be in better shape than previously expected (despite press reporting). U4 situation is deteriorating, SFP water inventory is lost. Japanese military had planned to drop sea water over U3 and probably U4 yesterday but this plan was abandoned due to high dose rates. The dose rates around U4 make entry impossible at this time. The skeleton crew of 50 that had been held on site (~750 workers were evacuated) was moved offsite approximately 0.5 miles away due to dose concerns. As of 0600 CT this morning, Japanese media reporting (from NPR) indicated that the crew might not yet be back on site.

The evacuation area around the Fukushima Daini plant has been expanded to 20 Km.

THIS INFORMATION COULD CHANGE RAPIDLY AS THE DAY PROGRESSES.

(below) From the NRC FOIA documents: March 14th email suggests Fukushima is a 'worst case' scenario i.e.: a prolonged station blackout.

From: Andrews, Tom
Sent: Monday, March 14, 2011 8:15 AM
To: Hasselberg, Rick
Subject: Japan

Sure was a lot of conflicting and misleading information coming out of Japan on the status of these sites. Sad to say, but this sounds like one of those "worst case" scenarios we have practiced for years (prolonged station blackout). Remember saying how much redundancy we have to prevent this from happening? Wonder what knee-jerk regulatory reactions will evolve from this? Wonder if this will make it too expensive for some of the plants to operate due to the cost of required modifications.

Knowing how bad the situation is in Japan and trying to make the best out of a bad situation, are we getting any data from Japan that we can use later for training? Do we know who was dispatched to Japan from the NRC?

(below) From the NRC FOIA documents: March 15th email suggesting that "U2 ex-vessel, U4 zirc fire SFP, catastrophe". Note that redactions are likely further description of grave conditions at Fukushima, not military or trade secrets. We only get to see what they want us to see and yet we are expected to believe the levels of radiation and the damage were minimal.

Miller, Geoffrey

From: Kotzalas, Margie
Sent: Tuesday, March 15, 2011 7:14 AM
To: Miller, Geoffrey
Subject: Japan - U still here?

Hey. I heard that we sent another team of 9 people to Japan and that Chuck Casto is leading it. Do you know who else is on the team? I'll see what I can hear from my side.

I couldn't sleep again last night. Michelle was doing a shift in the Ops center (protective measures team) last night. She texted me "U2 ex-vessel, U4 zirc fire SFP, catastrophe". Outside of Scope

Outside of Scope

(below) From EPA.gov: the worst probable nuclear incident at an industrial facility is a fire…(especially with MOX fuel)

Based on source term and meteorological considerations, it is assumed that the worst probable nuclear incident at an industrial facility is a fire that could disperse radioactive material into the atmosphere, yielding a time-integrated concentration of radionuclides at a nearby populated area, as follows:

Radionuclide	$\mu Ci \cdot cm^{-3} \cdot h$
Zr-95	2E-6
Cs-134	4E-8
I-131	1.2E-5

(below) From the NRC FOIA documents: evidence that the March 14th Unit 3 'lube oil fire' was not a lube oil fire but something much more serious.

DAN DORMAN: It's, it's interesting to me you're focusing on that lube oil fire because Jim, Jim and I when we were talking this morning were focusing on the Unit 4 explosion, but I'm fuzzy in my recollection of which came first.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

---

LARRY CAMPER: Well, I, I think we're saying we're skeptical that it was a lube oil fire.

DAN DORMAN: Yeah, I'm -- we --

LARRY CAMPER: We know it wasn't a lube oil fire. We know that. They can take that off the table.

(below) From the NRC FOIA documents: NRC officials dubious of TEPCO's Long term plan to restore plant equipment.

MR. SKEEN: And Chuck, this Dave Skeen. That's my concern is if their plan -- as Marty says with their long-term plan is to get plant equipment restored, I don't see how they're going to do that. They've (inaudible) a pump or two and found out that their pumps are bad.

MR. CASTO: Yes. We've known that for a

week and a half, Dave --

(BEEP.)

MR. CASTO: I don't know what that beep is. Somebody must be calling in or something.

(below) From the NRC FOIA documents: evidence of a prolonged station blackout from a March 14th email.

From: Riemer, Kenneth
Sent: Monday, March 14, 2011 2:02 PM
To: Scarbeary, April; Ramirez, Frances; Ruiz, Robert; Haeg, Lucas; Murray, Robert; Thomas, Christopher; Voss, Patricia; Shah, Nirodh; Feintuch, Karl → NRR
Cc: Riemer, Kenneth
Subject: Japanese event

Just a quick update based on what we've heard so far. Just a couple of caveats and general info:

- As Nick indicated in his e-mail, if you get any requests for info or status, **forward them to the HOO**. That way the agency will have one voice.
- It's frustrating, but we have very little factual info as an agency. What we've been getting has been through the State Dept.
- The Japanese regulatory body is very mature, sophisticated and technically competent, as is the Japanese industry so the NRC is being very careful to not interfere or imply that they are not equipped to handle the reactor events.
- The NRC has sent 2 people over with the potential to send some more.
- The plants appear to have survived the earthquake pretty well, but lost the EDG fuel oil supplies (therefore complete station blackout situation) when the tsunami hit. EDG fuel oil tanks were above ground design.
- Repeat of first bullet – if you get any inquiries, **send them to the HOO**

The site has 6 reactors; three were operating and the other three were shut down for maintenance at the time of the earthquake. For the operating units:
Unit 1: similar design to Dresden with iso-condenser. core damage is likely. Core coverage is uncertain. Injecting borated sea water to the core, but have now lost that capability. Hydrogen explosion and have lost secondary containment, but believe primary containment is intact. Venting fission product daughters off-site, but prevailing winds are out to sea.
Unit 2: similar design to Quad Cities/Duane Arnold. in the best (very relative term) shape of the three previously operating reactors. Were operating on RCIC but that is now lost. Primary and secondary containment believed intact, however anticipate that a hydrogen explosion is imminent.
Unit 3: similar design to Quad Cities/Duane Arnold .hydrogen explosion yesterday with breach of secondary containment. Injecting seawater into the core

Boiling in the spent fuel pools – feeding as able with seawater.

I'll provide more tomorrow if we get it.

(below) From the NRC FOIA documents: officials know all about plumes and fallout from a Mark I as they have already done a study of the possibility. Also note Chuck Casto's contention: '…in a station blackout you're going to lose containment."

CHUCK CASTO: I would just ask for their recommendations. You know, they've got all the science. They have these codes that can run this event, that have run this event. They ran it for Peach Bottom. They ran this event for a number of sites.

And, you know, you may just want to reach out, and we may just want to reach out and ask them what their recommendations are based on MELCORE, and I don't know, I can't remember all those code names, but there's a lot of different ones. Do they have recommendations about the crust that forms and keeping water on it, and keeping the right pH, all that stuff.

And, you know, if we end up with a molten core and then you talk about the time for the concrete to disassociate, you know, that NUREG says it's a couple of inches an hour, you know. And, of course, that Mark 1 containment is the worst one of all the containments we have, and it's literally, you know, this NUREG tells you that in a station blackout you're going to lose containment. There's no doubt about it.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

(below) From the NRC FOIA documents: ignorance is no excuse. Simulations were done more than 30 years ago that reasonably matched conditions at Fukushima.

~~OFFICIAL USE ONLY~~

March 31, 2011 2200 EDT

report seems to indicate immediate evacuation was appropriate. PMT staff contacted the IAEA (IEC) and were told that no additional information would be forthcoming. PMT plans to make follow-up calls with the IAEA.

HHS indicated that KI would be shipped out to Japan on April 1st (March 31st USAID call.)

A Japanese newspaper has reported that simulations were done more than 30 years ago at Oak Ridge National Laboratory that reasonably matched conditions at the Fukushima nuclear plant based on a loss of power at the Browns Ferry Nuclear Plant.

The Plume

The result of the prolonged station blackout and subsequent meltdowns would produce an incredible amount of radioactive emissions from the Fukushima facility: many, many times more than Chernobyl. The radioactive plumes and clouds would be carried aloft, out to sea, and in the direction of the USA. The initial plume was a lethal cocktail of plutonium, strontium, cesium, iodine and other radionuclides and made impact with the West Coast just six days after the catastrophe. Officially, Americans were told not to expect harmful levels of radioactivity and no warnings were given. Meanwhile, as far away as France, rainwater and green leafy vegetable warnings were issued. It is interesting to note that in 1986 Oregon issued rainwater warnings over Chernobyl fallout.

(below) NOT FROM THE NRC FOIA DOCUMENTS: while President Obama told Americans "…we do not expect harmful levels of radiation to reach the United States whether it's the West Coast, Hawaii, Alaska or U.S. Territories in the Pacific" and to take no precautions beyond "staying informed", countries much further from the Fukushima catastrophe did give rainwater warnings (just as Oregon did in 1986 over Chernobyl fallout) and green leafy vegetable warnings as well.

(below) From the NRC FOIA documents: Chuck is looking for an 'ingestion pathway' and a 'plume' person.

From: Evans, Michele
Sent: Wednesday, April 06, 2011 2:58 PM
To: Howell, Art; McCree, Victor; Dean, Bill; Satorius, Mark; Haney, Catherine; Moore, Scott; Sheron, Brian; Johnson, Michael; Leeds, Eric
Cc: Pederson, Cynthia; Lew, David; Wiggins, Jim; Ordaz, Vonna; Uhle, Jennifer; Ruland, William; Boger, Bruce; Virgilio, Martin; Weber, Michael; Flanders, Scott; Lewis, Robert; Muessle, Mary; Mamish, Nader
Subject: ACTION: Identify 4th wave of NRC staff to Japan

ODs and RAs:

There is discussion of potentially sending an additional 6 or so staff to Japan.

These individuals would likely depart the USA on April 12 or 13, with a return date of about April 27. (For awareness, this time period spans religious holidays)

Specifically Chuck is looking for 4 individuals with severe accident experience. Lots of EOP/SAMG experience. He is looking for two protective measures staff. Specifically an ingestion pathway person and a "plume" person.

(below) From the NRC FOIA documents: prevailing winds carry the bulk of radioactive releases out to sea.

Fukushima Daiichi

Japanese national government instructed evacuation for local residents within a 20km radius of the site boundary and sheltering in place out to 30 km for residents who stayed behind. IAEA confirms a no-fly zone out to 30 km around the Fukushima Daiichi plant. As of 1830 EDT on March 15, 2011, there have been no updates to protective actions.

Japanese authorities have changed the classification of the event from a Level 4 to a Level 5 "Accident with Wider Consequences" on the International Nuclear and Radiological Event Scale (INES).

NHK media report on March 17, 0100 EDT stated that helicopter crews dumping water on Unit 3 reactor building reported dose rates at 375 R/hr at 300 ft. above the building.

2 of 6

~~OFFICIAL USE ONLY~~

~~OFFICIAL USE ONLY~~

Earthquake/Tsunami Status Update March 18, 2011 1800 EDT

An array of fire trucks have been deployed at the site and appeared to be supplying / spraying water over Unit 3.

All available information indicates that the majority of releases from the Fukushima site have been carried out to sea by the prevailing winds. Forecast meteorological data for the 24 hour period until 2000 EDT on March 18, 2011 indicates wind headed offshore (from NW/westerly).

(below) From the NRC FOIA documents: "…the plume is going up to sea."

know, we, we might be hearing something from Tepco or getting stuff from NISA, and industry might have a more direct route. So we'll see that where that comes up.

MIKE SNYDER: Jim, this is Mike Snyder. Could you please let me know the dose rates that -- you said they were lower at, at the gate. Do you have what those lower rates are on that?

JIM WIGGINS: All I have is what NEI is reporting. It's very important to understand that this is from NEI. I'll just read you this paragraph about it.

"NEI reports that dose rates around the Units 3 and 4 are reducing. It was 40 REM per hour. It's now 15 REM per hour around the units immediately. Dose rates around 5 and 6 are about 100 MR/hour. Dose rates near the power block range from 1 to 5 R/hour. The site access gate was reading 60 MR/hour," which is about 4,000 feet from the plant.

"Winds continue to blow from the northwest, so the plume is going up to sea." So, as we said, that's swinging around. "A dose rate was recorded to be 12 MR/hour at 0.20 kilometers inland from the plant. All other dose rates 20 to 40

(below) From the NRC FOIA documents: evidence of a massive plume.

MIKE CASE: Right. So, these (inaudible) at 1,000 feet, so you have to calculate well, what would it be at ground level? And then they're compare this with the data they have (inaudible). Some of these elevated levels may be the release is ongoing (inaudible).

MALE PARTICIPANT: True. But you're getting 20 to 30 --

MIKE CASE: Milli-R.

MALE PARTICIPANT: -- milli-R. It's real data.

MIKE CASE: Right. At 1,000 feet, that's 1,000 feet. But that could be a plume at 800 feet that you're seeing.

MALE PARTICIPANT: Yes.

MIKE CASE: The detectors are seeing whatever is below it.

MALE PARTICIPANT: It could be the shine from the plume.

MIKE CASE: Could be the shine from the plume.

MALE PARTICIPANT: True.

(below) From the NRC FOIA documents: NOAA's big blunder (admission of tracking a 19 mile long radioactive cloud down the coast of Japan) draws the ire of NRC officials.

BRIAN McDERMOTT: Okay.

MALE PARTICIPANT: Brian, from my

understanding that NOAA actually gave a -- they stated a 19-mile radioactive cloud moving down the Japanese coast.

BRIAN McDERMOTT: Down the Japanese coast.

MALE PARTICIPANT: Where is that coming from?

MALE PARTICIPANT: Yes, we don't know.

MALE PARTICIPANT: That's why I called you, as soon as I was notified, and said get this to Public Affairs, and we'll try to head this off at the pass. But I don't know the impetus behind why it was stated.

(below) From the NRC FOIA documents: "Now we're getting calls from ordinary citizens from CA and OR wanting to know if they need to evacuate."

Riley (OCA), Timothy

From: Dacus, Eugene
Sent: Saturday, March 12, 2011 6:45 AM
To: Schmidt, Rebecca; Powell, Amy; Decker, David; Shane, Raeann; Riley (OCA), Timothy; Weil, Jenny; Droggitis, Spiros
Subject: FW: 03/12/2011, 0400 NRC Sitrep
Attachments: Japan Sitrep1.docx

FYI. Also, given the escalating situation, there are discussions about calling in the full liaison team for each shift. I don't think we (OCA) need to change our schedule yet. We still don't have any direct communication with the plants in Japan and no way to confirm any of the information we are getting from CNN and others. There are two USAID Disaster Assistance Response Teams (DART) being deployed to Japan today. The plan is one NRC staff will be embedded with each DART team. One NRC employee departed with the Fairfax Search and Recovery (SAR) team this morning at 2:30. The other one will leave later this morning. Not sure what their rolls will be yet. GBJ wanted NRC presence in the USAID mission. Earlier today, Bill Borchardt cautioned against "attempting to regulate these plants". Not sure we know how "not to do that". This is an increasingly stressful situation and questions are being asked that we can't answer. Consequently, there is a tendency to do what we do best…"regulate

Now we're getting calls from ordinary citizens from CA and OR wanting to know if they need to evacuate. The Liaison Team was ready to "deploy DOE assets to monitor the plume. Then, someone realized that maybe HLS and EPA should take the lead.

(below) From the NRC FOIA documents: 'talking points' deflect the American public's pesky questions.

From: Ridge, Christianne
To: Bonaccorso, Amy; Deavers, Ron
Subject: reply -- FW: Citizen Info
Date: Saturday, March 19, 2011 12:49:52 PM

Individual was concerned about news reports that "radioactive cloud" reached California. I replied with response #1 and indicated EPA is increasing its monitoring. Individual (as several others have) wanted to know more precisely where the cloud is. We are not supplying that information but just reiterate that we do not expect harmful levels.

From: Akstulewicz, Brenda
Sent: Saturday, March 19, 2011 12:35 PM
To: Ridge, Christianne
Subject: Citizen Info

Wayne Miller

[redacted]
(b)(6)

Wants info on radiation hitting california

(below) from the NRC FOIA documents: evidence that EPA had lead role on plume effects in the US.

From: Mroz (Sahm), Sara
Sent: Saturday, March 12, 2011 2:34 PM
To: Harrington, Holly
Subject: FW: Questions on Impact on U.S. West Coast from Japanese Reactor Accident

FYI ... Lengthy email chain ... but confirmation from FEMA and EPA on where they are referring questions - plume/effects in US to EPA, domestic plants to NRC

From: Edwards.Jonathan@epamail.epa.gov [Edwards.Jonathan@epamail.epa.gov]
Sent: Saturday, March 12, 2011 2:33 PM
To: alexandra.kirin@dhs.gov
Cc: Perrin.Alan@epamail.epa.gov; albert.coons@dhs.gov; alexandra.kirin@dhs.gov; anthony.defelice@dhs.gov; McDermott, Brian; Chad.Gorman@dhs.gov; Miller, Chris; Corey.Gruber@dhs.gov; craig.fiore@dhs.gov; cym3@cdc.gov; Perry.Dale@epamail.epa.gov; daniel.blumenthal@nnsa.doe.gov; Donald.Daigler@dhs.gov; Douglas.Horton@dhs.gov; Shields.Glenna@epamail.epa.gov; harry.sherwood@dhs.gov; Burnett.Helen@epamail.epa.gov; James.Kish@dhs.gov; Schumann.Jean@epamail.epa.gov; Wieder.Jessica@epamail.epa.gov; Anderson, Joseph; Veal.Lee@epamail.epa.gov; Wright, Lisa (Gibney); McMichael.Nate@epamail.epa.gov; OLaughlin@nv.doe.gov; Robert.Farmer@dhs.gov; Poppell.Sam@epamail.epa.gov; DeCair.Sara@epamail.epa.gov; Mroz (Sahm), Sara; Seamus.O'Boyle@dhs.gov; steve.horwitz@dhs.gov; Thomas.Balint@dhs.gov; Timothy.Greten@dhs.gov; Flynn.Mike@epamail.epa.gov
Subject: Re: Questions on Impact on U.S. West Coast from Japanese Reactor Accident

Yes, that is correct for NRC and domestic power plants. EPA has lead coordinating role for impacts to environment/US citizens in US land areas. Thanks--Jon

(below) NOT FROM THE NRC FOIA DOCUMENTS: EPA busted for 'rigging' the RADNET monitoring equipment to report lower levels of radiation. Meanwhile, US nuclear power plants that detected fallout from Fukushima forwarded the data up the chain of command into a password protected database accessible only by the 'Federal Family'.

Follow me @ twitter

Alexander Higgins Blog Like 773

The Latest Buzz, Analysis, and News Without the Sn

Home Headlines Authors About Subscribe, Friend or Follow

Economy Environment Health Middle East Society Technology US Po

Confirmed: EPA Rigged RADNET Japan Nuclear Radiation Monitoring Equipment To Report Lower Levels Of Fukushima Fallout

Posted by **Alexander Higgins** - May 19, 2011 at 3:29 pm - **Permalink** - **Source** via **Alexander Higgins Blog**

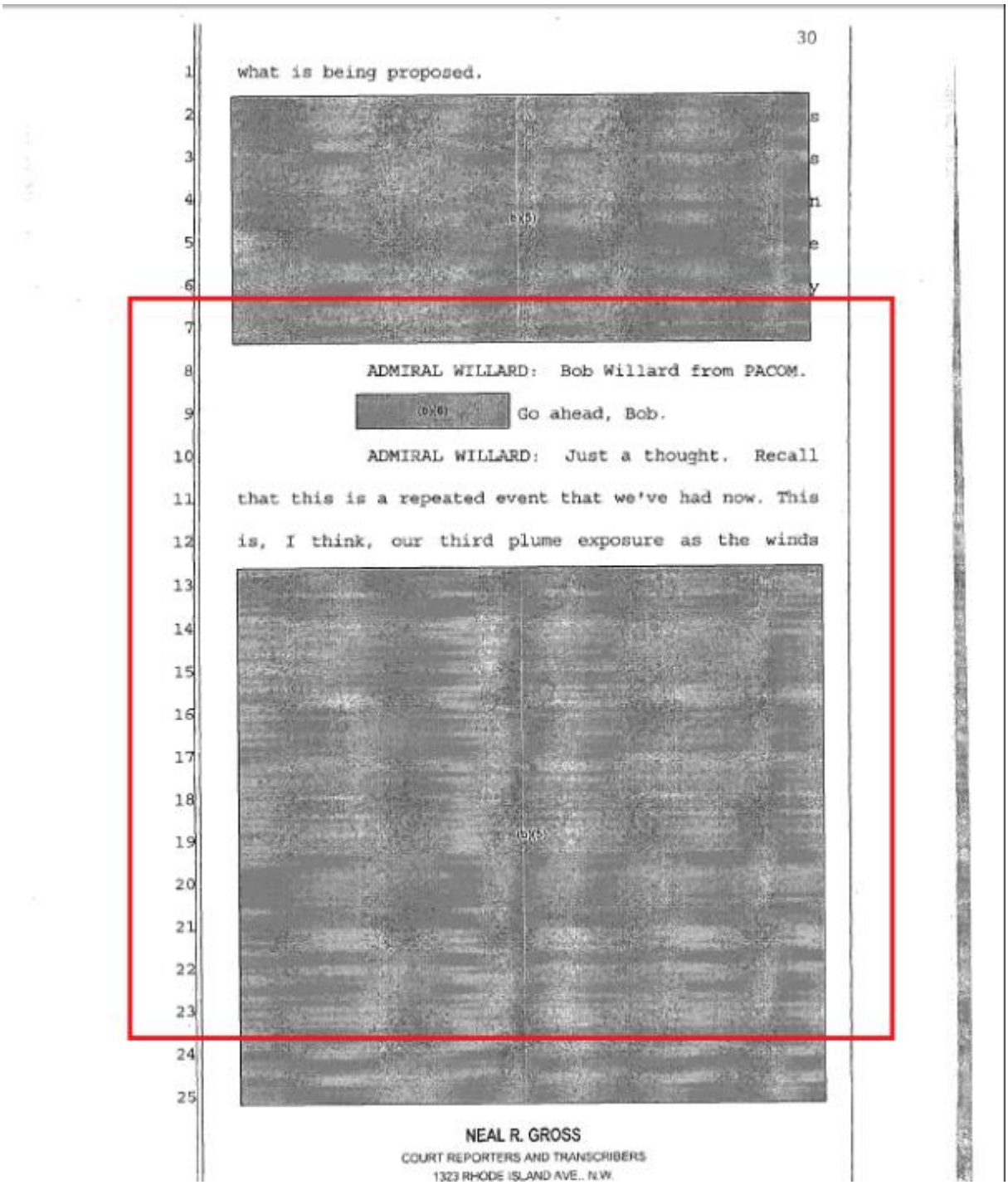
2 +1 428 Share 3 56 Tweet

The EPA re-calibrated (rigged) Japan nuclear radiation monitoring equipment causing them to report lower levels of radioactive fallout after the Fukushima nuclear meltdown than what was detected before the disaster.

I recently programmed an application to pull **all of the EPA radiation monitoring graphs for all major US cities** and complied them into an easy to use web interface. Of course we took the data being reported with a grain of salt under the suspicion that the Feds were fiddling with the results.

Now, an investigative report looking into why the much of the EPA radiation monitoring equipment was offline when the Fukushima nuclear meltdown occurred reveals that EPA has in fact rigged radiation monitoring equipment to report lower values of radiation.

(below) From the NRC FOIA documents: Admiral Willard admits the plumes are a 'repeated event'.



30

what is being proposed.

[redacted]

ADMIRAL WILLARD: Bob Willard from PACOM.

[redacted] Go ahead, Bob.

ADMIRAL WILLARD: Just a thought. Recall that this is a repeated event that we've had now. This is, I think, our third plume exposure as the winds

[redacted]

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.

(below) From the NRC FOIA documents: evidence of venting from Unit 3 blowing offshore.

time. Do you think you can, I guess -- confirming those dose rates or, or it's slightly lower too?

JIM WIGGINS: PMT says we haven't gotten additional information yet. We'll check it out.

MIKE SNYDER: That, that would be great for this evening's call because, if you could get that, that's something my Commissioner was asking about.

JIM WIGGINS: I think, yeah, but you should certainly alert your principles about the wind change. That's something they need to be, need to be cognizant because that, you know, for a large part of this event, it's been blowing offshore.

MIKE SNYDER: Right.

JIM WIGGINS: So now that things are changing a bit, let's see what the effect is.

Luckily, though, I think the, there's not a lot of motive force for the release now. Things are, you know, substantially calming down. Nothing's blowing up a steaming as we speak.

MIKE SNYDER: Yeah. I guess, then, as Mike brought up, there may be a potential that there may be some venting today on Unit 3.

(below) From the NRC FOIA documents: "The plume is an extensive plume."

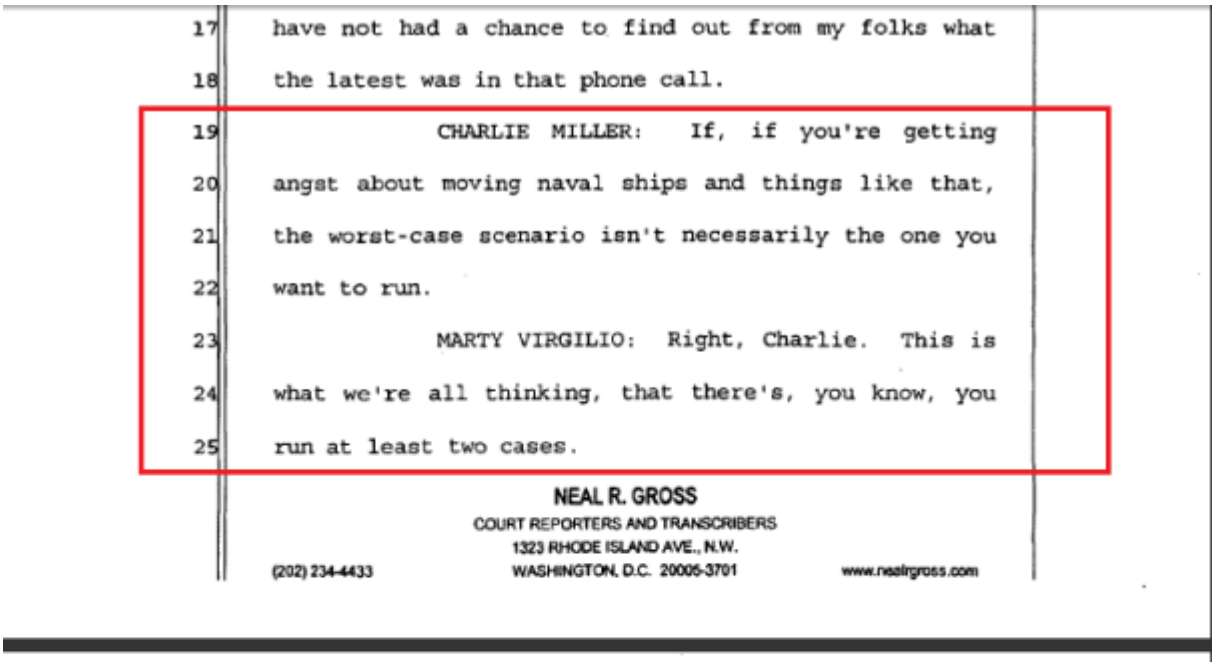
ADMIRAL DONALD: (b)(6) this is Kirk Donald. Just one correction on what you said there. The particulate levels that are being measured, the ones reported in the two to 7 x 10 to the -9th region, those are being taken on the USS George Washington that is currently located in Yukoska, Japan, which is

about 175 miles from the site.

(b)(5)

MR. BURROWS: Actually, Admiral -- this is Chuck Burrows. What we saw was the plume on its way. We are still measuring 2 x 10 to the -9th at this location 90 miles from the reactor plant, as well as now measuring 10 to the -9th down in the Yukoska area. The plume is an extensive plume. I mean, I have readings at both locations that are above 10 to the -9th microcuries per milliliter as far out as Yukoska and as far in as this 90-mile point.

(below) From the NRC FOIA documents: moving Navy ships en masse would have been indicative that the situation was worse than Officials were willing to admit. Many of our sailors are already suffering from the effects of radiation sickness.

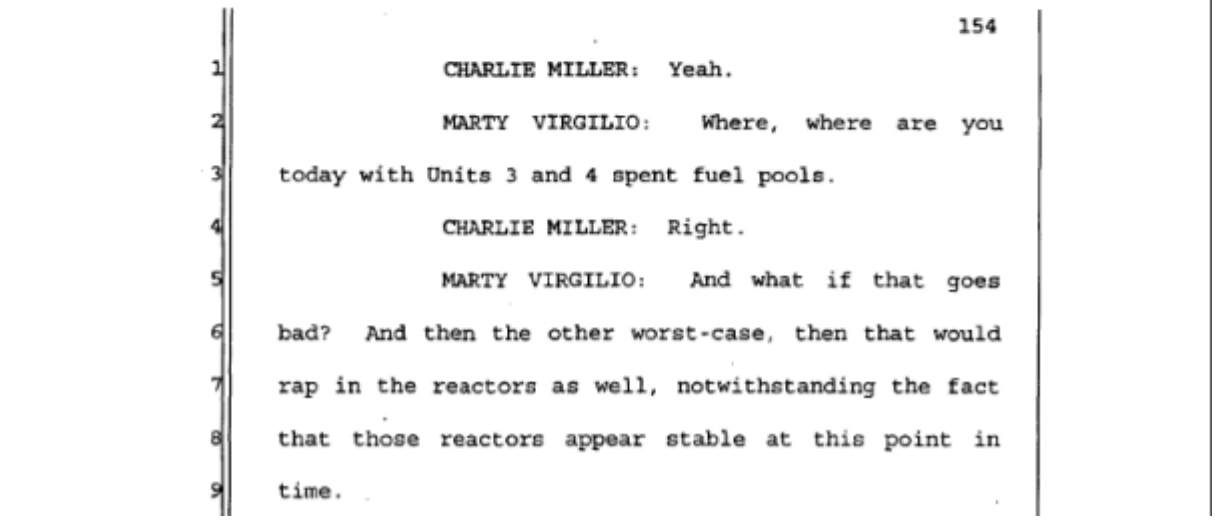


have not had a chance to find out from my folks what the latest was in that phone call.

CHARLIE MILLER: If, if you're getting angst about moving naval ships and things like that, the worst-case scenario isn't necessarily the one you want to run.

MARTY VIRGILIO: Right, Charlie. This is what we're all thinking, that there's, you know, you run at least two cases.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com



154

CHARLIE MILLER: Yeah.

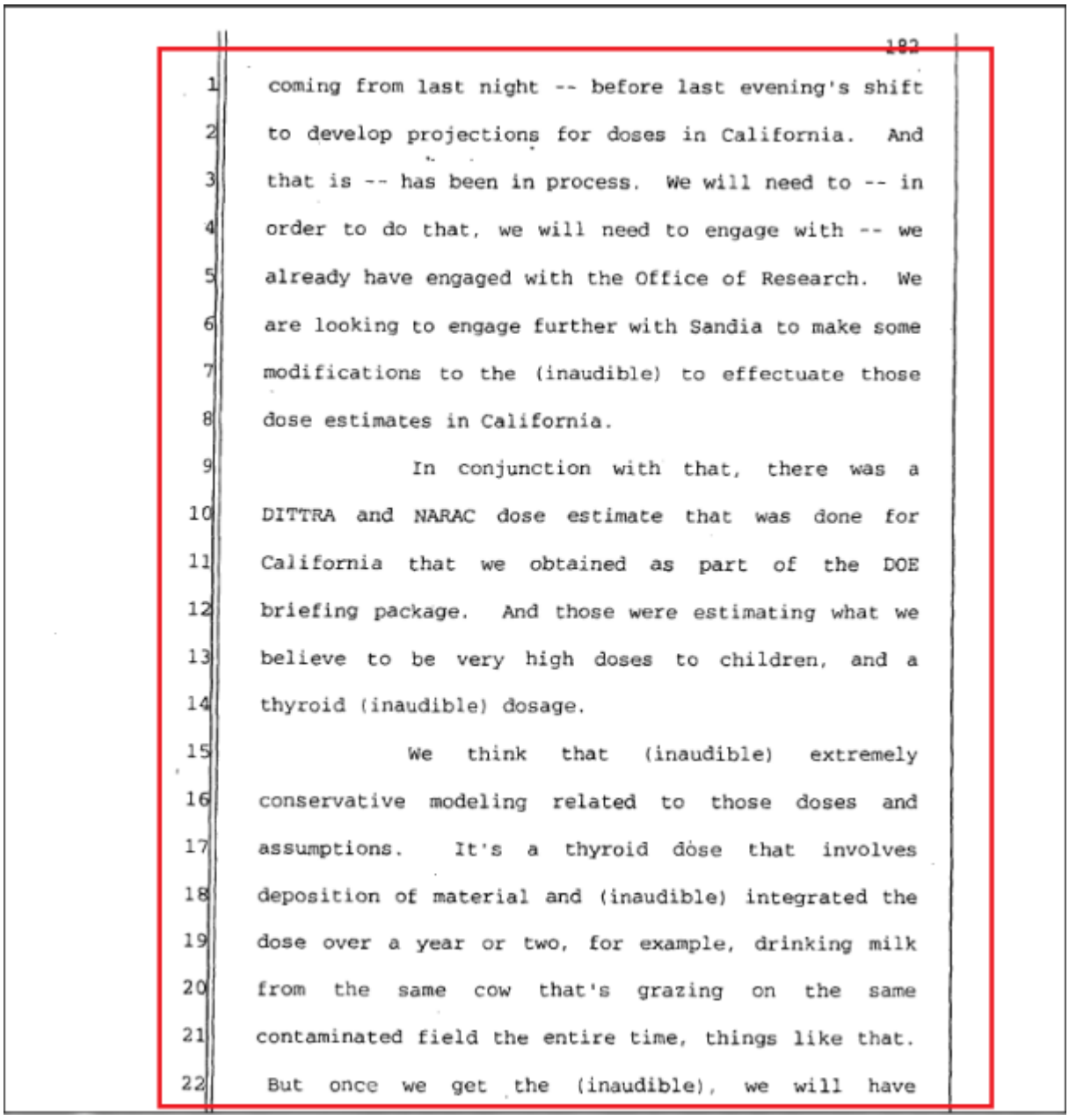
MARTY VIRGILIO: Where, where are you today with Units 3 and 4 spent fuel pools.

CHARLIE MILLER: Right.

MARTY VIRGILIO: And what if that goes bad? And then the other worst-case, then that would rap in the reactors as well, notwithstanding the fact that those reactors appear stable at this point in time.

DOSES: I will remind you that the modeling done by NARAC, DITTRA, SANDIA and the NRC appears to have been based on 96 hours or 4-5 days of emissions and thus evidence of dose rates will be greatly underestimated. These downplayed models and ones like 'the President's run' were what 'harmless' levels of fallout were based upon. In the NRC FOIA documents pertaining to Fukushima I found hard evidence that plumes as long as 60 kilometers were being emitted as late as the 30th of March and beyond. I would also remind you that in July, 2013 Unit #3 had several days of what TEPCO labeled 'mystery steam'. The simple fact is, radioactive emissions from Fukushima have been and will continue to be ongoing: to conduct modeling based on 4-5 days of emissions is madness! Again I remind you that the numbers expressed in the following screencaptures will be extremely conservative:

(below) From the NRC FOIA documents: discussion of dose estimates in California.



182

coming from last night -- before last evening's shift to develop projections for doses in California. And that is -- has been in process. We will need to -- in order to do that, we will need to engage with -- we already have engaged with the Office of Research. We are looking to engage further with Sandia to make some modifications to the (inaudible) to effectuate those dose estimates in California.

In conjunction with that, there was a DITTRA and NARAC dose estimate that was done for California that we obtained as part of the DOE briefing package. And those were estimating what we believe to be very high doses to children, and a thyroid (inaudible) dosage.

We think that (inaudible) extremely conservative modeling related to those doses and assumptions. It's a thyroid dose that involves deposition of material and (inaudible) integrated the dose over a year or two, for example, drinking milk from the same cow that's grazing on the same contaminated field the entire time, things like that. But once we get the (inaudible), we will have

(below) From the NRC FOIA documents: over conservative transpacific model shows 4.5 REM iodine to children…

DOE preparing another AMS flight.....don't know the exact date

20mr /hr at the main gate according to METI (ministry of industry of trade)

PMT identified need to update the source term for modeling. A Melcor transpacific model needs to be worked, shows about 4.5rem iodine to children. Interagency agreed on a model last night. We have requested NARAC to make changes showing 70% core damage vice the 33% damage assumed previously. We are trying to ensure that the overconservativism errors in the 4.5 Rem does not get issued.

Staff will lead a logistical team in Japan to help US agencies and industry with support.

Inpo confirmed they have one million KI pills from ANBEX.

PMT contiiuing to develop reentry plans for short term reentry for retrievel of personal effects.

(below) From the NRC FOIA documents: Transamerica model shows 4.5 REM to thyroid of infants in California.

MR. ZIMMERMAN: Yes, and just to throw a value at you to let you know why the concern is so high is that, that Transamerica (phonetic) model guy from ScottOut (phonetic) is talking four and a half

REMs is a thyroid for infants in California.

CHAIRMAN JACZKO: Right.

MR. ZIMMERMAN: So I think that's a high priority for us to get our arms around.

CHAIRMAN JACZKO: Yes.

(below) From the NRC FOIA documents: modeling suggests up to 35 REM thyroid dose to children in Alaska and 4.9 thyroid dose to children in Midway. Remember, modeling was based on short durations of 4-5 days of emissions. In the NRC FOIA documents, there is proof that emanations were ongoing well into the month of April, 2011. Recently, TEPCO announced a 'mystery steam' coming from Unit 3.

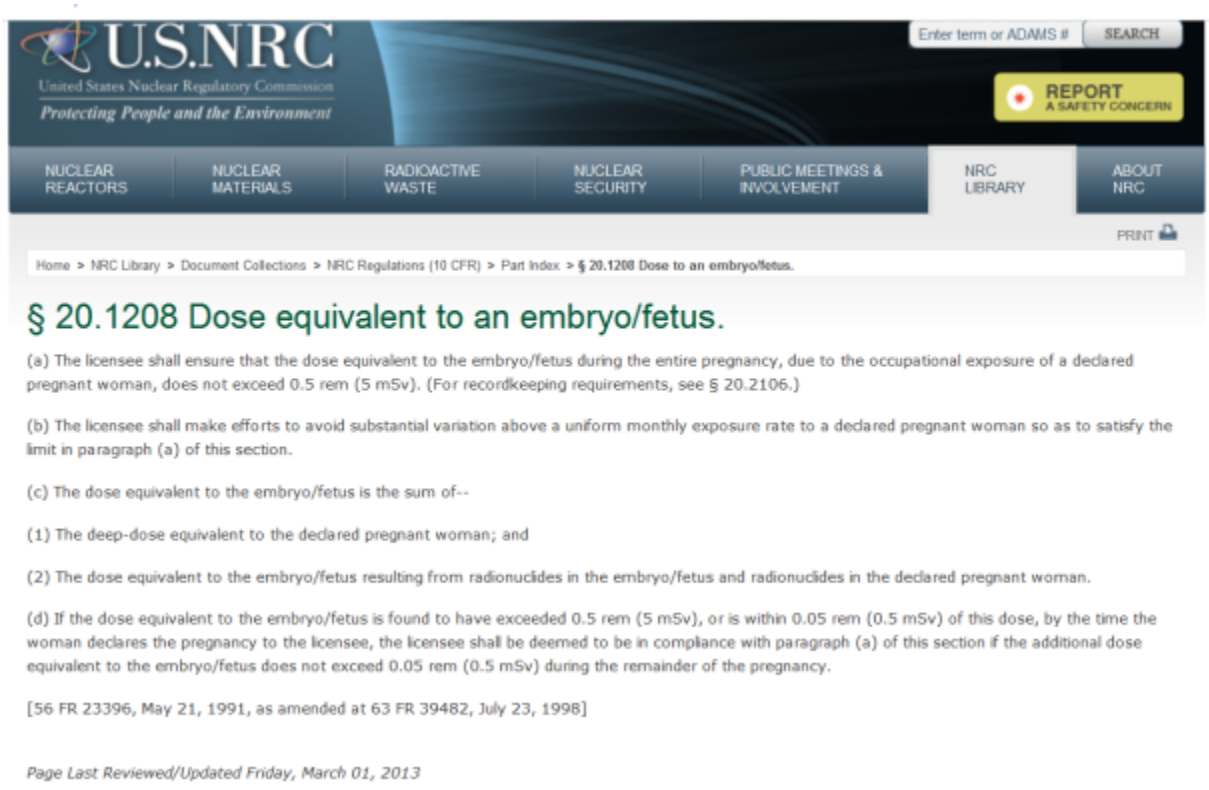
MR. WEBBER: We did get some new information. We got the results of the NARAC (phonetic) run for the plausible bounding scenario that we were working on yesterday and that Steve and Charlie talked about yesterday (b)(5)

(b)(5)

While they show that throughout the United States, the total effective dose tags would not be exceeded, it does show concern with respect to thyroid doses. In Alaska, up to 35 FAR rem for a one-year-old child projected thyroid dose. And that's for a northeast wind. And also up to 6.4 in Alaska for the thyroid dose for the one-year-old for an eastern wind. And in Midway, if the winds are from or to the east would show a dose up to 4.9 rems to the thyroid for a one-year-old child.

We are working through the interagency to understand and peer review those results. And also

(below) From the NRC website: .5 REM allowed to the fetus of a pregnant Nuclear Power Plant employee.



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

Enter term or ADAMS # SEARCH

REPORT A SAFETY CONCERN

NUCLEAR REACTORS | NUCLEAR MATERIALS | RADIOACTIVE WASTE | NUCLEAR SECURITY | PUBLIC MEETINGS & INVOLVEMENT | NRC LIBRARY | ABOUT NRC

PRINT

Home > NRC Library > Document Collections > NRC Regulations (10 CFR) > Part Index > § 20.1208 Dose to an embryo/fetus.

§ 20.1208 Dose equivalent to an embryo/fetus.

(a) The licensee shall ensure that the dose equivalent to the embryo/fetus during the entire pregnancy, due to the occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 mSv). (For recordkeeping requirements, see § 20.2106.)

(b) The licensee shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman so as to satisfy the limit in paragraph (a) of this section.

(c) The dose equivalent to the embryo/fetus is the sum of--

(1) The deep-dose equivalent to the declared pregnant woman; and

(2) The dose equivalent to the embryo/fetus resulting from radionuclides in the embryo/fetus and radionuclides in the declared pregnant woman.

(d) If the dose equivalent to the embryo/fetus is found to have exceeded 0.5 rem (5 mSv), or is within 0.05 rem (0.5 mSv) of this dose, by the time the woman declares the pregnancy to the licensee, the licensee shall be deemed to be in compliance with paragraph (a) of this section if the additional dose equivalent to the embryo/fetus does not exceed 0.05 rem (0.5 mSv) during the remainder of the pregnancy.

[56 FR 23396, May 21, 1991, as amended at 63 FR 39482, July 23, 1998]

Page Last Reviewed/Updated Friday, March 01, 2013

Fatality Studies: Ultimately, the US will pay a heavy toll from the effects of the radioactive plume and fallout. Conservative estimates range around 1.3 million American fatalities by the year 2030. Evidence from Chernobyl fallout indicates latent cancers did not manifest in significant numbers until 5-10 years after the event. It is important to note that all three of the fatality studies I refer to are congruent with one another i.e.: they have similar methodology and results. In the case of the bird study, the scientist in question discovered an increased mortality rate in young birds from Chernobyl fallout in 1986.

(below) From the initial Sherman/Mangano study**: the estimate of 13,983 deaths was later revised to 22,000.**

The Nuclear Industry and Health

AN UNEXPECTED MORTALITY INCREASE IN THE UNITED STATES FOLLOWS ARRIVAL OF THE RADIOACTIVE PLUME FROM FUKUSHIMA: IS THERE A CORRELATION?

Joseph J. Mangano and Janette D. Sherman

The multiple nuclear meltdowns at the Fukushima plants beginning on March 11, 2011, are releasing large amounts of airborne radioactivity that has spread throughout Japan and to other nations; thus, studies of contamination and health hazards are merited. In the United States, Fukushima fallout arrived just six days after the earthquake, tsunami, and meltdowns. Some samples of radioactivity in precipitation, air, water, and milk, taken by the U.S. government, showed levels hundreds of times above normal; however, the small number of samples prohibits any credible analysis of temporal trends and spatial comparisons. U.S. health officials report weekly deaths by age in 122 cities, about 25 to 35 percent of the national total. Deaths rose 4.46 percent from 2010 to 2011 in the 14 weeks after the arrival of Japanese fallout, compared with a 2.34 percent increase in the prior 14 weeks. The number of infant deaths after Fukushima rose 1.80 percent, compared with a previous 8.37 percent decrease. Projecting these figures for the entire United States yields 13,983 total deaths and 822 infant deaths in excess of the expected. These preliminary data need to be followed up, especially in the light of similar preliminary U.S. mortality findings for the four months after Chernobyl fallout arrived in 1986, which approximated final figures.

(below) From the Bobby1 fatality index study**: Conservative estimate shows over 1.3 million American fatalities from Fukushima fallout.**

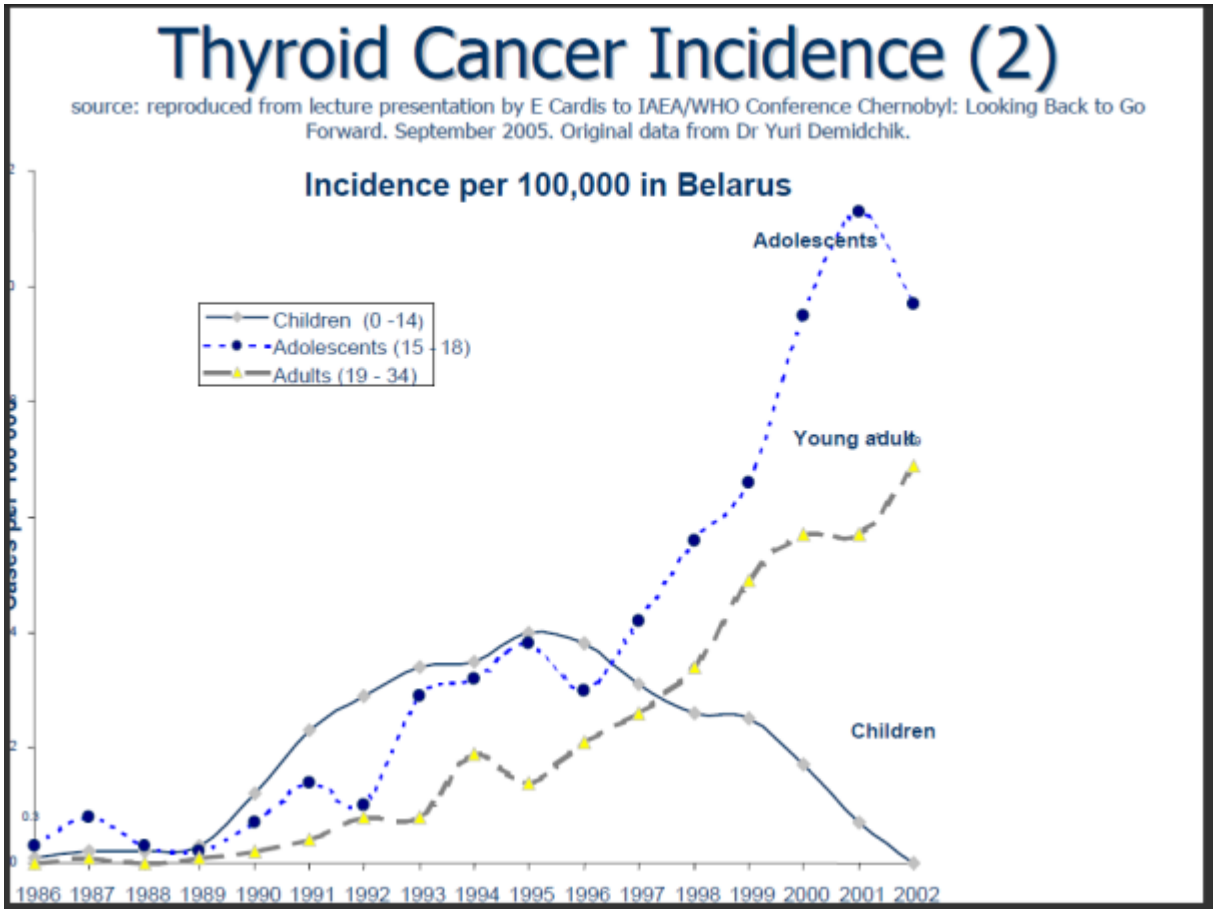
THE FUTURE If the current increase in the mortality rate continues at its current pace, well over one million deaths will occur by the year 2031. Table 5 summarizes the cumulative deaths in the U.S. for selected time periods.

Table 5. Cumulative deaths in the U.S. for future years assuming current death rate.

Year	Cumulative Deaths
2012	65,592
2016	327,960
2021	655,920
2031	1,311,840

Of course, the health effects of radiation exposure usually do not appear until 5-20 years after the exposure, and the death rate may increase dramatically in coming years. Figure 3 displays the incidence of thyroid cancer per year in Belarus following the Chernobyl disaster in 1986. The current data analyzed here corresponds to one-third of the way between 1986 and 1987.

(below) Also [from the Bobby1 study:](#) **left axis is partially obscure but reads in intervals of 2 (0,2,4,6,8,10,12) per 100,000. Note the delayed effect. If this chart is accurate, the worst is yet to come.**



(below) Another study from the Sherman/Mangano team**…this one reveals elevated trends in hypothyroidism among newborns in Pacific/west Coast States.**

OPEN ACCESS

Elevated airborne beta levels in Pacific/West Coast US States and trends in hypothyroidism among newborns after the Fukushima nuclear meltdown

PDF (Size:127KB) PP. 1-9 DOI: 10.4236/ojped.2013.31001

Author(s)
Joseph J. Mangano, Janette D. Sherman

ABSTRACT

Various reports indicate that the incidence of congenital hypothyroidism is increasing in developed nations, and that improved detection and more inclusive criteria for the disease do not explain this trend entirely. One risk factor documented in numerous studies is exposure to radioactive iodine found in nuclear weapons test fallout and nuclear reactor emissions. Large amounts of fallout disseminated worldwide from the meltdowns in four reactors at the Fukushima-Dai-ichi plant in Japan beginning March 11, 2011 included radioiodine isotopes. Just days after the meltdowns, I-131 concentrations in US precipitation was measured up to 211 times above normal. Highest levels of I-131 and airborne gross beta were documented in the five US States on the Pacific Ocean. The number of congenital hypothyroid cases in these five states from March 17-December 31, 2011 was 16% greater than for the same period in 2010, compared to a 3% decline in 36 other US States ($p < 0.03$). The greatest divergence in these two groups (+28%) occurred in the period March 17-June 30 ($p < 0.04$). Further analysis, in the US and in other nations, is needed to better understand any association between iodine exposure from Fukushima-Dai-ichi and congenital hypothyroidism risk.

KEYWORDS
Congenital Hypothyroidism; Fukushima-Dai-Ichi; Iodine; Nuclear

Cite this paper
J. Mangano, J. and D. Sherman, J. (2013) Elevated airborne beta levels in Pacific/West Coast US States and trends in hypothyroidism among newborns after the Fukushima nuclear meltdown. *Open Journal of Pediatrics*, **3**, 1-9. doi: 10.4236/ojped.2013.31001.

References

[1] Guthrie, R. (1963) A simple phenylaline method for detecting phenylketonuria in large populations of newborn infants. Pediatrics, 32, 338-343.

Chapter 3

The Cover-Up

"I have to challenge everybody because you must, at some point in your life, learn to think or you are doomed." ~William 'Bill' Cooper

Shut up, we're being recorded: Freedom of Information subversion by the NRC

One of my most popular broadcasts on BlogTalkRadio was one where I voiced my concern that the ability for the Nuclear Regulatory Commission to respond to Fukushima, or any meltdown for that matter, was hampered by the fact that many of their employees know they are being recorded and are thus unwilling to speak freely and openly. They are keenly aware that their conversations and emails, through the Freedom of Information Act, may be subject to scrutiny at a later date and that this recorded correspondence might reflect poorly on the nuclear industry (or even serve to incriminate someone). In short, the resulting response to a nuclear disaster will be neither economical, nor efficient. Imagine your local fireman being unable to speak openly with his partner as they try to extinguish the blaze consuming your home. There are other ways to subvert the Freedom of Information Act to be sure. 'Blizzarding' leaves researchers to comb through an untold number of pages that are dumped online all at once. To make it even more difficult, most NRC FOIA documents sport duplicate information; phone conversations, emails, reports, graphs and charts…are found doubled and even sometimes tripled in the same file. These tactics are designed to slow the flow of information from the NRC FOIA documents to the American public. Redaction is another means to subvert the Freedom of Information Act. You might say that the NRC is 'going to town' with the redaction these days. It can't be due to design secrets of the infamous Mark I containment model. That would be like redacting the 'secrets' of the old Chevy Corvair, which Ralph Nadar crusaded against because it was so dangerous of a car to drive. Interestingly enough, lots of redaction can be found when they are discussing the worst-case-scenario and Navy ships. Do solar power companies redact and subvert their documentation?

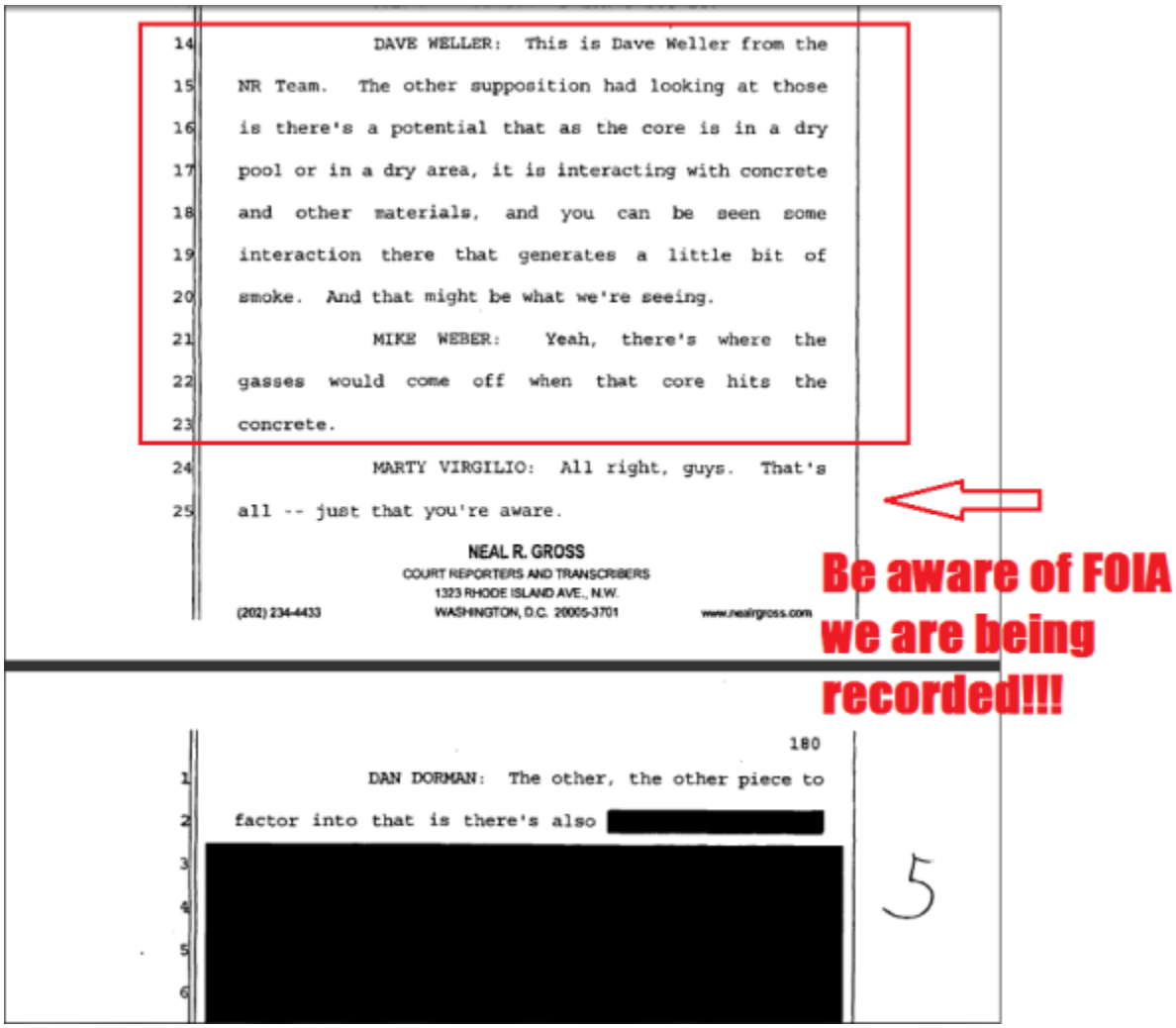
(below) From the NRC FOIA documents: Politically sensitive information? Take it offline!

MR. DORMAN: Mike, this is Dan. No. No, we're not planning any press release with this information. This was a projection that we were requested to run. Separate from our being requested to run that, we got this DOE briefing package that had this other DITTRA run in it, and we're not -- I don't know what prompted theirs or all of the assumptions that went into theirs, but it obviously caught our attention and we are looking to get what we think would be more realistic projections.

Other questions?

MS. HOWE: Dan, just one comment, and Rob. This is Linda Howe in Region IV. Rob, I can talk with you offline about some background information for California. The DITTRA and DOE runs for California may have been prompted by queries from the state, because the state has been conducting interagency conference calls, and DOE, EPA, HHS, has been part of those calls. Our regional state liaison officer is also monitoring that, but there is some background that is politically sensitive that I can share with you offline.

(below) From the NRC FOIA documents: when Dave Weller and Mike Weber begin to describe the sublimation process Marty Virgilio is there to keep them in check.



DAVE WELLER: This is Dave Weller from the NR Team. The other supposition had looking at those is there's a potential that as the core is in a dry pool or in a dry area, it is interacting with concrete and other materials, and you can be seen some interaction there that generates a little bit of smoke. And that might be what we're seeing.

MIKE WEBER: Yeah, there's where the gasses would come off when that core hits the concrete.

MARTY VIRGILIO: All right, guys. That's all -- just that you're aware.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

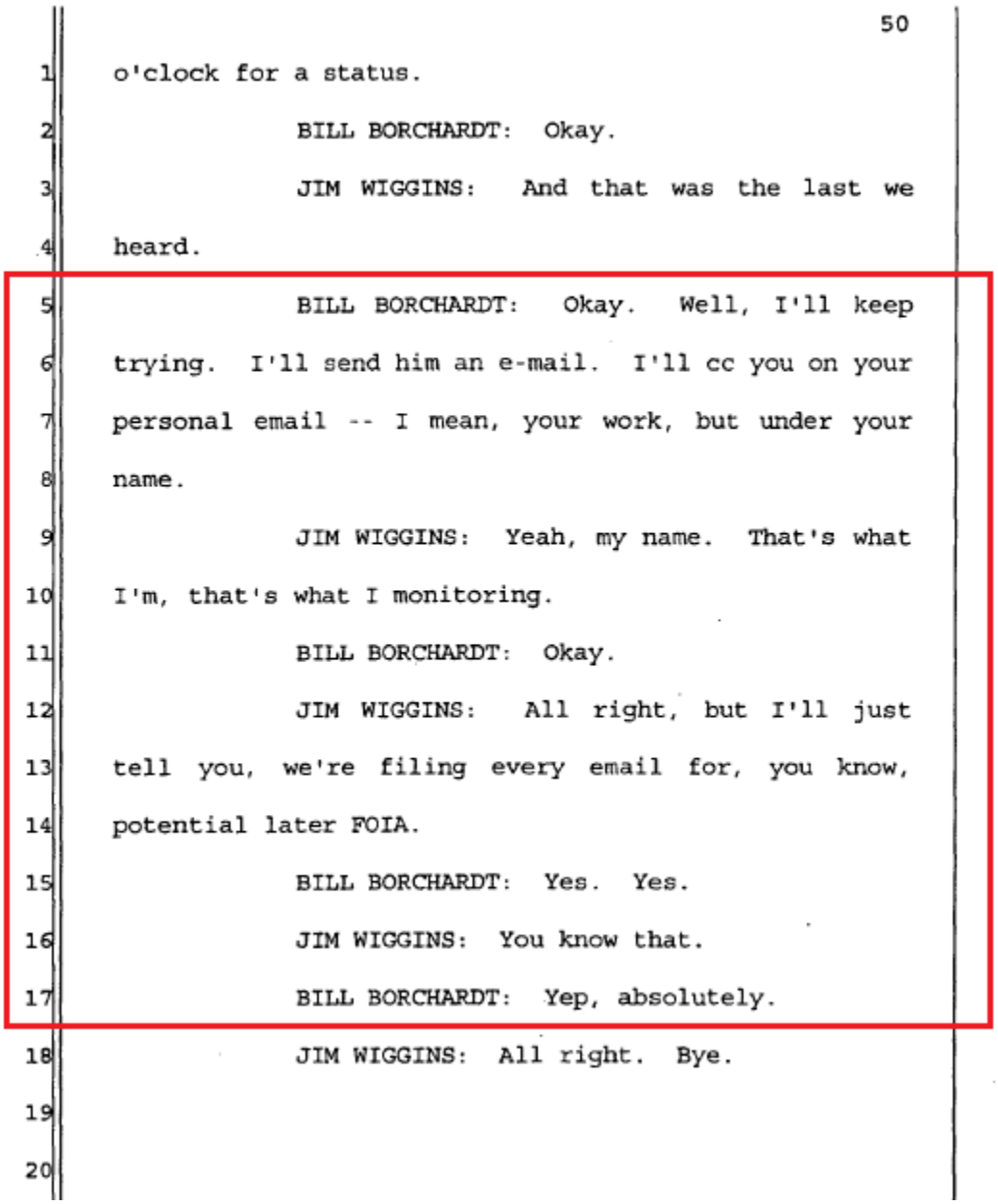
Be aware of FOIA we are being recorded!!!

180

DAN DORMAN: The other, the other piece to factor into that is there's also [redacted]

5

(below) From the NRC FOIA documents: a warning about the Freedom of Information Act.



o'clock for a status.

BILL BORCHARDT: Okay.

JIM WIGGINS: And that was the last we heard.

BILL BORCHARDT: Okay. Well, I'll keep trying. I'll send him an e-mail. I'll cc you on your personal email -- I mean, your work, but under your name.

JIM WIGGINS: Yeah, my name. That's what I'm, that's what I monitoring.

BILL BORCHARDT: Okay.

JIM WIGGINS: All right, but I'll just tell you, we're filing every email for, you know, potential later FOIA.

BILL BORCHARDT: Yes. Yes.

JIM WIGGINS: You know that.

BILL BORCHARDT: Yep, absolutely.

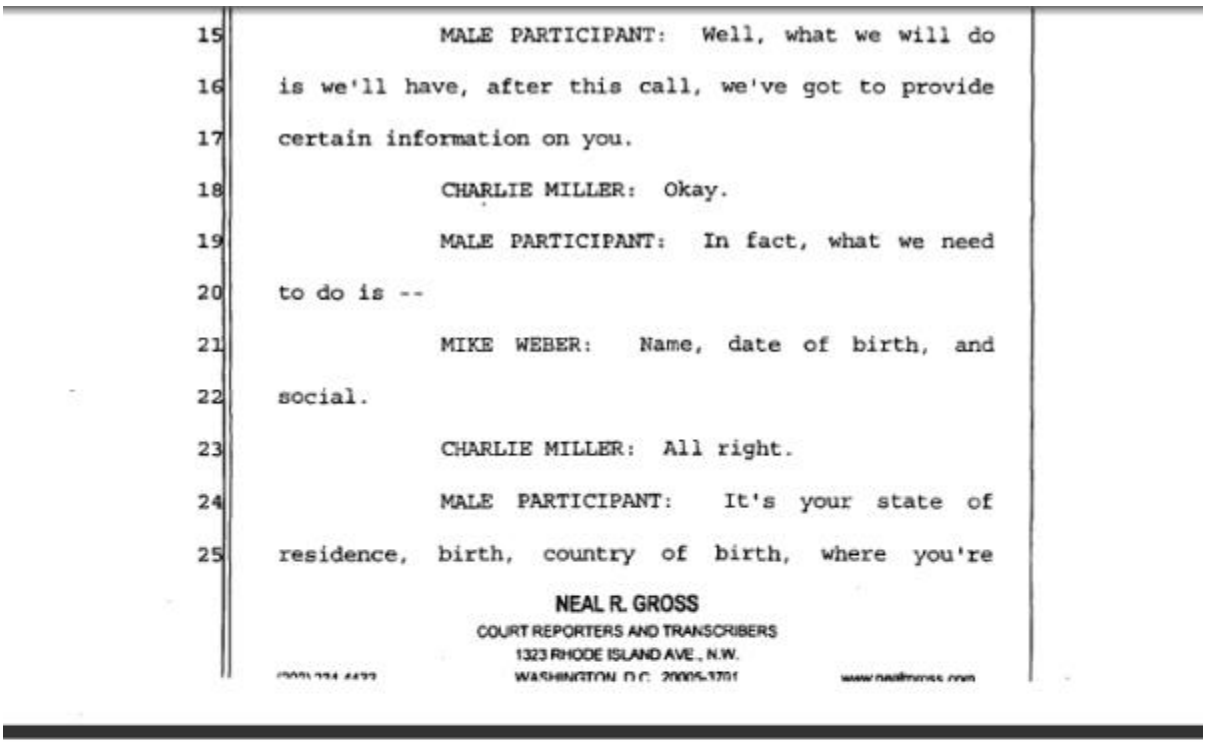
JIM WIGGINS: All right. Bye.

(below) From the NRC FOIA documents: the truth hurts…because of FOIA "we cannot function."

From: Wegner, Mary
Sent: Wednesday, March 23, 2011 1:19 PM
To: Beasley, Benjamin
Subject: RE: Urgent FOIA Request on Japanese Event

I strongly protest to this request if it means that the communications I have with you, with other RES personnel, and with Clearinghouse personnel are subject to FOIAs. If our private communications cannot be kept private, we cannot function.

(below) From the NRC FOIA documents: evidence of a 'non-recorded line'.



MALE PARTICIPANT: Well, what we will do is we'll have, after this call, we've got to provide certain information on you.

CHARLIE MILLER: Okay.

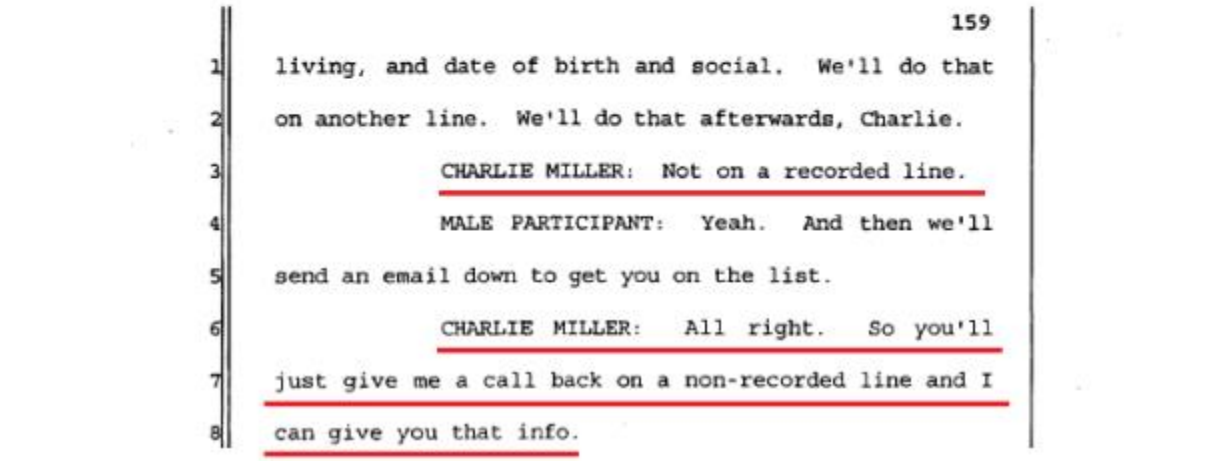
MALE PARTICIPANT: In fact, what we need to do is --

MIKE WEBER: Name, date of birth, and social.

CHARLIE MILLER: All right.

MALE PARTICIPANT: It's your state of residence, birth, country of birth, where you're

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.



159

living, and date of birth and social. We'll do that on another line. We'll do that afterwards, Charlie.

CHARLIE MILLER: Not on a recorded line.

MALE PARTICIPANT: Yeah. And then we'll send an email down to get you on the list.

CHARLIE MILLER: All right. So you'll just give me a call back on a non-recorded line and I can give you that info.

(below) From the NRC FOIA documents: Chairman Jaczko "…I'm not on a classified line."

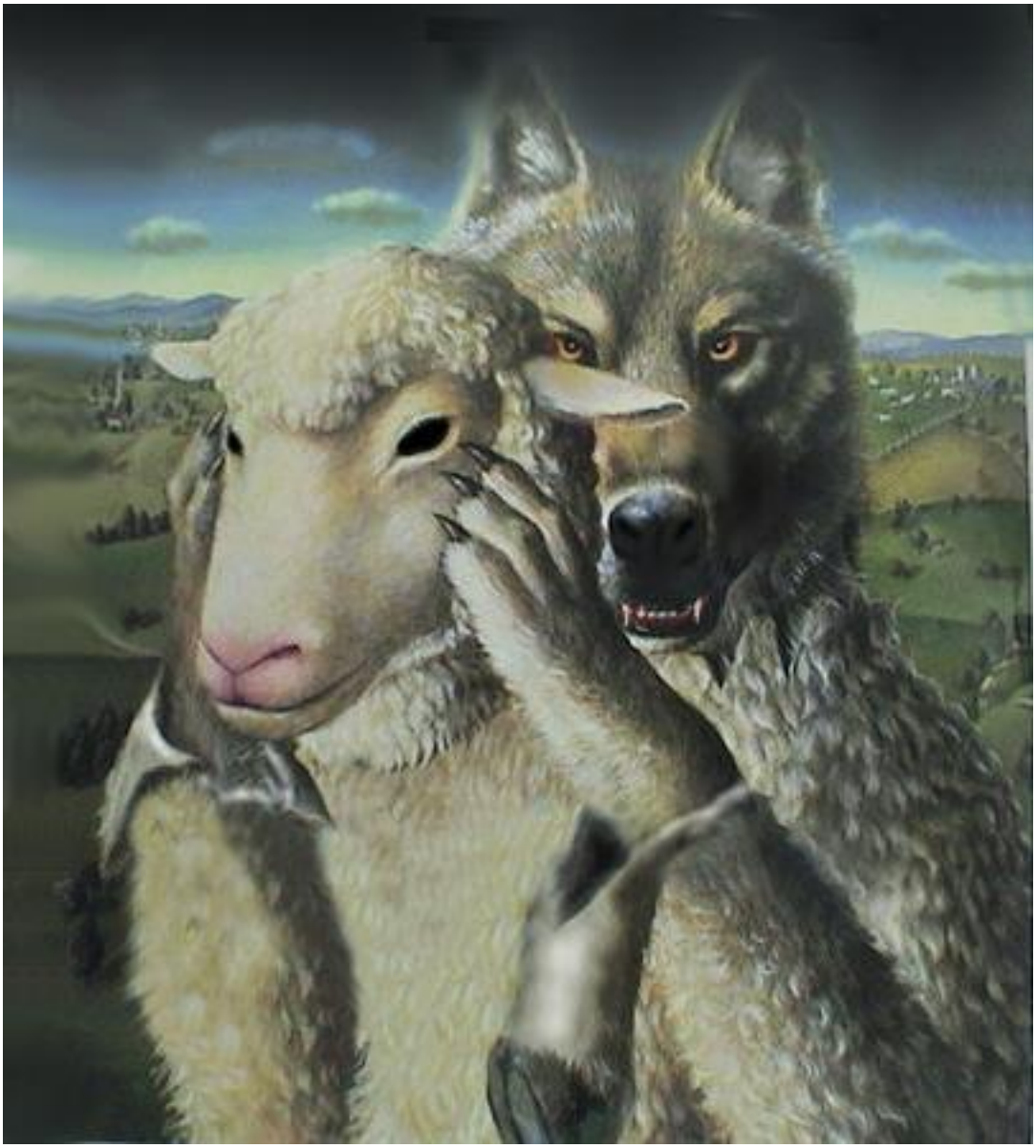
NRC CHAIRMAN JACZKO: Okay.

MARTY VIRGILIO: Information to you, Chairman, at the meeting --

NRC CHAIRMAN JACZKO: Marty, I'm not on a classified line.

MARTY VIRGILIO: Right. I understand.

Talking Points, Questions and Answers, and Press Releases: How the NRC Keeps the American public in the Dark



Cover-ups are all about control of information. In the case of Plume-Gate, the reality of nuclear power, the radioactive plume (both by air and sea) and fallout and the evidence of the conspiracy itself must be kept hidden from the American public at all costs. Of course, a small percentage of informed critical thinkers will never be fooled, but the simple fact is you don't have to fool everyone all the time. You only have to fool most of the people, most of the time.

(below) From the NRC FOIA documents: NRC officials are NOT allowed to have open, frank discussions about the Fukushima catastrophe with the general public, the media or even their colleagues…instead all calls and questions must be forwarded to those who will utilize pre-fabricated talking points, press releases and questions and answers.

From: Operations Center Bulletin
Sent: Friday, March 11, 2011 3:04 PM
To: Operations Center Bulletin
Subject: ***NRC IS RESPONDING TO AN EMERGENCY OUTSIDE OF THE UNITED STATES**
Importance: High

THIS IS NOT A DRILL.

The NRC and other Federal agencies are closely following an emergency occurring outside of the United States. Press releases about NRC actions are posted on www.nrc.gov. Information is also available on the NRC External Blog at: http://public-blog.nrc-gateway.gov . Employees contacted by the media are asked to refer the calls to the Office of Public Affairs at 301-415-8200

Two important reminders:

It is possible that some of us will be requested by colleagues in another country to provide technical advice and assistance during this emergency. It is essential that all such communications be handled through the NRC Operations Center. Any assistance to a foreign government or entity must be coordinated through the NRC Operations Center and the U.S. Department of State (DOS). If you receive such a request, contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) immediately.

If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

No response to this message is required.

THIS IS NOT A DRILL

"You can fool some of the people all the time, and those are the ones you want to concentrate on." ~G.W. Bush

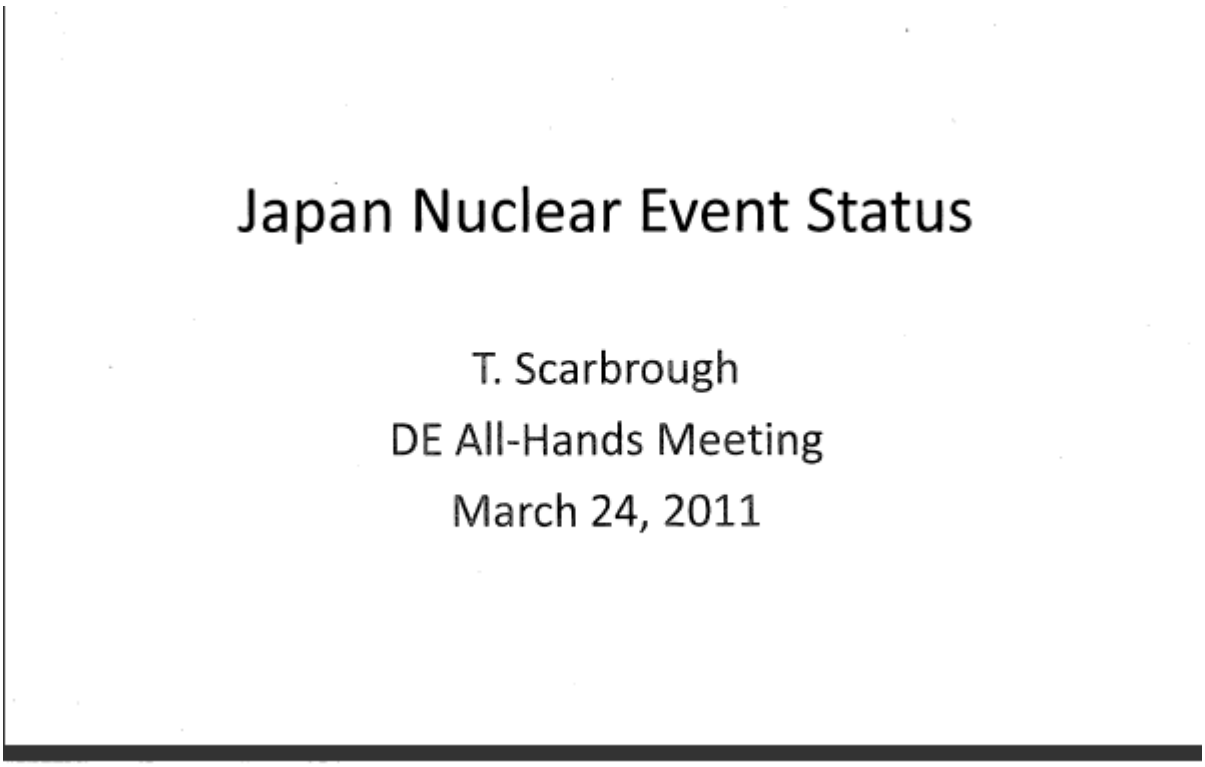
Generally speaking, when it comes time for authorities to speak with the public, there are three main tactics used to control the flow of information:

1) **Talking Points**: we're all way too familiar with talking points by now. Talking points are meant to control the subject of a conversation, perhaps steering us towards a lesser, superficial issue and avoiding the main cause of a problem altogether. Talking points are a guide. Following them will lead you away from incriminating information about the establishment.

2) **Questions and Answers**: Q and As are all about control of the question AND control of the answer. When an investigator or reporter is unable to ask a question of his or her own design then free press is truly dead. Also, the answer to the question has been carefully prepared and has been formulated to be the least damaging or revealing answer possible. Think back to any Presidential election in America. Remember the 'town hall' sessions where the public was allowed to ask the candidate a question? Those questions are selected from a list of possible questions that have been pre-screened by the candidate himself/herself. You are NOT allowed to ask President Obama about aerosol engineering and drought. You are NOT allowed to ask President Obama about Plume-Gate and the radioactive fallout and consequential sickness.

3) **Press Releases:** Think of a press release as a one-way street of information. Just like watching the mainstream news on TV at night. You can't talk back, you can't point out something is inaccurate and you can't ask a question. True or not, the information in a press release flows one way. Examples: I have provided below some examples of how effective talking points, questions and answers and press releases can be at controlling information. It is my opinion that this country is in dire need of a frank, open discussion about the subversion of the 1st amendment and what can be done to restore it. I said an open discussion…NOT a talking points or questions and answers session.

(below) From the NRC FOIA documents: world's apart….public and non-public information. If nuclear power is safe, why can't there be full disclosure?



Disclaimer

- Only public information is provided in this presentation
- Non-public information will not be discussed
- Information will likely change as more details are obtained

(below) From the NRC FOIA documents: talking points….share public portions only with US States.

Maier, Bill

From: Maier, Bill
Sent: Saturday, March 12, 2011 4:08 PM
To: Tifft, Doug; Logaras, Harral
Subject: SENSITIVE INTERNAL INFORMATION ATTACHED: FW: TALKING POINTS
Attachments: boardfile.docx

Here are the talking points – They are not approved for sharing with the states except orally (the public portions only).

From: LIA04 Hoc
Sent: Saturday, March 12, 2011 1:25 PM
To: McNamara, Nancy; Maier, Bill; Trojanowski, Robert; Barker, Allan
Cc: Virgilio, Rosetta; Turtil, Richard
Subject: TALKING POINTS

ATTACHED IS OFFICIAL USE ONLY - ONLY USE PUBLIC PORTION AS TALKING POINTS – DO NOT FORWARD

NOTE THAT **STATES ARE RECEIVING NRC PRESS RELEASES**; YOU SHOULD BE ABLE TO ACCESS THOSE VIA BLACKBERRY

Note that OPA is referring questions about monitoring to EPA. The NRC EPA has indicated that if there is a release, they will assume their role as lead agency under the national response framework.

(below) From the NRC FOIA documents: Q and A's for Senator Boxer in regards to MOX fuel risk.

From: Rihm, Roger
Sent: Friday, April 08, 2011 9:37 AM
To: Aissa, Mourad
Cc: Uhle, Jennifer; Sheron, Brian
Subject: QUESTION

Mourad, are you in today (I called but you were not at your desk). I'm contacting you because I have seen your name on MOX information previously provided to the chairman.

We are rushing today to wrap up some Qs and As for Senator Boxer. One question we had was the following: What increased risk is associated with exposure to MOX? At 10PM last night, the best answer we could come up with was the following:

Mixed oxide (MOX) fuel involves the use of plutonium as a fuel, in addition to enriched uranium. Plutonium is a long-lived alpha emitter, which presents different risks than those presented by uranium fission products. Regarding exposure to mixed oxide fuel, in Japan, prompt evacuation has minimized radiation exposure to the public, so long-term public health consequences from radiation exposure resulting from the events, whether due to MOX or uranium fuel, are expected to be small. Also, given the small number of MOX fuel assemblies at Fukushima Daiichi Unit 3 at the time of the event, coupled with the short time of irradiation of the MOX fuel, it is likely that the MOX fuel has had and will have no perceptible impact on any consequences from the event.

Do you have corrections/edits/additions to suggest for this response? Need to wrap this up by about 11AM. Thank you.

Roger S. Rihm
Communications and Performance Improvement Staff
Office of the Executive Director for Operations
US NRC

(below) From the NRC FOIA documents: Q&A Database…"Lot's of good questions, lot's of poor answers" says it all. Also note the "foia" response to let them know to tone it down, you are being recorded.

From: Replogle, George
Sent: Tuesday, April 12, 2011 3:50 PM
To: Munroe, Stacey
Subject: FW: NRR Q&A Database
Importance: High

foia

From: Qualls, Phil
Sent: Thursday, March 31, 2011 12:01 PM
To: Replogle, George; Melfi, Jim
Subject: FW: NRR Q&A Database
Importance: High

Lot of good questions, lots of poor answers.

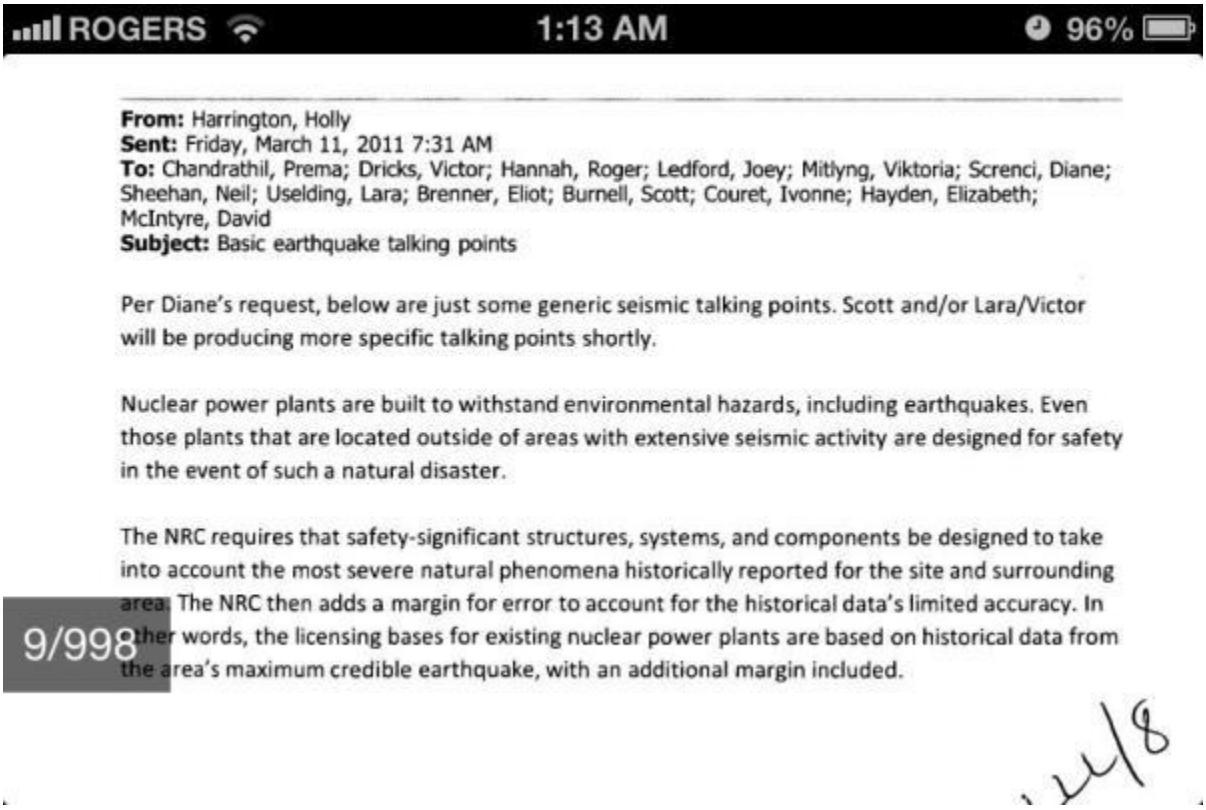
From: Cheok, Michael
Sent: Thursday, March 31, 2011 11:58 AM
To: NRR_DRA_AADB Distribution; NRR_DRA_AFPB Distribution; NRR_DRA_APLA Distribution; NRR_DRA_APOB Distribution; NRR_DRA_DO Distribution
Subject: FW: NRR Q&A Database
Importance: High

FYI – a good database for Qs & As for the Fukushima events.

From: Nelson, Robert
Sent: Thursday, March 31, 2011 12:46 PM
To: Leeds, Eric; Grobe, Jack; Boger, Bruce; Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Evans, Michele; Ferrell, Kimberly; Galloway, Melanie; Giitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Quay, Theodore; Ruland, William; Skeen, David; Thomas, Brian; Westreich, Barry
Subject: FYI: NRR Q&A Database
Importance: High

Up and running & populated with OPA approved Qs & As. EDO may announce in an EDO Update. Content control maintained by DORL. Link below.

(below) From the NRC FOIA documents: Fiction…"Nuclear power plants are built to withstand environmental hazards, including earthquakes."



ROGERS 1:13 AM 96%

From: Harrington, Holly
Sent: Friday, March 11, 2011 7:31 AM
To: Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David
Subject: Basic earthquake talking points

Per Diane's request, below are just some generic seismic talking points. Scott and/or Lara/Victor will be producing more specific talking points shortly.

Nuclear power plants are built to withstand environmental hazards, including earthquakes. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster.

The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data's limited accuracy. In other words, the licensing bases for existing nuclear power plants are based on historical data from the area's maximum credible earthquake, with an additional margin included.

9/998

(below) From the NRC FOIA documents: Reality: "…we likely will need to re-visit the issue of non-seismically qualified SFPs [spent fuel pools]…of which I recall there are many"

From: Holahan, Gary
Sent: Friday, March 18, 2011 7:53 AM
To: Virgilio, Martin
Subject: RE: comprehensive review

Marty,

I think this is right on target. In addition, for the long-term look, we likely will need to re-visit the issue of non-seismically qualified SFPs … of which I recall there are many. I alerted Eric to the non-seismic SFP fact yesterday.

Gary

From: Virgilio, Martin
Sent: Friday, March 18, 2011 2:29 AM
To: Borchardt, Bill
Cc: Weber, Michael; Leeds, Eric; Grobe, Jack; Boger, Bruce; Sheron, Brian; Wiggins, Jim; Dorman, Dan; Zimmerman, Roy; Miller, Charles; Haney, Catherine; Johnson, Michael; Johnson, Michael; Holahan, Gary
Subject: comprehensive review

Bill

I see from the press clips that the President has directed us to conduct a comprehensive review of the safety of the domestic fleet. I did not receive any turnover on that action.

I suggest we consider an approach that would focus on the risk around severe accidents, with a special emphasis on the adequacy of the severe accident management guidelines and 50.54hh2 (B5b) hardware, procedures and training.

An early alignment meeting with the lead office to ensure we agree on the approach will be beneficial.

Marty

(below) From the NRC FOIA documents: Reality: "..did the Japanese also consider an 8.9 magnitude earthquake and resulting tsunami "way too low a probability for consideration"?" AND "Look at GI-199 [a manual]. It shows we didn't know everything about the seismicity of CEUS [central eastern united states)"

From: Sheron, Brian
Sent: Monday, March 14, 2011 3:27 PM
To: Uhle, Jennifer; Coyne, Kevin; Case, Michael
Cc: Coe, Doug; Stutzke, Martin; Sancaktar, Selim
Subject: RE: Seismic and Tsunami Hazard in PRA

The question is, did the Japanese also consider an 8.9 magnitude earthquake and resulting tsunami "way too low a probability for consideration"?

Look at GI-199. It shows we didn't know everything about the seismicity of CEUS. And isn't there a prediction that a the West coast is likely to get hit with some huge earthquake in the next 30 years or so? Yet we relicense their plants.....

(below) From the NRC FOIA documents: Fiction: "Hawaii, Alaska, and the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity."

From: LIA04.Hoc@nrc.gov
To: katefuller@deq.gov.mp
CC: OST05.Hoc@nrc.gov; Bill.Maier@nrc.gov; Jared.Heck@nrc.gov; Mark.Satorius@nrc.gov; Cindy.Flannery@nrc.gov; Kim.Lukes@nrc.gov; Amanda.Noonan@nrc.gov; William.Rautzen@nrc.gov; Alison.Rivera@nrc.gov; Michelle.Ryan@nrc.gov; Richard.Turtil@nrc.gov; Rosetta.Virgilio@nrc.gov
Date: Wed, 16 Mar 2011 19:50:24 -0400
Subject: U.S. Nuclear Regulatory Commission Communication to Northern Mariana Islands

Thank you Ms. Fuller (Northern Mariana Islands) for your assistance in developing appropriate contacts within your government and with Guam and American Samoa. In response to the events in Japan, the attached U.S. Nuclear Regulatory Commission (NRC) press releases have been released by the NRC and can also be found at NRC's web site at www.nrc.gov.

These press releases reflect the following: In response to nuclear emergencies, the NRC works with other U.S. agencies to monitor radioactive releases and predict their path. All the available information continues to indicate Hawaii, Alaska, the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.

The NRC's web site will continue to be updated with press releases that address ongoing events in Japan.

Again, thank you for your assistance.

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

(below) From the NRC FOIA documents: Reality: "In Alaska, up to a 35 FAR rem for a one-year-old child projected thyroid dose." AND "...up to 6.4 in Alaska for the thyroid dose for the one-year-old for an eastern wind." (These were conservative estimates based on 4-5 days of emissions. I have hard proof of measured (not modeled) plumes over 60 kilometers long as late as March 30th, 2011 and beyond.)

MR. WEBBER: We did get some new information. We got the results of the NARAC (phonetic) run for the plausible bounding scenario that we were working on yesterday and that Steve and Charlie talked about yesterday (b)(5)

(b)(5)

While they show that throughout the United States, the total effective dose tags would not be exceeded, it does show concern with respect to thyroid doses. In Alaska, up to 35 FAR rem for a one-year-old child projected thyroid dose. And that's for a northeast wind. And also up to 6.4 in Alaska for the thyroid dose for the one-year-old for an eastern wind. And in Midway, if the winds are from or to the east would show a dose up to 4.9 rems to the thyroid for a one-year-old child.

(below) From the NRC FOIA documents: Reality: "...four and a half REMs is a thyroid for infants in California." (Again I remind you these projections were very conservative estimates based on 4-5 days of emissions.)

MR. ZIMMERMAN: Yes, and just to throw a value at you to let you know why the concern is so high is that, that Transamerica (phonetic) model guy from ScottOut (phonetic) is talking four and a half

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

REMs is a thyroid for infants in California.

CHAIRMAN JACZKO: Right.

MR. ZIMMERMAN: So I think that's a high priority for us to get our arms around.

CHAIRMAN JACZKO: Yes.

(below) From the NRC FOIA documents: Fiction: "...EPA is increasing monitoring." (The truthful part in the email below is that they are NOT supplying the location of the radioactive cloud)

From: Ridge, Christianne
To: Bonaccorso, Amy; Deavers, Ron
Subject: reply -- FW: Citizen Info
Date: Saturday, March 19, 2011 12:49:52 PM

Individual was concerned about news reports that "radioactive cloud" reached California. I replied with response #1 and indicated EPA is increasing its monitoring. Individual (as several others have) wanted to know more precisely where the cloud is. We are not supplying that information but just reiterate that we do not expect harmful levels.

From: Akstulewicz, Brenda
Sent: Saturday, March 19, 2011 12:35 PM
To: Ridge, Christianne
Subject: Citizen Info

Wayne Miller

[redacted]
(b)(6)

Wants info on radiation hitting california

(below) NOT FROM THE NRC FOIA DOCUMENTS: Reality: following the Fukushima disaster the EPA rigs the RADNET system. Also, much of the RADNET system is found to be inoperable at the time. Later, Obama would allow the permissible radiation threshold to be increased dramatically. (This screencapture is not from the NRC FOIA documents. Credit and special thanks go to Alexander Higgins.)

Follow me @ twitter

Alexander Higgins Blog Like 773

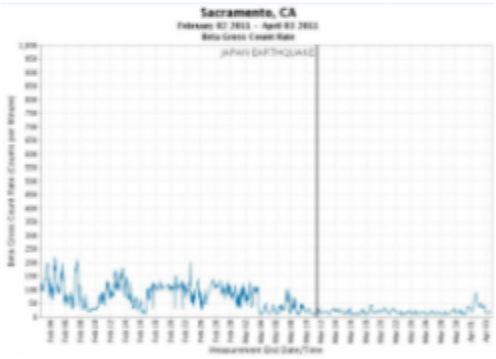
The Latest Buzz, Analysis, and News Without the Sn

Home Headlines Authors About Subscribe, Friend or Follow

Economy Environment Health Middle East Society Technology US Po

Confirmed: EPA Rigged RADNET Japan Nuclear Radiation Monitoring Equipment To Report Lower Levels Of Fukushima Fallout

Posted by **Alexander Higgins** - May 19, 2011 at 3:29 pm - **Permalink** - **Source** via **Alexander Higgins Blog**



2 +1 428 Share 3 56 Tweet

The EPA re-calibrated (rigged) Japan nuclear radiation monitoring equipment causing them to report lower levels of radioactive fallout after the Fukushima nuclear meltdown than what was detected before the disaster.

I recently programmed an application to pull **all of the EPA radiation monitoring graphs for all major US cities** and complied them into an easy to use web interface. Of course we took the data being reported with a grain of salt under the suspicion that the Feds were fiddling with the results.

Now, an investigative report looking into why the much of the EPA radiation monitoring equipment was offline when the Fukushima nuclear meltdown occurred reveals that EPA has in fact rigged radiation monitoring equipment to report lower values of radiation.

Examples of Questions and Answer's:

9. Should people in Japan take KI?

Public Answer: The Japanese people should listen to the public authorities in Japan regarding protective actions. KI – potassium iodide – is one of the protective measures that might be taken in a radiological emergency in this country. We do not know if this measure is necessary or appropriate in the Japanese situation.

Additional, technical non-public information.
There are a range of protective measures that we use … the most effective is evacuation. Government officials are responsible for determining the best means to protect their public. KI is another means for protection but evacuation and sheltering are the primary means that is used.

(below) From the NRC FOIA documents: the reality about KI is that the same ones who say it's not that important are the same ones who don't want to go to Japan without it. I cover this issue in greater detail in Chapter 5 (page 304).

Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art; Croteau, Rick; Munday, Joel; Christensen, Harold; Jones, William
Subject: RE: Info: Possible request wrt KI

Thanks Elmo – we had provided a "stash" of KI for Chuck to carry along with him, but he inadvertently left it in his office. I'll ask our guys (Steve – your action) to interface with yours and share as much as we can.

Vic
From: Collins, Elmo
Sent: Wednesday, March 16, 2011 2:33 PM
To: Satorius, Mark; Dean, Bill; McCree, Victor; Wiggins, Jim
Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art
Subject: Info: Possible request wrt KI

All

Chuck Casto had a layover here in Texas on his way to Japan. In the hurriedness of getting on the plane, he found that he might not have been equipped as he needed to be, especially wrt KI. So, Region IV gave all our KI (53 packets) to Chuck for use in Japan, along with dosimeters and pocket dosimeters. So, Region IV finds itself without an immediate stash of KI for use if we had to send a site team.

Needless to say, given the high demand for KI, it is difficult to purchase on the open market.

Your staff will likely be contacted to see if we can beg, borrow, or steal enough packets of KI in order to equip a site team.

Thank you for your cooperation and generosity.

Elmo

(below) Another Q and A from the NRC FOIA documents.

7. What happens when/if a plant "melts down"?

Public Answer: In short, nuclear power plants in the United States are designed to be safe. To prevent the release of radioactive material, there are multiple barriers between the radioactive material and the environment, including the fuel cladding, the heavy steel reactor vessel itself and the containment building, usually a heavily reinforced structure of concrete and steel several feet thick.

Additional, technical, non-public information:
The melted core may melt through the bottom of the vessel and flow onto the concrete containment floor. The core may melt through the containment liner and release radioactive material to the environment.

(below) From the NRC FOIA documents: Gregory Jaczko: 'Let's delete the non public piece related to new reactors.'

From: Jaczko, Gregory
To: Harrington, Holly
Cc: Brenner, Eliot; Hayden, Elizabeth; Borchardt, Bill
Subject: Re: Q&As
Date: Saturday, March 12, 2011 8:12:38 PM

Let's delete the non pubic piece related to new reactors. The public statement is all we need for that item at this time

From: Harrington, Holly
To: Jaczko, Gregory
Cc: Brenner, Eliot; Hayden, Elizabeth
Sent: Sat Mar 12 19:57:42 2011
Subject: Q&As

These are the current Q&As with both answers suitable for the public and additional technical information. We expect these will continue to evolve.

Holly Harrington

(below) From the NRC FOIA documents: the American public is not being informed of the facts.

11. Will this incident affect new reactor licensing?

Public Answer: It is not appropriate to hypothesize on such a future scenario at this point.

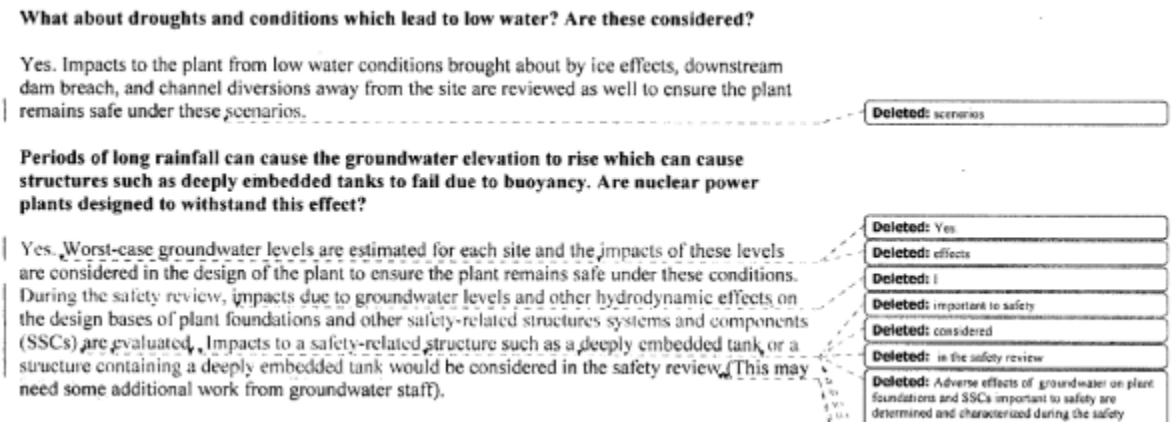
Additional, technical non-public information:
This event could potentially call into question the NRC's seismic requirements which could require the staff to re-evaluate the staff's approval of the AP1000 and ESBWR design and certifications.

1) Below is an example of how a particular Question and answer is modified to be as innocuous as possible:

Periods of long rainfall can cause the groundwater elevation to rise which can cause structures such as deeply embedded tanks to fail due to buoyancy. Are nuclear power plants designed to withstand this effect?

Yes. Worst-case groundwater levels are estimated for each site and the effects of these levels are considered in the design of the plant to ensure the plant remains safe under these conditions. (This may need some additional work from groundwater staff).

2) The answer is too revealing and technically inaccurate. Note how the word 'yes' is slated to be removed and later the word 'considered' as well.



What about droughts and conditions which lead to low water? Are these considered?

Yes. Impacts to the plant from low water conditions brought about by ice effects, downstream dam breach, and channel diversions away from the site are reviewed as well to ensure the plant remains safe under these scenarios.

Deleted: scenarios

Periods of long rainfall can cause the groundwater elevation to rise which can cause structures such as deeply embedded tanks to fail due to buoyancy. Are nuclear power plants designed to withstand this effect?

Yes. Worst-case groundwater levels are estimated for each site and the impacts of these levels are considered in the design of the plant to ensure the plant remains safe under these conditions. During the safety review, impacts due to groundwater levels and other hydrodynamic effects on the design bases of plant foundations and other safety-related structures systems and components (SSCs) are evaluated. Impacts to a safety-related structure such as a deeply embedded tank or a structure containing a deeply embedded tank would be considered in the safety review. (This may need some additional work from groundwater staff).

Deleted: Yes
Deleted: effects
Deleted: l
Deleted: important to safety
Deleted: considered
Deleted: in the safety review
Deleted: Adverse effects of groundwater on plant foundations and SSCs important to safety are determined and characterized during the safety

3) The new Q and A is now ready. It is as generic as possible with the least amount of incriminating/revealing information.

Groundwater Questions re Nuclear Power Plant Safety

Mark McBride 3/18/11

Periods of long rainfall can cause the groundwater elevation to rise which can cause structures such as deeply embedded tanks to fail due to buoyancy. Are nuclear power plants designed to withstand this effect?

Groundwater buoyancy effects are considered in the design of nuclear power plants. These effects are well known, and are generally considered in the design of structures to be installed underground or that have underground components.

Generally speaking, the design of nuclear power plants must consider extreme natural phenomena, including high groundwater conditions, that might endanger the safe operation of the plant. The basis for this design consideration is given in 10 CFR 50, Appendix A, General Design Criterion 2:

(below) From the NRC FOIA documents: here is a discussion about talking points for US states in case they have questions.

MALE PARTICIPANT: Okay, I had a question and I guess I was still on mute when I asked the question.

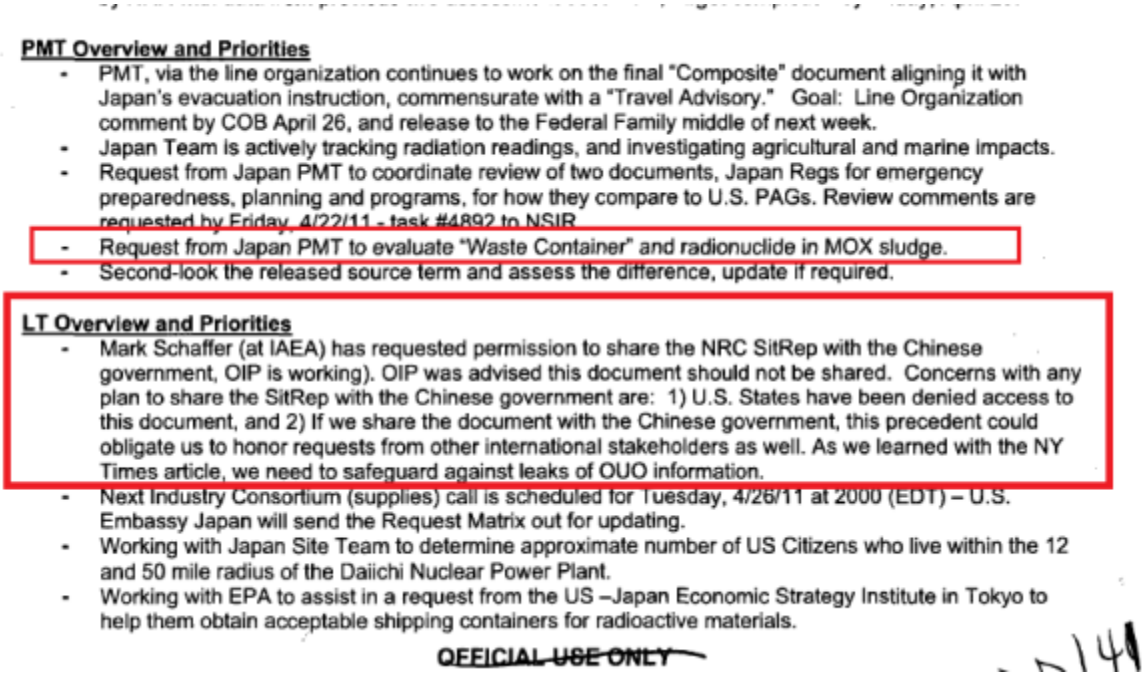
MR. VIRGILIO: Go ahead.

GREGORY: Yes. Earlier there were -- this is Gregory (inaudible) from SS&E (phonetic) by the way. Earlier there was some discussion about coordinating with the EPA and the protective measures team about some talking points in case the states have any questions. Has that work been done?

MR. VIRGILIO: Yes.

GREGORY: It has. Okay. All right. Thank you.

(below) From the NRC FOIA documents: American states were denied crucial information about the plume and fallout.



PMT Overview and Priorities

- PMT, via the line organization continues to work on the final "Composite" document aligning it with Japan's evacuation instruction, commensurate with a "Travel Advisory." Goal: Line Organization comment by COB April 26, and release to the Federal Family middle of next week.
- Japan Team is actively tracking radiation readings, and investigating agricultural and marine impacts.
- Request from Japan PMT to coordinate review of two documents, Japan Regs for emergency preparedness, planning and programs, for how they compare to U.S. PAGs. Review comments are requested by Friday, 4/22/11 - task #4892 to NSIR
- Request from Japan PMT to evaluate "Waste Container" and radionuclide in MOX sludge.
- Second-look the released source term and assess the difference, update if required.

LT Overview and Priorities

- Mark Schaffer (at IAEA) has requested permission to share the NRC SitRep with the Chinese government, OIP is working). OIP was advised this document should not be shared. Concerns with any plan to share the SitRep with the Chinese government are: 1) U.S. States have been denied access to this document, and 2) If we share the document with the Chinese government, this precedent could obligate us to honor requests from other international stakeholders as well. As we learned with the NY Times article, we need to safeguard against leaks of OUO information.
- Next Industry Consortium (supplies) call is scheduled for Tuesday, 4/26/11 at 2000 (EDT) – U.S. Embassy Japan will send the Request Matrix out for updating.
- Working with Japan Site Team to determine approximate number of US Citizens who live within the 12 and 50 mile radius of the Daiichi Nuclear Power Plant.
- Working with EPA to assist in a request from the US –Japan Economic Strategy Institute in Tokyo to help them obtain acceptable shipping containers for radioactive materials.

~~OFFICIAL USE ONLY~~

(below) From the NRC FOIA documents: Roger Witherspoon and the Case of the Puzzling Press Release Part 1

From: (b)(6)
Sent: Monday, March 14, 2011 12:22 AM
To: OPA Resource; Sheehan, Neil; Brenner, Eliot
Subject: Re: Revised -NRC Sees No Radiation at Harmful Levels Reaching U.S. From Damag...

Good Morning, Folks
this press release is, to put it mildly, puzzling. for starters:

1. what is it based on?
2. what do you know about releases from the Japanese reactors?
3. what modeling have you done?
4. how can you be certain that, in the event of a complete meltdown and exothermic fire, nothing harmful will arrive here?
5. who at the NRC made the decision that the spreading radiation is and will be harmless?

Roger Witherspoon

(below) From the NRC FOIA documents: Roger Witherspoon and the Case of the Puzzling Press Release Part 2: Only Eliot "While we know more than what these say, we're sticking to this story for now" Brenner can deflect the hard-nosed inquiries of Roger Witherspoon!

From: Burnell, Scott
To: OPA Resource; Couret, Ivonne; Akstulewicz, Brenda; Shannon, Valerie; Janbergs, Holly
Cc: Brenner, Eliot
Subject: RE: Revised -NRC Sees No Radiation at Harmful Levels Reaching U.S. From Damag...
Date: Monday, March 14, 2011 8:08:37 AM

All:

If Witherspoon calls (and I've no doubt he will), the response is "Eliot will be responding to you." No expected time. DO NOT GET INTO A DISCUSSION with him. Thanks.

Scott

From: OPA Resource
Sent: Monday, March 14, 2011 8:00 AM
To: Burnell, Scott
Subject: FW: Revised -NRC Sees No Radiation at Harmful Levels Reaching U.S. From Damag...

Liar, Liar: How NRC and other Agencies Present a United Front of Deception

"If you tell a lie big enough and keep repeating it, people will eventually come to believe it. The lie can be maintained only for such time as the State can shield the people from the political, economic and/or military consequences of the lie. It thus becomes vitally important for the State to use all of its powers to repress dissent, for the truth is the mortal enemy of the lie, and thus by extension, the truth is the greatest enemy of the State." ~Joseph Goebbels (German politician and Reich Minister of Propaganda in Nazi Germany from 1933 to 1945)

When police detain multiple suspects simultaneously, they are careful to separate each one and interrogate them alone. In this manner, the suspected criminals don't have an opportunity to 'get their story straight' or to 'prepare the lie' that they will later employ in an effort to avoid prosecution and punishment for their crimes. In the case of Plume-Gate, the world's largest provable cover-up, the criminals involved had the opportunity to not only 'get the story straight' but to discuss the fact that they needed to 'get the story straight'. In a disaster the size and scope of Fukushima it is logical that responders want to 'be on the same page' as far as sharing accurate, up to date information: this alone does not indicate a cover-up, conspiracy or criminal wrongdoing. However, when you consider ALL the evidence that Freedom of Information researchers have provided from the NRC documents pertaining to Fukushima, the issue of 'getting the story straight' is just one more piece of a puzzle that fits perfectly into the obvious picture of a massive, multi-agency cover-up.

(below) From the NRC FOIA documents: note that Ambassador Roos is getting info from DOE and AMS. In an upcoming screencapture you can see where the Ambassador was calling for a 'pessimistic scenario'. Were DOE and AMS pushing the 'least-worst-case-model'? Also note the term 'consolidated viewpoint'...it looks as if they don't want different versions of what happened at Fukushima circulating around.

25 CHUCK CASTO: This is Casto.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

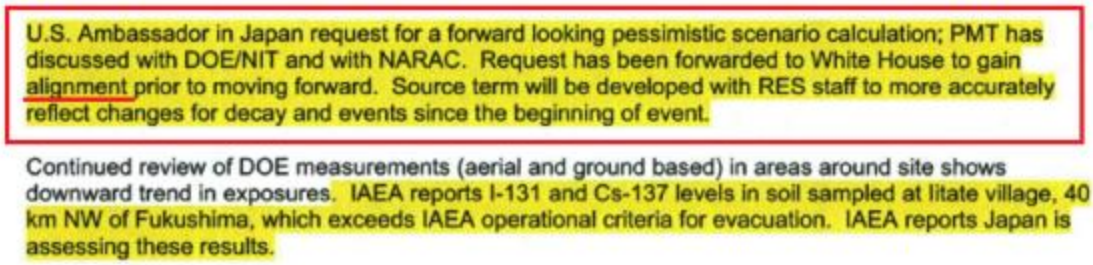
On the protective measures, I think the ambassador it's getting most, a lot of information from DOE and AMS, and they meet when we meeting. That's the meeting I just came back from.

So it was, it would be helpful if we work with DOE and come up with a consolidated viewpoint. And that has been -- DOE, you know, they had information at that meeting that I didn't have. And I, I would prefer the two teams work together to come up with a single -- so that we know what DOE's going to provide them every morning.

MARTY VIRGILIO: All right. So are you guys (audio interference).

LARRY CAMPER: Just for your awareness, Tony just handed me a couple of articles from the Wall Street Journal. It's amazing how people know this staff and we can't seem to get it. But it is what it

(below) From the NRC FOIA documents: Note the Ambassador is requesting a 'pessimistic scenario' and this request is forwarded up the chain of command to the White House for 'alignment' before being allowed. It looks as if they don't want anyone speaking out of turn. In certain cases plume models and situation reports (SITREP) were denied to U.S. states, stakeholders outside the U.S.A (NPP owner/operators) and China. It is critical you understand 'gaining alignment' means prior approval of the task being requested (often modeling of the plume/fallout) or approval of information to be released and thus a unified voice as a result.



U.S. Ambassador in Japan request for a forward looking pessimistic scenario calculation; PMT has discussed with DOE/NIT and with NARAC. Request has been forwarded to White House to gain alignment prior to moving forward. Source term will be developed with RES staff to more accurately reflect changes for decay and events since the beginning of event.

Continued review of DOE measurements (aerial and ground based) in areas around site shows downward trend in exposures. IAEA reports I-131 and Cs-137 levels in soil sampled at Iitate village, 40 km NW of Fukushima, which exceeds IAEA operational criteria for evacuation. IAEA reports Japan is assessing these results.

(below) From the NRC FOIA documents Part 1: the next screencapture is part 1 of a 3 part series. In this first segment there is a discussion taking place about information that has leaked and made its way to the Wall Street Journal. When Larry Camper says 'It's amazing how people know this staff and we can't seem to get it' he is referring to whoever leaked the information and the fact they should have known better. Sounds like the 'staff' does not have out best interest at heart...

LARRY CAMPER: Just for your awareness, Tony just handed me a couple of articles from the Wall Street Journal. It's amazing how people know this staff and we can't seem to get it. But it is what it is.

But it says that one spinach sample collected in the city Hitachinaka located about 120 kilometers south of the plant contained 8,420 Becquerel's per kilogram of iodine 131, according to the health administrator. The normal amount set by Japanese law is 2000 Becquerel's per kilogram, so roughly a factor of four over their legal limit.

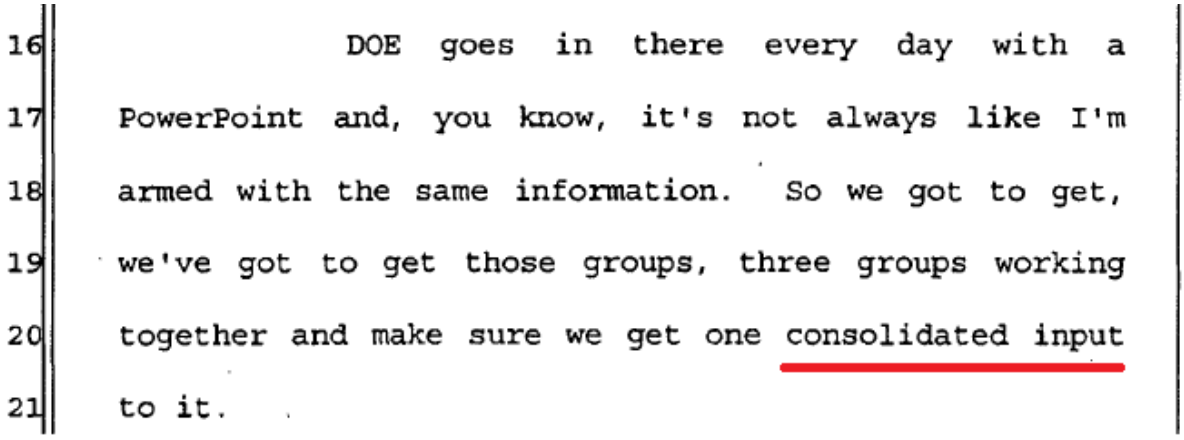
(below) From the NRC FOIA documents part 2: note the term 'consolidated input'.

And then in a separate article, it talks about in a raw, in raw milk samples, implying more than one, from a farm in a town of Kawamata in the Fukushima Prefecture, up to 1,510 Becquerel's per kilogram of iodine 131 were detected, about five times the limit of 300 Becquerel's per kilogram set by law. So I --

JOHN MONNINGER: What I think is maybe can have Jack Foster call the PMT to run through all this stuff.

CHUCK CASTO: Yeah, I mean the preferable method I tried to establish the other day was to get Jack Foster, the PMT, and DOE together and provide a consolidated input and, you know, PowerPoint briefing ready for the ambassador.

(below) From the NRC FOIA documents Part 3: note the term 'consolidated input'. They want to be sure they are all giving the Ambassador the same story. Whatever the story was it was a much less alarming picture of reality, so much less alarming the Ambassador felt he needed to request a 'pessimistic scenario' (see above).



DOE goes in there every day with a PowerPoint and, you know, it's not always like I'm armed with the same information. So we got to get, we've got to get those groups, three groups working together and make sure we get one consolidated input to it.

(below) From the NRC FOIA documents: this email explains that there is one official plume model provided by the IAEA and everyone is to refer to that. Please note that in my article (included in this complete work) *Seek and Destroy* I show where the NRC Cyber Security Team had several leaked plume models pulled from online.

From: Kenagy, W David
Sent: Saturday, March 12, 2011 12:44 PM
To: Kenagy, W David; 'McClelland, Vince'; 'Rodriguez, Veronica'; 'Heinrich, Ann'; 'Hoo1@nrc.gov'; 'Hoo2@nrc.gov'; 'wch@nrc.gov'; Shaffer, Mark A; 'DeCair.Sara@epamail.epa.gov'; 'timothy.greten@dhs.gov'; 'Maria.Marinissen@hhs.gov' (b)(6) 'doehqeoc@oem.doe.gov'; 'hhs.soc@hhs.gov'; 'James.Kish@dhs.gov'; 'hoo.hoc@nrc.gov'; 'Brooke.Smith@nrc.gov'
Subject: RE: IAEA Document RSMC Obinsk plume model

Correction in the subject of the previous distribution

David Kenagy commentary

Because there is reported to be a confirmed discharge from Fukushima I, regardless of whether it turns out to be a significant discharge or not something that may well begin to happen is that various government and nongovernment agencies around the world are going to start producing and distributing plume models. This is a map that describes where the radiation "plume" is going to travel. There will probably be a lot of variation in these maps and sometimes it takes some amount of experience to understand them. If there is a need to draw some conclusion about the plume I suggest that you rely exclusively on NRC and DOE.

Distribution of IAEA document:

(below) From the NRC FOIA documents: the NRC and other agencies withheld information (plume models etc.) from the U.S. states even though they made the claim that they "…did not expect harmful levels of radiation…". Samples from U.S. nuclear power plant 'rooftop grabs' were logged into the NEI's password protected database that only the 'Federal Family' has access to. If the plume, fallout and subsequent measurements were harmless, why is this information being hidden from us?

From: LIA06 Hoc
Sent: Monday, March 14, 2011 5:56 PM
To: Thaggard, Mark; LIA04 Hoc; Miller, Charles; Virgilio, Rosetta; Brenner, Eliot; Mroz (Sahm), Sara; Noonan, Amanda
Subject: RE: ACTION: Do States Require Additional Information?

This is email is primarily for Charlie and Rosetta, to close the loop. We discussed the need for providing consistent information to the States, via the RSLO's, with the Executive Team and the Chairman a few minutes ago. The Chairman directed us to coordinate with FEMA since they have an established relationship with the States. We settled on working with OPA to provide the information tailored to our best extent to the questions and concerns that would be expressed by the States, and provide to FEMA for awareness and commonality, and then the RSLO's for sharing.

A broad conference call with all States is not currently being contemplated, we'd like to see how providing a common set of information works first. Tim McGinty, LT Director

(below) From the NRC FOIA documents: this screencapture from the NRC FOIA documents show U.S. states (and other stakeholders) were denied the situation report for Fukushima (SITREP). If the disaster was insignificant, why is this information being withheld?

PMT Overview and Priorities

- PMT, via the line organization continues to work on the final "Composite" document aligning it with Japan's evacuation instruction, commensurate with a "Travel Advisory." Goal: Line Organization comment by COB April 26, and release to the Federal Family middle of next week.
- Japan Team is actively tracking radiation readings, and investigating agricultural and marine impacts.
- Request from Japan PMT to coordinate review of two documents, Japan Regs for emergency preparedness, planning and programs, for how they compare to U.S. PAGs. Review comments are requested by Friday, 4/22/11 - task #4892 to NSIR
- Request from Japan PMT to evaluate "Waste Container" and radionuclide in MOX sludge.
- Second-look the released source term and assess the difference, update if required.

LT Overview and Priorities

- Mark Schaffer (at IAEA) has requested permission to share the NRC SitRep with the Chinese government, OIP is working). OIP was advised this document should not be shared. Concerns with any plan to share the SitRep with the Chinese government are: 1) U.S. States have been denied access to this document, and 2) If we share the document with the Chinese government, this precedent could obligate us to honor requests from other international stakeholders as well. As we learned with the NY Times article, we need to safeguard against leaks of OUO information.
- Next Industry Consortium (supplies) call is scheduled for Tuesday, 4/26/11 at 2000 (EDT) – U.S. Embassy Japan will send the Request Matrix out for updating.
- Working with Japan Site Team to determine approximate number of US Citizens who live within the 12 and 50 mile radius of the Daiichi Nuclear Power Plant.
- Working with EPA to assist in a request from the US –Japan Economic Strategy Institute in Tokyo to help them obtain acceptable shipping containers for radioactive materials.

~~OFFICIAL USE ONLY~~

(below) From the NRC FOIA documents: if it's going to make waves, they want to approve it first. 'Share with others the need to respect OUO' (official use only)...ie: spread the word to keep your information to yourself unless it has been approved for the public..

3. ENSURE ALL EMAILS go to FOIA folder. LT team has task for each workstation send all sent and received email for the day at midnight each night. Action for 2300 to 0700 shift. Sent LIA06 emails to FOIA around 0915 on 4/10/11.

4. Meeting held on 4/7/11 to discuss NY Times article and the leak of the RST document. NRC is on the hook to provide lessons learned and corrective actions in the next CIVITS (sp?) call. Gave the ET a draft of talking points on 4/7/11 to be used for the next CIVITS meeting. Sent tickler email on 4/10/11 to Roy Zimmerman, Marty Virgilio, Mike Weber, and ET01 to get comments on the draft talking points so that Task Tracker #4181 can be closed. See email from Roy Zimmerman at 18:45 indicating note is sufficient at this time. Not clear if sufficient to close out Task Tracker # 4181.

5. From ET Director: 1) make sure that any documents issued that have big P policy implications, e.g., could lead to major decisions, are passed by the ET before sending out, 2) look for opportunities to share with others the need to respect OUO. Sent reminder to all LT members 4/7/11.

(below) From the NRC FOIA documents: You can't get much more obvious than this one...note the phrase 'stay aligned'.

MALE PARTICIPANT: I had something else.

FEMALE PARTICIPANT: NEI call?

MALE PARTICIPANT: Marty asked me to call NEI. That's when I stepped out before.

MIKE CASE: Okay.

MALE PARTICIPANT: Angela talked to Marty. Ralph Anderson talked to us today. NEI took our press release, of course, like everybody else, and they're very interested. NEI wants to stay aligned with us. They don't want to be speaking and somehow

saying something different than we -- they want to stay aligned. In order to be able to do that, they want to be able to have communication with us so that we can talk with each other. And Eric went off, to leave to do that. I guess he talked to you?

(below) From the NRC FOIA documents: actually got more obvious: DOD and NRC are worried about a 'diverging perspective' regarding the 'current severity'...

Supported Chairman's attendance at the Principles Meeting. Some external concern (DoD, NRC) that a diverging perspective may have inadvertently been developed through various communications. This particular issues appears to be addressed, regarding the "current severity and need for expediency" of implementation of the US recommended SAMG actions.

(below) From the NRC FOIA documents: the 'one voice'.

DOE has agreed the US should reach out to Japan as one voice only. To facilitate this, DOE (Pete Lyons and Steve Aoki) were provided a summary of the 1000 industry consortium call. In addition, NRC/RES will participate in a DOE call everyday from 1700 to 1800. This will help facilitate the one voice. This will help facilitate the one voice. Chairman is continuing to work with others to establish a Senior level person as a focal point.

Flawed, Downplayed or Bungled Modeling: How the NRC Taught Me to Love the Plume

Throughout the NRC Freedom of Information documents pertaining to Fukushima there is quite a bit of discussion concerning modeling of the plume and fallout. In order to issue radiation warnings, knowledge of the plume's speed, direction and intensity must be known. This is done by way of computer analysis: the two fundamental variables being the *source term(s) data* (sources of radiation being emitted) and the *length of duration* that the emanations will last for. Other possible factors to consider are the type of fuel itself, such as the Mixed Oxide (MOX) fuel in Unit #3 (which is more dangerous than the standard fuel that was being utilized in Units 1-2), and certain atmospheric conditions such as wind speed and direction. The reality of the Fukushima disaster is that it WAS a worst-case-scenario for reactors 1-4. Consider the loss of electrical power for weeks on end and the initial 'Plan B' type of 'water-cannon-concrete-truck' cooling system response that NRC officials said was all but useless. How does it get worse than no cooling and no power for weeks?

(below) From the NRC FOIA documents: water cannons and helicopter water drops were not very effective…

You know, the stuff they're doing, you know, initially, the fire trucks and now, then they had the, the riot spray pumps, and then yesterday or, you know, probably about 36 hours ago, they brought in that airport super high-capacity remote unmanned pumper truck --

BRIAN SHERON: Yeah.

JOHN MONNINGER: -- and also the, the helicopters. All those systems are really not highly effective, or actually just marginally effective. And, you know, the problem is, I mean, we're shooting from so far away, you have incredible losses.

BRIAN SHERON: Right.

JOHN MONNINGER: I mean, just with that powdering, the dropout, et cetera. So that's, so that's all that. So, yes, we've been concerned with Unit 4 all along.

If one considers the source terms and length of emissions that a true ‘worst-case-scenario’ would represent, it is easy to understand why the NRC and DOE had to downplay, delay and purposefully bungle the modeling of the radioactive plume and fallout. As a result President Obama was able make the statement that experts did not expect harmful levels of radioactivity to reach the U.S. and thus there were no warnings or alerts issued for American citizens. Meanwhile, other countries as far away as France, did issue rainwater warnings and green leafy vegetable warnings as well.

At the end of the day the simple fact remains: the truth about Fukushima (especially as revealed in the NRC FOIA documents) and nuclear power cannot coexist. Until the day of the fateful earthquake and tsunami in Japan, the establishment had been effective at suppressing the truth about the nuclear industry, even after Chernobyl. But now the size and scope of the effects of Fukushima make it impossible to ignore that truth any longer. And now that truth is beginning to chip away at the foundation of lies upon which this toxic industry has been built. How much longer before that one crucial keystone is removed that will topple the entire structure?

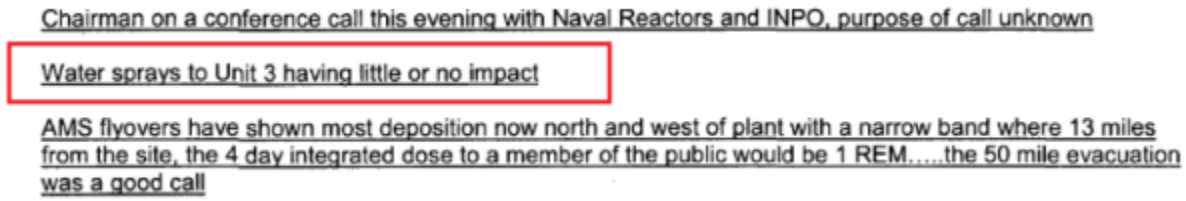
Tactics used to downplay modeling/sampling:

1) To reduce the size and intensity of plume and fallout models, simply reduce the length of duration of the source term(s), i.e.: reduce the length of time that radiation will be emitted from the damaged reactor(s). Throughout the NRC FOIA documents pertaining to Fukushima a 4-5 day emission period was considered for most of the modeling of the radioactive plume and fallout. What’s wrong with that? Over 2 years after the catastrophe there are still emissions by air and sea and no end in sight. If, as many experts suspect, we are facing a quadruple ‘China syndrome’ the radioactive effluents will continue to be released for many years.

2) To reduce the size and intensity of plume and fallout models, reduce the number of source terms. Of course with Fukushima, they knew right away that all power had been lost to Units 1-4 and that those units, without power or proper cooling for weeks on end, would all be source terms of a very high magnitude. The evidence shows that there were plenty of models circulating that downplayed the number of source terms, just like they did with the duration of emissions.

3) To reduce the intensity of plume and fallout models, simply delay taking measurements and samples until 24 hours after the initial criticality. A 24 hour delay will allow time for the plume (and higher concentrations found in the initial release) to blow away. Subsequent measurements in the same location will not be as high.

4) When a measurement or sample from the field is alarmingly high, simply question the veracity (methodology or type of test) and insist that another sample be taken to double-check the first. By the time that person can take another test, the concentrated plume that he or she sampled from originally has now shifted with the wind direction and the subsequent sample will naturally read much lower as the plume is no longer in the same place. The 2nd, much lower test result, will be the one utilized.


Chairman on a conference call this evening with Naval Reactors and INPO, purpose of call unknown

Water sprays to Unit 3 having little or no impact

AMS flyovers have shown most deposition now north and west of plant with a narrow band where 13 miles from the site, the 4 day integrated dose to a member of the public would be 1 REM.....the 50 mile evacuation was a good call

5) When it comes to sampling, choose only short lived radioactive isotopes such as Cesium and Iodide. Never test for long lived radioactive isotopes such as plutonium. The less number of radionuclides you sample for, the less alarming the result will be. 6) When sampling H2O, especially seawater from the ocean near Fukushima, take samples from the surface of the body of water and not from the sea floor. Heavy particulates which may be more radioactive, such as plutonium, will naturally sink to the bottom and can be avoided in this way. 7) When it comes to a 'worst-case-model', create a wide range of possible 'worst-cases' with one of them being the 'least-worst-case'. This is the one to promote. Although logic dictates there can only be one 'worst-case-model' the NRC and DOE are not the kind of agencies to let logic get in the way of their work protecting citizens and the environment (or our men and women in the armed forces for that matter). Now let's have a look at evidence obtained from the NRC Freedom of Information documents pertaining to Fukushima:

(below) From the NRC FOIA documents: note the date of April 12th, 2011 and the estimate of the radioactive discharge from Fukushima as being 10% of Chernobyl. At best this estimate is based on a month of releases and at worst (and most probably) 4-5 days.

To: PROTOCOLOFFICE-EM
Subject: Urgent:Circular from MOFA (12 April 2011)

URGENT (10:10) Tuesday12 April 2011

To All Missions (Embassies, Consular posts and International Organizations in Japan)

With regard to the accident at Fukushima Dai-ichi Nuclear Power Plant, the Nuclear and Industrial Safety Agency (NISA) has decided to raise nuclear accident severity level (provisional), according to the INES standard, to the highest level 7 (same as the accident at Chernobyl) from current level 5, based on the latest information gained.

The estimated total amount of radioactive material discharged into the air, however, is approximately 10 % of that of the accident at Chernobyl.

The press release will be issued around 11:00 am today, and details will be provided in today's daily briefing.

Contact: International Nuclear Energy Cooperation Division, Tel 03-5501-8227

(below) From the NRC FOIA documents: an IAEA briefing, also from April 12th: "Russia also (correctly) pointed out that the accident at Fukushima is still ongoing and it is premature to speculate how much radioactivity will be released..."

Questions from Member States
Member States asking questions today included Japan, Singapore, Korea, Russia and France.
Nearly all questions centered on more detail regarding the INES 7 rating. Singapore and Korea in particular wanted to know what member states "should be doing differently in response to the new rating." Despite DDG Flory's best efforts to explain that INES is meant to relay information based on scientific findings, not to describe conditions on the ground or real effects on human health or the environment, the member states continued to probe for what actions they should take in response to this "new" decision. Russia was also vocal in this discussion, stating that it is "not appropriate to compare accidents like Chernobyl and others, because this is not what the INES system is for." Russia also (correctly) pointed out that the accident at Fukushima is still ongoing and it is premature to speculate how much radioactivity will be released, in compassion to other accidents. Seemly, Russia was concerned with Japan's announced that the radioactive releases from Fukushima so far are only 10% of what Chernobyl released.
Russia also asked several questions about Japan's plans for "storing and/or containing" the massive amount of contaminated water that continues to be accumulated on site. DDG reminded member states that storage tanks, trenches and other means of containment are currently being completed on site, in hope that there will be adequate storage capacity to meet this need.

(below) From the NRC FOIA documents: again, please note the short duration of 96 hours for this modeling. Plumes were ongoing and TEPCO measured (not modeled) plumes over 60 kilometers long as late as March 30th, 2011.

The source term provided to NARAC was: (1) 25% of the total fuel in unit 2 released to the atmosphere, (2) 50% of the total spent fuel from unit 3 was released to the atmosphere, and (3)

OFFICIAL USE ONLY

OFFICIAL USE ONLY

Earthquake/Tsunami Status Update March 18, 2011 1800 EDT

100% of the total spent fuel was released to the atmosphere from unit 4. All 96 hour dose projections (Alaska, Hawaii, West Coast) are well below the 1 rem total effective dose (TED) Protective Action Guide (PAG) based on predicted Cs-137 deposition. Except for Alaska, all thyroid dose estimates are well below the EPA 5 rem PAG. The thyroid estimate is very conservative and does not consider intervention actions like distribution of potassium iodide, removing dairy cows from contaminated pastures, or interdicting milk or leafy vegetables contaminated with I-131.

(below) This screencapture is NOT from the NRC FOIA documents but is a headline from Enenews.com. Note that on July 18th, 2013 steam was seen emanating from Unit #3...over 2 years after the catastrophe emissions continue.

Alarm as steam rises from Fukushima No. 3 reactor — Concern about uncontrolled chain reaction — Contains highly lethal MOX fuel — Tepco: "We don't believe an emergency situation is breaking out" (VIDEO)

Published: July 18th, 2013 at 7:15 am ET
By ENENews

(below) This screencap is taken from a study by Sandia National Laboratories and is NOT from the NRC FOIA documents. Sandia does work with the NRC and DOE however. Note that they 'do not take into account the reactor building explosion at 68 hours'...why?

9.5.2 SNL Release of Fission Products

The MELCOR 2.1 simulation of the Unit 3 reactor predicts low overall fission product release to the environment (see Figure 61 from Section 4.3). The only substantial radionuclide release is the noble gas group. Approximately 86% of the noble gas group is released to the environment. The initial inventory of the noble gas group is 360 kg, which includes the radioactive elements xenon, krypton, and radon. Less than 1.0% of the other radionuclide classes are released to the environment. Currently, the calculated radionuclide releases do not take into account the reactor building explosion at 68 hours.

(below) From the NRC FOIA documents: there seems to be no hurry to run a worst case analysis and first they must define how they would do that analysis. Can they really be this discombobulated?

JACK: Okay. We have to be careful. We have not done yet a worst case analysis, and I'm not sure -- we're attempting right now to define how we would do such an analysis, and what we would offer as the worst case.

[redacted]

5

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.

(below) From the NRC FOIA documents: when the 'worst-case' isn't the worst-case.

JACK: Yes, it makes sense, except that (inaudible) talked about the fact that the assessment that was done was a hypothetical worst case. I mean, I think those are the words in it. I don't have it in front of me.

JACK: Yes, okay. Yes, it does say worst case analysis on a very bad. I would not consider that a worst case, to be quite honest with you, because it assumes only half of one of the spent fuel

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS

pools melted, and one spent fuel pool is okay. So, I wouldn't -- I think we had to use our language carefully here, and we'll work that up so that the next (inaudible) that comes out in 6:00 in the morning is better.

(below) From the NRC FOIA documents: waiting 'quite a while' on NARAC (National Atmospheric Release Advisory Center is tasked with plume modeling under the DOE) with no priority.

MALE PARTICIPANT: Josh, while we're waiting, if you get a chance to talk to the Chairman --

JOSH: Yes.

MALE PARTICIPANT: -- the request from our end, from the PMT, of course, you know, we are waiting for a lot to run through NARAC. We're not getting priority, you know, and so -- there's aerial data that -- the runs that we needed to have done, we are not get priority for it. So that's just an FYI. We've been waiting quite a while to get that back.

JOSH: Say it again exactly, how he would

(below) From the NRC FOIA documents: no priority from NARAC on dose projection as far as the East Coast.

say it.

MALE PARTICIPANT: Okay.

JOSH: We are not getting priority from --

MALE PARTICIPANT: We are not getting priority from NARAC through I guess NIT, which is -- this comes out of the Agostino (phonetic) shop, as I understand it.

JOSH: Okay.

MALE PARTICIPANT: And others are getting priority. Now, these may be requests from the White House or from NMSA, or whatever, but --

JOSH: Not get priority from NARAC to --

MALE PARTICIPANT: To get the runs done that we need to have done. They have put us in a queue, but others are higher in the queue. So we're not getting the information back that we need.

JOSH: For what? What is it that we're doing?

MALE PARTICIPANT: These are runs that are done to try to do dose projections out beyond 50 miles, including as far as the U.S. coast.

(below) From the NRC FOIA documents: "We'll get to them when we get to them."

MALE PARTICIPANT: Now, Josh, if they're prioritizing the runs they need to make assessments for Tokyo --

MALE PARTICIPANT: Right.

MALE PARTICIPANT: -- for the wind shift over the weekend --

MALE PARTICIPANT: Yes. But we don't know --

MALE PARTICIPANT: -- but we don't know.

MALE PARTICIPANT: We don't have enough information to know what is top priority in the queue and where we are in the queue.

JOSH: Okay.

MALE PARTICIPANT: We put a request in. They simply said, "We'll get to them when we get to them."

JOSH: Okay. But like I said, we don't need to go out to the U.S., because, at this point, that is being done by then.

(below) From the NRC FOIA documents: plume modeling "on hold" by NOAA.

- On 4/25, Ned Wright (NSIR) obtained information from a U.S. news report that the Navy is tracking floating debris fields and is going to follow up with Vince Holahan (FSME) to determine if they will monitor for radioactivity.
- Also on 4/25, from Ned Wright, information that NOAA was going to put the plume modeling on hold for 2 weeks. Ned contacted NOAA and NOAA said that it would take 2 weeks or more to do the analysis but that it was not on hold. The NOAA contact is going to get back to us.

(below) From the NRC FOIA documents: high doses or measurements are always questioned.

MALE PARTICIPANT: Unfortunately, what our concern is is the calculations are showing extremely high doses, and we don't think they are credible.

JOSH: No, no, no. They have -- that has been corrected.

MALE PARTICIPANT: Okay. Well, we hadn't seen that.

(below) From the NRC FOIA documents: more evidence of NARAC foot-dragging and 'five worst cases

source term was, was stated.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: But, again, I've seen (inaudible). They've agreed to run it.

CHAIRMAN JACZKO: Okay. Good. And remind me again what that is at this point. There's been so many back-and-forths on this.

JIM WIGGINS: Yeah. I, you know, I still won't let anybody use the word "worst case" in the room here --

CHAIRMAN JACZKO: Yeah.

JIM WIGGINS: -- because there's about five worst cases.

CHAIRMAN JACZKO: Right.

(below) From the NRC FOIA documents: the President's worst case scenario was based on 4-5 days of emissions.

JIM WIGGINS: What, what's the, the president's case?

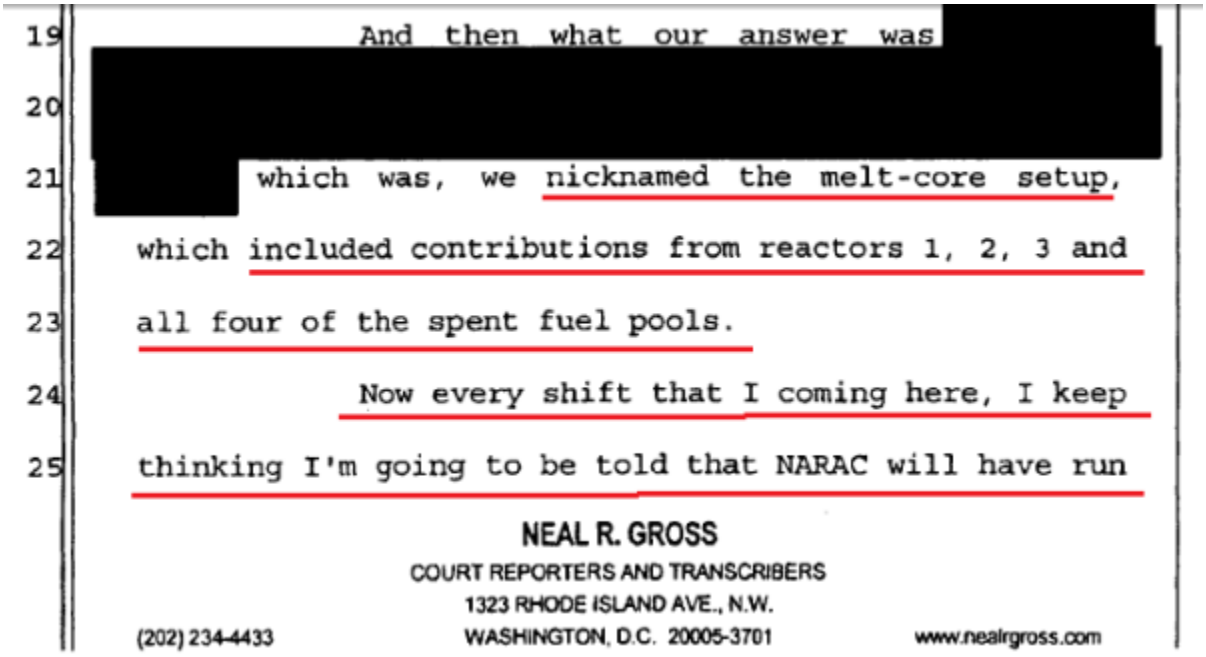
MALE PARTICIPANT: It's, it's bounding. It includes the, the fuel in the three reactors, the fuel in four spent fuel pools. It does not include the common spent fuel pool around Unit 4 nor reactors 5 and 6 or any spent fuel pools there. And it's assumed, a release based over a four- to five-day day period --

CHAIRMAN JACZKO: Okay.

(below) From the NRC FOIA documents: 'angst' by 'folks' about 'the source term'.

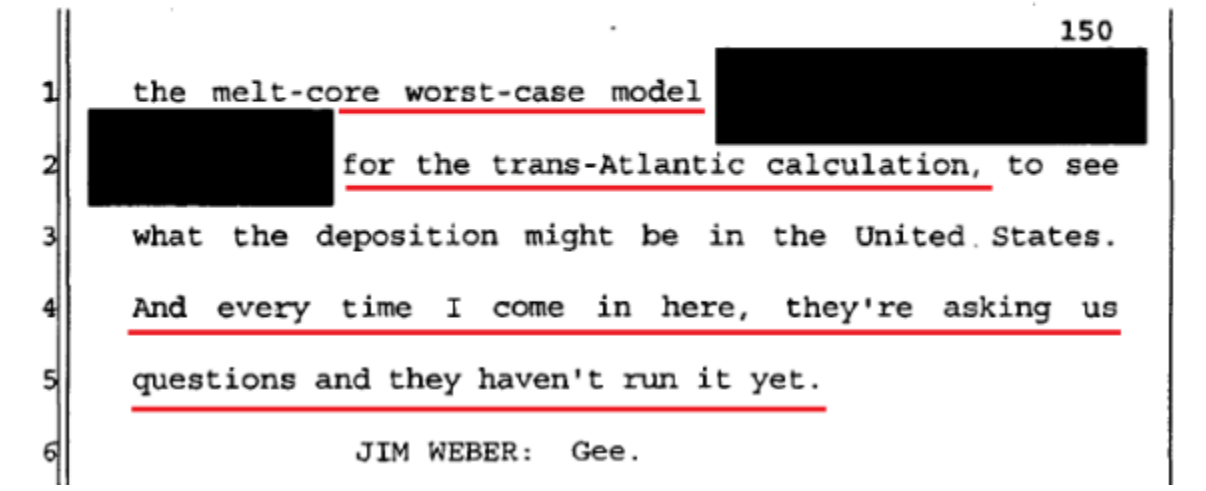
MARTY VIRGILIO: We've been in this ongoing back-and-forth where we've have had -- dare I say criticism; I'm trying to be nice -- some real angst apparently by folks about what went into the source term, why we made that assumption, and while we have tried to patiently explain it back and forth, there seems to be at least still some mixing of what we did as a realistic worst case, which has some of reactor 2, all of spent fuel 4 and half of spent fuel 3 in order to try and do our protective action. That was the base for the press release that went out on Wednesday. [redacted]

(below) From the NRC FOIA documents: even more NARAC foot-dragging.



And then what our answer was [redacted] which was, we nicknamed the melt-core setup, which included contributions from reactors 1, 2, 3 and all four of the spent fuel pools.

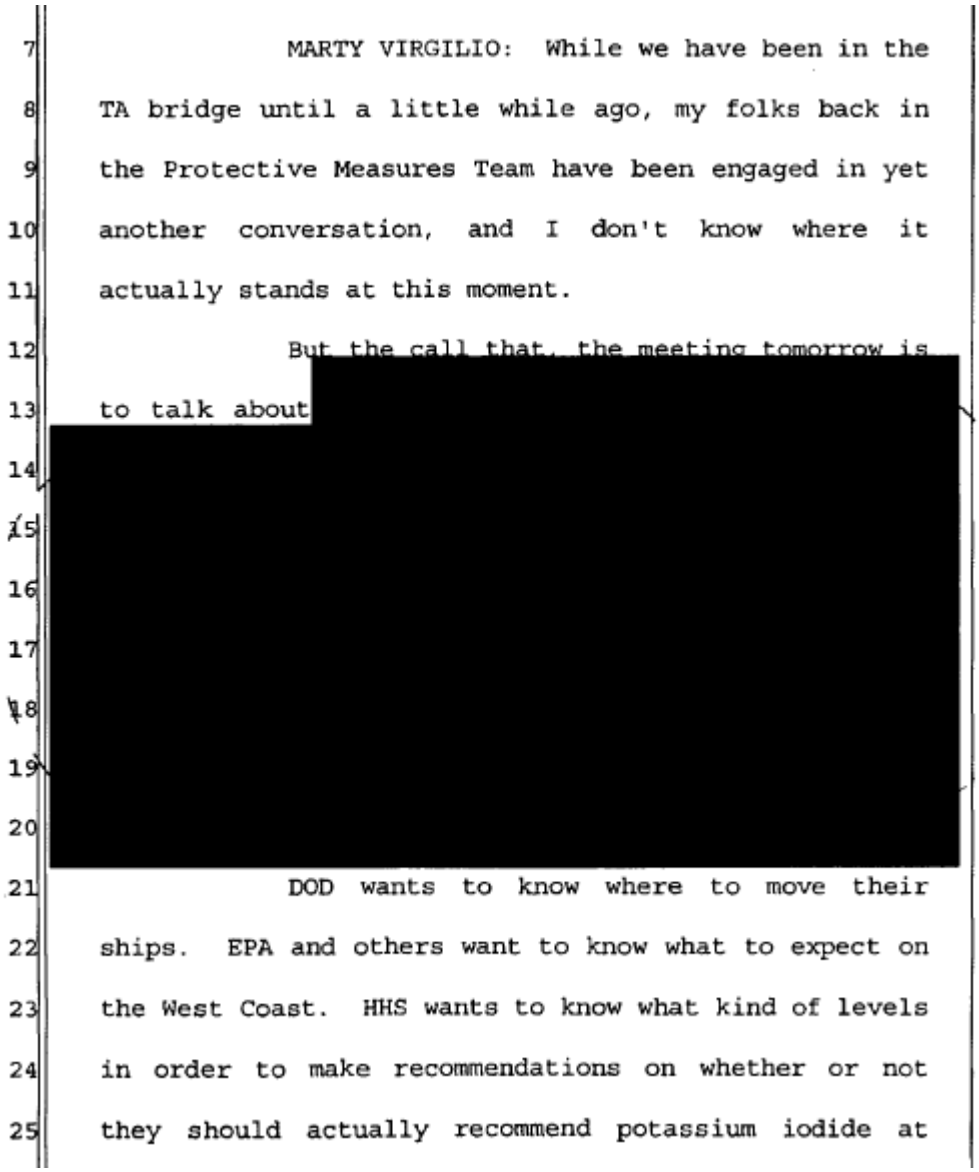
Now every shift that I coming here, I keep thinking I'm going to be told that NARAC will have run



the melt-core worst-case model [redacted] for the trans-Atlantic calculation, to see what the deposition might be in the United States. And every time I come in here, they're asking us questions and they haven't run it yet.

JIM WEBER: Gee.

(below) From the NRC FOIA documents: here's what's riding on these plume and fallout models.



MARTY VIRGILIO: While we have been in the TA bridge until a little while ago, my folks back in the Protective Measures Team have been engaged in yet another conversation, and I don't know where it actually stands at this moment.

But the call that, the meeting tomorrow is to talk about [redacted]

DOD wants to know where to move their ships. EPA and others want to know what to expect on the West Coast. HHS wants to know what kind of levels in order to make recommendations on whether or not they should actually recommend potassium iodide at

some point. And it goes sort of on and on.

[redacted] I would hope that a ~~success~~ would be that in the end, there is a (inaudible) agreement high enough up that my folks wouldn't continue to bang their heads against the telephone back and forth with folks at our level about what assumptions are, and they would actually do some calculations for us.

(below) From the NRC FOIA documents: more 'angst'...about moving naval ships.

CHARLIE MILLER: If, if you're getting angst about moving naval ships and things like that, the worst-case scenario isn't necessarily the one you want to run.

MARTY VIRGILIO: Right, Charlie. This is what we're all thinking, that there's, you know, you run at least two cases.

CHARLIE MILLER: Yeah.

(below) From the NRC FOIA documents: delay on a worst-case run (model). Note the comment about undue influence.

CHARLIE MILLER: Right. So I guess the question is what, you know, what is it that they want run. I mean, do they still want this worst worst-case? If they want to scrap that, that's fine. You know, we just need to know where we're headed because it doesn't seem like we can ever get this worst-case run.

JOHN: Yeah, it's not only what is it they want but it's almost as if we want to influence what it is they want.

CHARLIE MILLER: Yeah.

MIKE WEBER: Well, we ought to be able to agree on worst-case is.

MARTY VIRGILIO: Yeah, I would think so.

(below) From the NRC FOIA documents: evidence that some runs (models) are not realistic.

CHARLIE MILLER: We have given, we have given NARAC what we think is the very conservative worst case [redacted] We gave them the input parameters; right?

MARTY VIRGILIO: That is correct. him And that's the one that -- so I could take that one and I could take anything you want me to have with me with regard to realistically what we think we should be doing for a run to meet those other needs with regard to real protective actions.

MIKE WEBER: Yes.

(below) From the NRC FOIA documents: 'melt-core' worst case model gets big numbers on the West Coast. No problem…call in specialist Kathy Gibson. She's a magician with a plume model and has almost as many of them as there are cards in a deck.

MIKE WEBER: And Charlie, did you see the point paper that I think Kathy Gibson worked on overnight?

CHARLIE MILLER: No. I haven't seen any of that.

MIKE WEBER: Yeah. That, as I recall reading it on my BlackBerry, has a whole series of different scenarios and it.

DON COOL: Yeah. Let me, let me explain that quickly. That got started when we said, if they, if NARAC runs the melt-core worst case, can you get big numbers on the West Coast? And what might be a more realistic way to model what might happen? And Kathy Gibson put together three different possible options for how you would do that.

There's a one-pager on that we have here, Charlie, that you could very quickly be able to go through. Kathy Gibson will be on duty from 11 to seven, so you would be able to interface with her and get the details from her on her thoughts on that if

(below) From the NRC FOIA documents: no one can agree on a worst case. Seriously?

CHARLIE MILLER: Right. And the way I look at it, guys, when it gets to the meteorology, we'll let the others deal with that because that goes beyond 50 miles. I think our stake in this is what input parameters do we go in to run it?

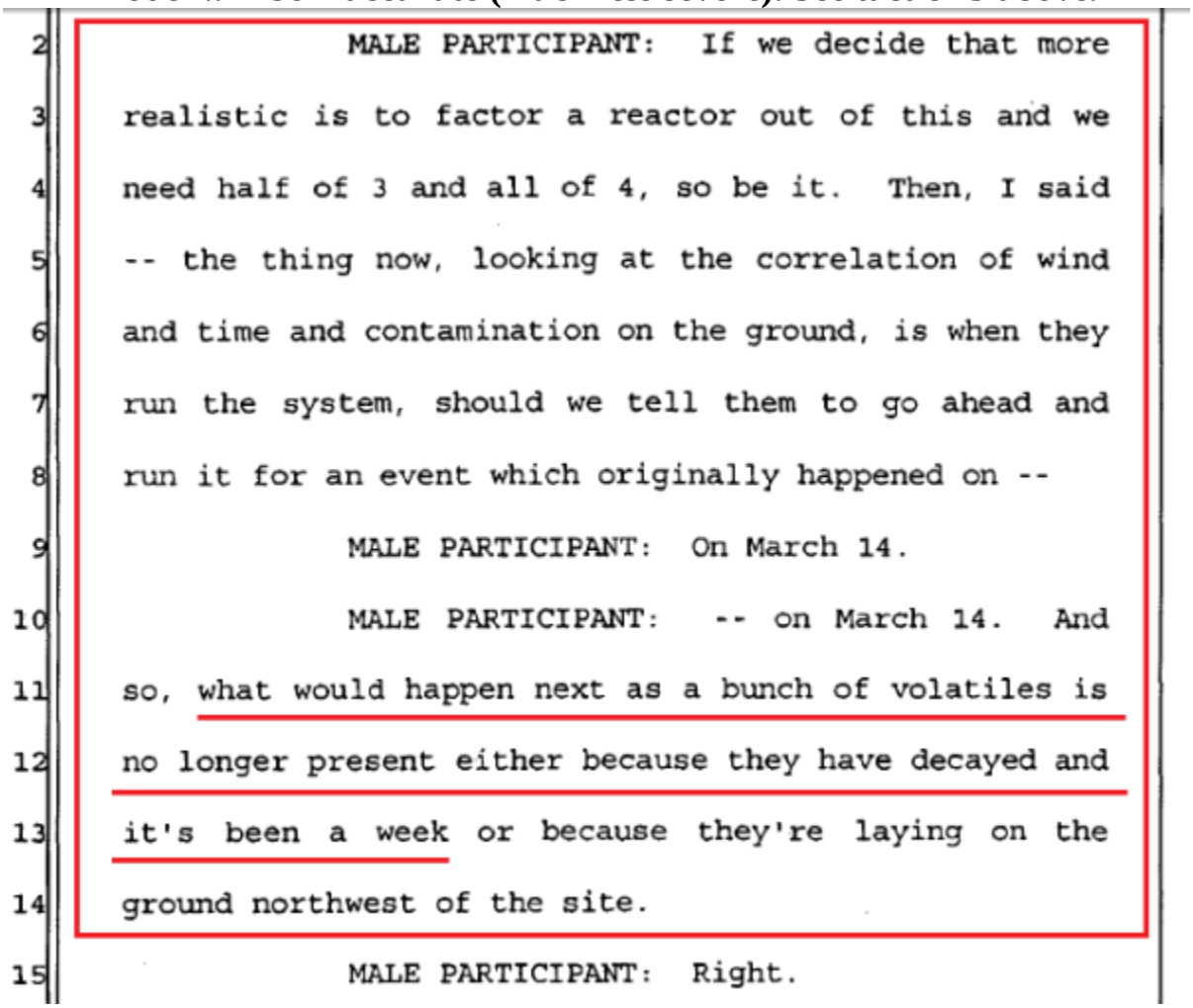
MARTY VIRGILIO: Yeah, we're all in agreement, Charlie.

CHARLIE MILLER: Okay.

MIKE WEBER: Probably what you're going to find out as each party weighs in is everybody has a different definition for worst case for their own --

CHARLIE MILLER: Absolutely. Absolutely.

(below) From the NRC FOIA documents: here is a reference to the March 14th 'lube oil fire' which NRC employees claimed could not have been a lube oil fire at all...but something else. The discussion centers on running a model for this event and running it from the 14th forward. If you model from a later date the 'volatiles' may have decayed and may no longer be present thus the model will be inaccurate (much less severe). See tactic #3 above.



MALE PARTICIPANT: If we decide that more realistic is to factor a reactor out of this and we need half of 3 and all of 4, so be it. Then, I said -- the thing now, looking at the correlation of wind and time and contamination on the ground, is when they run the system, should we tell them to go ahead and run it for an event which originally happened on --

MALE PARTICIPANT: On March 14.

MALE PARTICIPANT: -- on March 14. And so, what would happen next as a bunch of volatiles is no longer present either because they have decayed and it's been a week or because they're laying on the ground northwest of the site.

MALE PARTICIPANT: Right.

(below) From the NRC FOIA documents: radiation samples alarmingly high? Kathy Gibson to the rescue!

KATHY: And they took a sample. The sample point they gave us, the latitude and longitude, is an area south of Tokyo. [redacted]

JOHN MONNINGER: So thyroid dose, okay.

KATHY: Yeah. And they asked us if we can back-calculate a dose in Tokyo. We wanted to try to do that. RASCAL won't do it. It will be have to be hand-calculated. But then we got a (inaudible) from Bill Cook. Is he with you, John?

JOHN MONNINGER: Yes, Bill Cook's with us.

KATHY: Okay, so we'll just talk to him if they're concerned about (inaudible) number 2.

MARTY VIRGILIO: Yeah, I didn't hear the last -- I, they're concerned about evacuating the embassy, or US citizens?

KATHY: Yeah. What, what we want to do is get, get in touch with the people that actually pulled their samples so we can get more information on how they pulled the sample.

JOHN MONNINGER: Right. And we concur 100 percent in that, the notion that we talk to the Navy, come to a complete understanding, and maybe there's

recommendations out of that; maybe there isn't.

[redacted]

KATHY: Okay.

JOHN MONNINGER: We're going to --

MARTY VIRGILIO: But with these data, make sure you heard her. Kathy's data does not say 150. It's 01.5, 1.5 millirem per hour.

MALE PARTICIPANT: But the source term we (inaudible) from that was 1.6 10-6 microcuries per milliliter.

MARTY VIRGILIO: Which is clearly a level of interest. It's higher than the numbers I've heard from the more --

KATHY: I have E-7.

MALE PARTICIPANT: That was about -- I'm repeating your numbers, so I repeated --

KATHY: 1.6E^-7.

MALE PARTICIPANT: Okay. That's still significant but, but not --

KATHY: No, we haven't checked them I have.

MARTY VIRGILIO: Typically, the Navy take the types of readings using filter paper (inaudible) water samples.

KATHY: This is silver zeolite sample.

MALE PARTICIPANT: Okay. So it's a silver cartridge and the same type of unit, then, for, which was sensitive to iodine and those type of thing?

JOHN MONNINGER: So can you guys repeat what you believe that equivalent is?

KATHY: We haven't done the calculations. We're just repeating what we were told.

JOHN MONNINGER: So what were you told about the equivalent thyroid?

KATHY: 1.5 millirem per hour.

JOHN MONNINGER: So that's a factor of 100 different than what's being reported here.

MALE PARTICIPANT: Yeah.

(below) From the NRC FOIA documents: an email from Chris Miller (USNRC) to Ron from the DOE which incredibly enough is a list of reasons why the NRC needs the DOE to deploy their fixed wing aerial measuring system and almost comes across as a plea for help. Was the DOE actually questioning the NRC's need for their fixed wing aircraft?

Ron,

Below is USNRC rationale for deployment of the DOE aerial measurement system. We believe this is a high priority to enable gathering essential data for the determination of informed protective action recommendations, including those for US citizens. We would appreciate your action to help expedite this system's deployment.

DOE aerial measurement system can provide useful information that helps officials understand the event that has occurred, refine protective actions, and characterize the fallout.

Fixed wing aircraft aerial measuring system

- Can rapidly map residual fall out pattern and intensity of contaminated materials that may have deposited after plume passage
  - Can define expanded evacuation and sheltering areas for both plume and post plume phase
  - Can obtain isotopic information which also helps to refine the source term as well as protective action guidelines.
  - Can identify areas of concern for agricultural products and potential food embargos
  - Dose rate values over the Fukushima site and offsite

Please let us know if you need additional information regarding this rationale. Thank you very much for your assistance in this matter.

Chris Miller
USNRC

(below) From the NRC FOIA documents: looks like it got so bad with the 'least-worst-case-scenarios' that the U.S. Ambassador in Japan actually had to request a 'pessimistic' model.

U.S. Ambassador in Japan request for a forward looking pessimistic scenario calculation; PMT has discussed with DOE/NIT and with NARAC. Request has been forwarded to White House to gain alignment prior to moving forward. Source term will be developed with RES staff to more accurately reflect changes for decay and events since the beginning of event.

Continued review of DOE measurements (aerial and ground based) in areas around site shows downward trend in exposures. IAEA reports I-131 and Cs-137 levels in soil sampled at Iitate village, 40 km NW of Fukushima, which exceeds IAEA operational criteria for evacuation. IAEA reports Japan is assessing these results.

(below) From the NRC FOIA documents: delayed input changes the results of the modeling.

MR. DORMAN: Let me put that back to you in my own words, Jennifer, and see if I got the essence of what you were saying. If you did a 24-hour release, you'd get a very big amount of material coming out from Unit 3.

But because we inadvertently put in a delay in the input, what the effect of that in running the code is that it picked up the release after most of it was gone.

MS. EWELL: Yes.

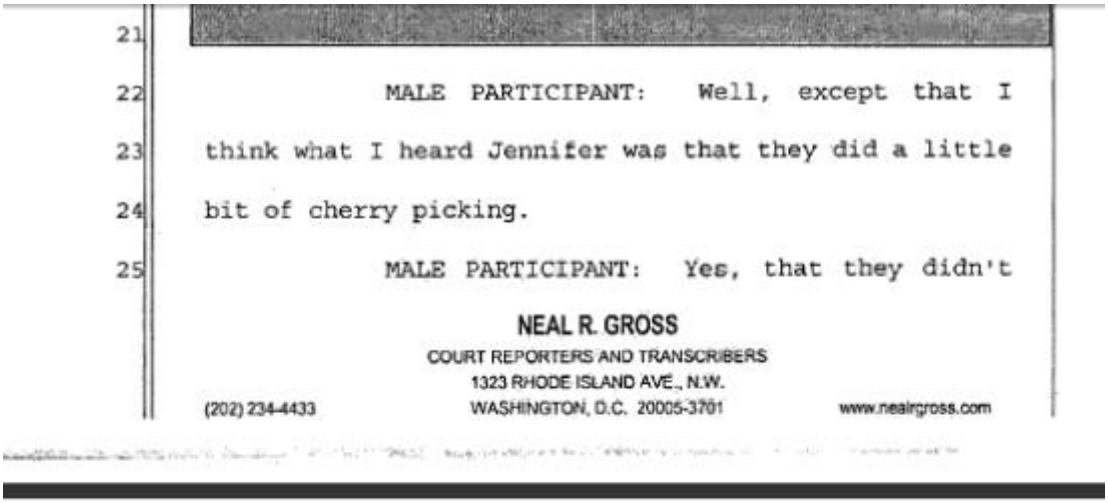
MR. DORMAN: And in effect, missed most of the Unit 3 release in the plume?

MS. EWELL: Yes, that's exactly right.

MR. DORMAN: Okay.

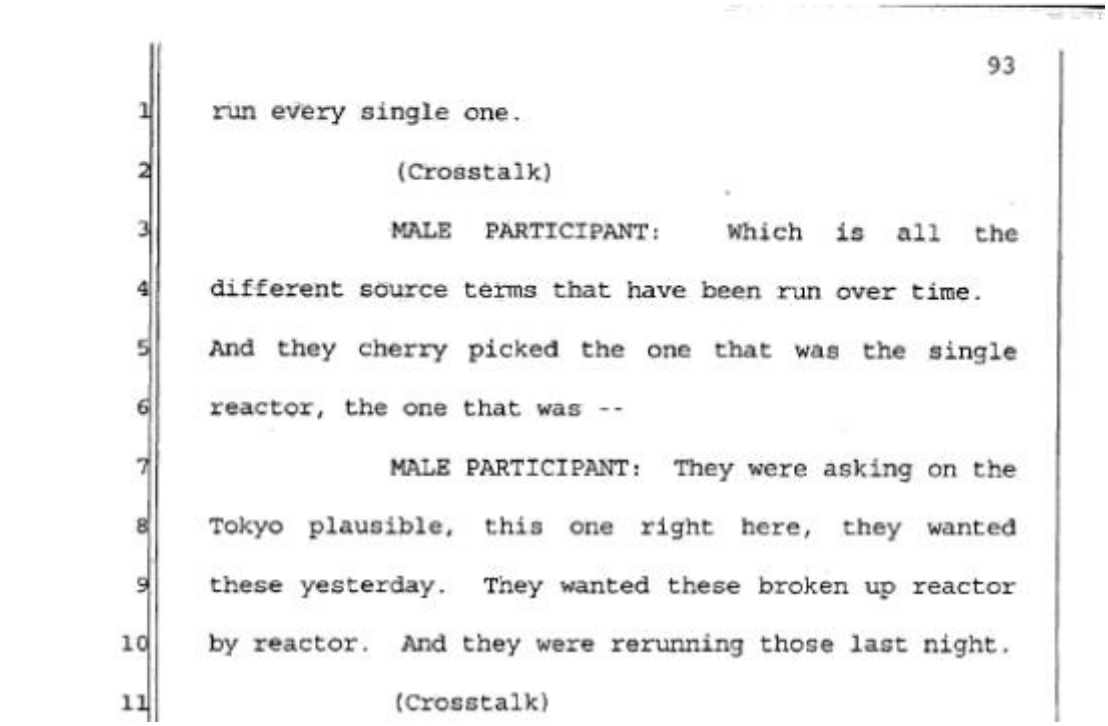
MS. EWELL: That's my understanding, but again, you know, we haven't done all the troubleshooting on what occurred.

(below) From the NRC FOIA documents: evidence of "cherry picking" from the plume models...



MALE PARTICIPANT: Well, except that I think what I heard Jennifer was that they did a little bit of cherry picking.

MALE PARTICIPANT: Yes, that they didn't



run every single one.

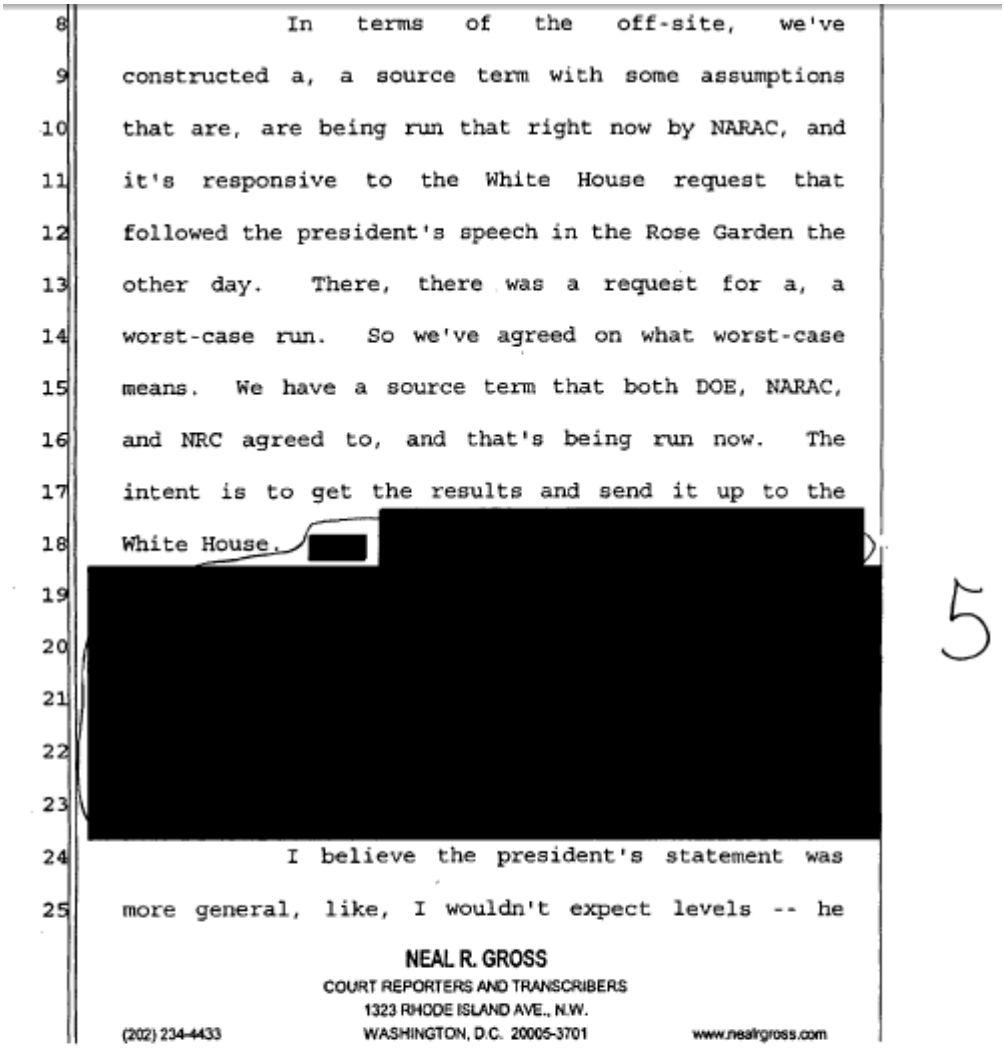
(Crosstalk)

MALE PARTICIPANT: Which is all the different source terms that have been run over time. And they cherry picked the one that was the single reactor, the one that was --

MALE PARTICIPANT: They were asking on the Tokyo plausible, this one right here, they wanted these yesterday. They wanted these broken up reactor by reactor. And they were rerunning those last night.

(Crosstalk)

(below) From the NRC FOIA documents: NRC official Jim Wiggins discusses a White House request to run a model that will make President Obama's Rose Garden speech true…AFTER the speech has already been given. Remember that President Obama left for South America with family not long after his Rose Garden advisory…



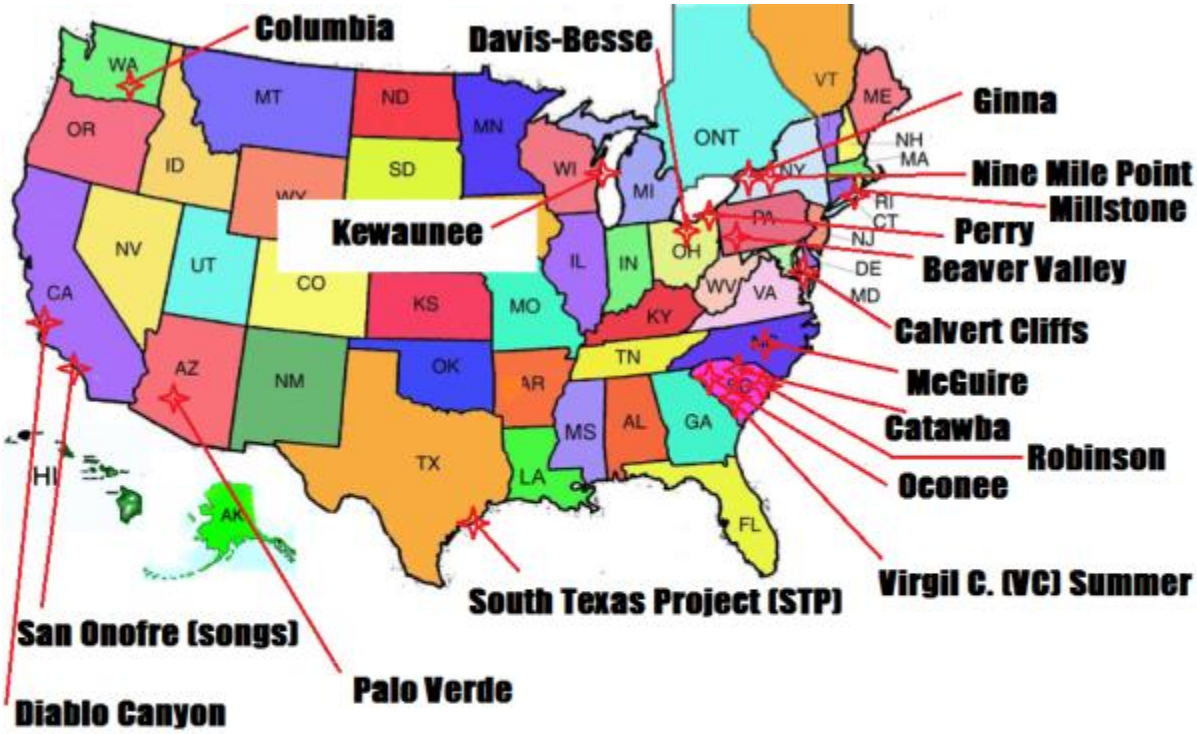
In terms of the off-site, we've constructed a, a source term with some assumptions that are, are being run that right now by NARAC, and it's responsive to the White House request that followed the president's speech in the Rose Garden the other day. There, there was a request for a, a worst-case run. So we've agreed on what worst-case means. We have a source term that both DOE, NARAC, and NRC agreed to, and that's being run now. The intent is to get the results and send it up to the White House. [redacted]

5

I believe the president's statement was more general, like, I wouldn't expect levels -- he

didn't say you would get nothing. He said that you wouldn't get levels that would be harmful, more along that area. So I, I think that this should come out okay in that regard.

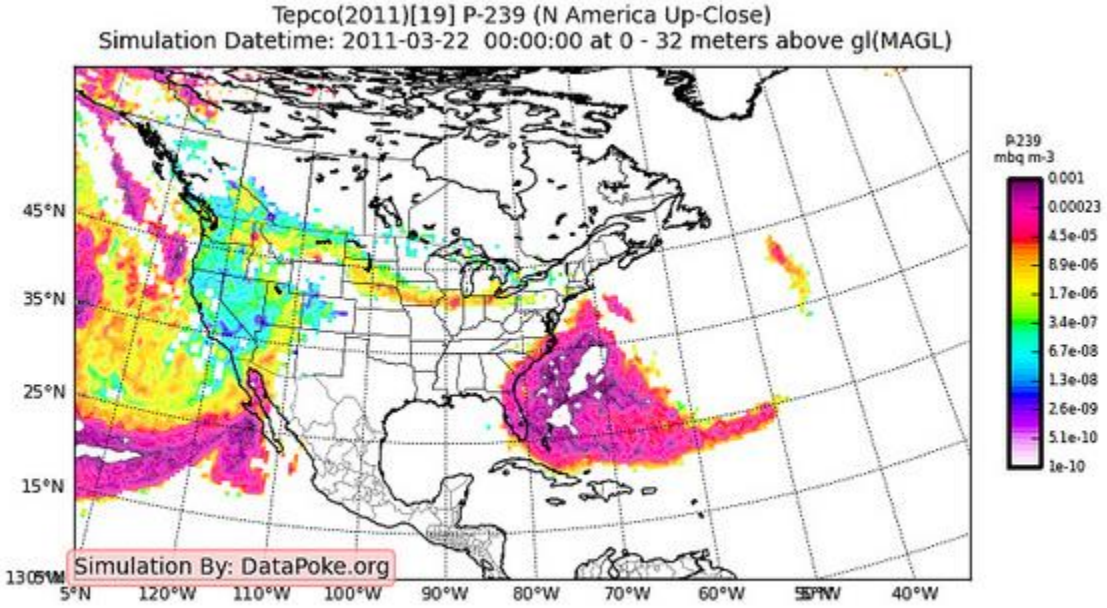
The Emperor Wears No Clothes: NPP "Rooftop Grabs" Reveal Picture of Widespread Fallout over US



At least 18 nuclear power plants in the United States detected and reported fallout following the Fukushima disaster on March 11th, 2011.

Another critical aspect to the Plume-Gate cover-up centers on the ‘rooftop grabs’ (radiation measurements) taken from nuclear power plants (NPPs) here in the United States. This data, reported by at least 18 nuclear power plants, paints a picture of widespread Fukushima fallout across the United States. It also proves authorities we're well aware of the danger here at home but were unwilling to issue warnings or advisories (rainwater, milk, green leafy vegetables) so that the American public could take precautionary measures (remember that FEMA was ordered to 'stand-down'). Because of the nature of this 'smoking gun' evidence, the samples were carefully secreted into a password protected data base overseen by the Nuclear Energy Institute (NEI), labeled as OUO (Official Use Only) and made available exclusively to the 'Federal Family'.

(below) NOT FROM THE NRC FOIA DOCUMENTS: modeling of Plutonium 239 (P-239) mirrors the map shown above of US nuclear power plants that reported detecting fallout from Fukushima.



*(**Authors note**: to be clear, there is a difference between the modeling of fallout and the actual sampling and detecting of fallout in the field. Modeling is an assumption, an estimate of the plume and fallout, generated by computers. Sampling and detecting yields actual real time results of radiation levels (with varying degrees of accuracy) at a specific location or locations.)*

(below) From the NRC FOIA documents: US nuclear power plants report fallout from Fukushima on a voluntary basis.

Nuclear Energy Institute Notification

Nuclear power plants are required by federal regulations to have extensive radiological environmental monitoring programs to monitor the air, water, milk, vegetables and other media around the plants. The programs utilize highly sensitive instruments and equipment that can accurately and precisely measure trace levels of radioactivity in the environment. As expected, the monitoring programs are currently detecting radiation in the environment from the events at the Fukushima Daiichi nuclear plants in Japan. At the request of the federal government, nuclear power plant radiological environmental monitoring data is being provided to the U.S. Environmental Protection Agency, U.S. Nuclear Regulatory Commission and state radiation protection agencies on a voluntary basis. The purpose of providing the monitoring data is to provide trends of radiation measurements. The data is not being used for required reporting to the NRC or any other regulatory agency. The data is used for information only and may be subject to updating as warranted. If there are questions, please contact one of the following:

Ralph Andersen at (202) 739-8111; rla@nei.org
Ellen Anderson at (202) 739-8043; exa@nei.org
Janet Schlueter at (202) 739-8098; jrs@nei.org

Environmental Protection Agency Notification

This data has been voluntarily provided to EPA from the nuclear power industry and is being shared, with NEI's and nuclear power plant operators' consent, with CRCPD to provide information to the States in addition to our RadNet data. EPA has had no role in any way in producing the data including no connection to sampling, analyzing samples, or providing quality assurance.

(below) From the NRC FOIA documents: NRC prepares talking point covering the 'rooftop grabs'.

From: PMT07 Hoc
Sent: Saturday, March 12, 2011 8:43 PM
To: LIA07 Hoc
Cc: PMT07 Hoc
Subject: Paragraph on Radiological Montioring Capability at Nuclear Power Plants

Rosetta,

Please let me know how this reads to you. Although there are a few plants that have offsite environmental stations, we don't require it. If a specific State inquires about more detail about a specific plant, we might be able to research it, but don't have ready access to all sites. We sanity checked this among the PMT. Let me know if you need more. Tx greg

US nuclear power plants have sensitive equipment to monitor the status of radiological conditions, which are located within buildings and on ventilation systems. Some of this equipment is sensitive enough to record very slight changes in background radiation levels, and could possibly be an indication that radioactive material released from Japan (should a catastrophically large release of radioactive material occur). Additionally, personnel at nuclear power plants have specific knowledge in radiological field monitoring techniques and could assist State and Federal personnel in environmental sampling activities, should that be necessary to evaluate public health and safety concerns.

(below) From the NRC FOIA documents: NRC 'giving the runaround' on the data from the rooftop grabs: "...we don't have anything, and EPA is who you need to talk to."

From: Shaffer, Mark R [mailto:ShafferMr@state.gov]
Sent: Wednesday, March 30, 2011 7:21 AM
To: LIA02 Hoc; LIA03 Hoc
Cc: Schwartzman, Jennifer
Subject: IAEA Request for radaition montoring information

Can you let me know the status of the subject. The request came from IAEA to NRC, DOE and State Department (with a cc to UNVIE) (dated March 19). I forwarded it on to you guys for action, hoping to expedite things. I received a note back (from Jennifer, if I recall) saying that NRC's response was "...we don't have anything, and EPA is who you need to talk to." I asked if NRC could please forward the IAEA request on to EPA. As of today, I haven't seen anything from anyone. Most Member States have responded to IAEA, and the results are in their daily briefings, and posted on the web. IEC is aware (from the news media) that radiation has been detected in the U.S., so they want to know why we (USG) are not responding to their request. I think it's a reasonable question.

I know you can't control the other agencies, but can you check on the status and let me know how long it's going to take to get an answer from DOE, State and EPA. Thanks!

(below) From the NRC FOIA documents: U.S. nuclear plants are instructed to alert the NRC if they detect 'radiological changes'.

Current PMT actions:

- Continuing to work with DOE NIT and NARAC to refine estimates of radiological effects on the United States.
- Updating on-site and near site radiological and meteorological conditions as information is received.
- Obtaining information from US power plants to monitor and promptly alert the NRC if radiological changes are detected at their sites.
- Need to follow up with the liaison team to contact the EPA to follow up on their monitoring efforts along the western US coast line

(below) From the NRC FOIA documents: Add Palo Verde, SONGS, Diablo Canyon, Columbia and Millstone to the list of U.S. nuclear plants that detected fallout from Fukushima. Note that 'Industry has agreed to collect the data and provide to NRC for distribution with Federal Government.'

Multi-day trending of all available dose rate information shows slightly declining levels.

Indications of trace, but detectable amounts of I-131 are being reported at some nuclear plants in the U.S. (Ginna, Nine Mile, Palo Verde, SONGS, and Diablo Canyon, Columbia, Millstone). PMT is reviewing data sets. Industry has agreed to collect the data and provide to NRC for distribution with Federal Government (anticipate EPA lead).

(below) From the NRC FOIA documents: March 23rd, 2011…add Kewaunee nuclear plant to the list of U.S. plants that detected Fukushima fallout. Notable quote: 'Notice on industry data collection similar to what was following the Chernobyl accident in 1986.'

Some indications of trace but detectable amounts of I-131 are being reported at some nuclear plants in the U.S. (Ginna, Nine Mile, Kewaunee, SONGS, and Diablo Canyon). PMT is reviewing data sets. Requested NRR assistance in reviewing Information Notice on industry data collection, similar to what was done following the Chernobyl accident in 1986

(below) From the NRC FOIA documents: The Nuclear Energy Institute (NEI) is the focal point for data from U.S. nuclear plants and is developing an online database.

NEI is serving as a focal point for collecting U.S. nuclear plant monitoring data in environmental samples, and is developing an online database with data from US plants. NEI database is available and being populated. NRC and other agencies have read access.

(below) From the NRC FOIA documents: evidence of a briefing sheet that is approved for circulation inside a nuclear plant.

From: Somerville, Mark [mailto:MOS3@pge.com]
Sent: Friday, March 18, 2011 11:00 AM
To: Carson, Louis
Subject: Briefing Sheet.doc

Louis,

Here's what I circulate inside the plant.

Mark

Mark O. Somerville Ph.D.
Manager-Radiation Protection
Certified Health Physicist
Registered Environmental Assessor
(805) 545-4007
(805) 545-3459 - Fax
mos3@pge.com

(below) From the NRC FOIA documents: checking for clearance before forwarding the briefing sheet along to the DOE, EPA and the states. I've never seen the DOE or EPA denied modeling or sampling results but I've found evidence that U.S. states were.

From: Maier, Bill
Sent: Friday, March 18, 2011 1:44 PM
To: LIA04 Hoc; OST05 Hoc
Cc: Howell, Linda
Subject: FW: Briefing Sheet.doc
Importance: High

Rich,

ccc/265

1

Please see the attached. I would like to pass to DOE, EPA and the State but don't know what restrictions have been placed on it. I will wait for your OK to transmit.

bill

(below) From the NRC FOIA documents: Checking for clearance before sharing sampling data with the DOE, EPA and California (CA).

From: OST05 Hoc
Sent: Friday, March 18, 2011 2:38 PM
To: McIntyre, David; Hoc, PMT12
Cc: OST05 Hoc; LIA04 Hoc
Subject: FW: Briefing Sheet.doc
Importance: High

Dave and PMT,

We received this attached briefing sheet, we believe came from a plant, and are being asked if this can be shared with DOE, EPA, and CA. Would like your guidance on this? (Appears to be sampling data from the State)

(below) From the NRC FOIA documents: '...we recommend that at this time we don't share with the state.'

From: LIA04 Hoc
Sent: Friday, March 18, 2011 3:11 PM
To: Hoc, PMT12; OST05 Hoc; McIntyre, David
Cc: LIA03 Hoc; Maier, Bill; LIA06 Hoc; LIA11 Hoc; OST05 Hoc
Subject: RE: Briefing Sheet.doc

PMT: Will you share this with EPA and/or shall we have our Federal Liaison here in Liaison Team share with EPA? If the latter, can you please do a quick summary of what is contained in this report as an intro for EPA?

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

From: Hoc, PMT12
Sent: Friday, March 18, 2011 2:47 PM
To: OST05 Hoc; McIntyre, David
Cc: LIA04 Hoc; LIA03 Hoc
Subject: RE: Briefing Sheet.doc

We caution the use of this data because it is difficult to tell if it is normal activities or a result of Japan. We can share with the Federal family (DOE, EPA). We (NRC) should coordinate with EPA and suggest they have the lead to coordinate this with the State, and we recommend that at this time we don't share with the State.

(below) From the NRC FOIA documents: '...environmental data that exceeds the reporting levels first come into the Document Control desk...'

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 10:13 AM
To: PMT03 Hoc
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

I am guessing that since Josie Piccione's division deals with other federal agencies (EPA) that they might be the ones to gather the data.

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 10:06 AM
To: Henderson, Pamela
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

I've been asking FSME and NRR to determine who gets the data. NRR tells me that the environmental data that exceeds the reporting levels first come into the Document Control desk and the NRR PM for the site. A copy also goes to DIRS in NRR for evaluation (if necessary). I see that you've already heard from Rich Conatser who is in that group. That's all I have so far. I'll let you know if/when I hear more.

John Wray
PMT Coordinator

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 9:25 AM
To: PMT03 Hoc
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

John – we really need to know who in FSME is responsible. DNMS is getting lots of questions and reports too.

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 9:05 AM
To: Henderson, Pamela
Cc: Hoc, PMT12
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

Thanks. I was asked to follow up with you. I'm glad that PMT 12 got the answer directly.

John

(below) From the NRC FOIA documents: evidence of a password protected database for air and standing water samples from U.S. nuclear plants. The public at large does NOT have access to this data.

~~OFFICIAL USE ONLY~~

Earthquake/Tsunami Status Update April 21, 2011 1200 EDT

The US DOE and the US Environmental Protection Agency are the Federal communicators for questions regarding possible domestic impacts from the events in Japan and on domestic monitoring.

The Commission established a senior-level agency task force to conduct a systematic review of NRC processes and regulations with specific near-term and long-term objectives.

Status of NRC Licensee and Agreement State Facilities

Air sample and standing water sample results from US nuclear plant licensees have been entered into a password protected database established by the Nuclear Energy Institute (NEI). NRC and Federal partners have access to the plant data.

(below) From the NRC FOIA documents: NEI email shows widespread circulation...subject: 'US nuclear power plant environmental data resulting from Fukushima' (continued on next page)

From: ANDERSON, Ellen [mailto:exa@nei.org]
Sent: Monday, March 28, 2011 4:03 PM
To: HOO Hoc; 'eoc_environmental_unit@epamail.epa.gov'
Cc: Nelson, Robert; 'clark.ray@epa.gov'; PIETRANGELO, Tony; MARION, Alex; ANDERSEN, Ralph; ANDERSEN, Ralph; ANDERSEN, Ralph; ANDERSON, Ellen; EARLS, Chris; Graham T Johnson; HUG, Martin; James Mallon; Jeffrey Foster; Karen Kim; Cyndi Martinec; MAUER, Andrew; McCULLUM, Rodney; Paul Mothena; NICHOL, Marcus; PERKINS-GREW, Susan; Phung Tran; REDMOND, Everett; SCHLUETER, Janet; Timothy Wright; Cindy Connelly; David Hindera; Ken Sejkora; Lisa Edwards; Michael Kent; Sean Bushart; Tom Sowdon; Kathy Yhip; Mr. A. Wayne Hooks ; Mr. Barry Erdman; Mr. Barry M. Barton; Mr. Brad Boyer ; Mr. Bradford L. Houston; Mr. Carl A. Moeller ; Mr. Charles C. England; Mr. Charles Sherman; Mr. Christopher R. Martin; Mr. Dale J. Merchant; Mr. Daniel T. Craine; Mr. Daniel W. Collins; Mr. David P. Tkatch; Mr. Dean DiVittore (Dean) (dean.divittore@exeloncorp.com); Mr. Dennis C. Loope (Dennis) (dloope@entergy.com); Mr. Douglas L. Noble (Doug) (dlnoble@firstenergycorp.com); Mr. Eric H. Wolf (Eric) (ewolf1@entergy.com); Mr. Glenn M. Pierce (Glenn) (gpierce@entergy.com); Mr. Harry Bush (Harry) (harry.bush@exeloncorp.com); Mr. J. Eric Laine (Eric) (j.eric.laine@dom.com); Mr. James Bowers; Mr. James M. Hale (Mike) (james.m.hale@dom.com); Mr. James S. McCamy (Steve) (jsmccamy@tva.gov); Mr. James Smith Jr. (Jim) (jsmith@entergy.com); Mr. Jason W. Eggart (Jason) (jason.w.eggart@dom.com); Mr. Jeff M. Stovall (Jeff) (jeffery.stovall@exeloncorp.com); Mr. Jerry Johnson Jr. (Jerry) (b)(6)); Mr. Joe W. Smith (Joe) (joe.smith@duke-energy.com); Mr. Johann S. Geyer (Johann) (jgeyer@ameren.com); Mr. John A. Renda (John) (john.renda@exeloncorp.com); Mr. John M. Corey (John) (jmcorey@nppd.com); Mr. John P. Gaffney (John) (john.gaffney@aps.com); Mr. John Priest Jr. (Jack) (jpriest@entergy.com); Mr. John R. Cole (JR) (john.cole@cengllc.com); Mr. John Stephen Mooneyhan (Steve) (john.mooneyhan@duke-energy.com); Mr. Kevin W. Hedgspeth (Kevin) (kevin.hedgspeth@exeloncorp.com); Mr. L. Bryant Akins (Bryant) (leon.akinsjr@pgnmail.com); Mr. L. Dexter Robinson (Dexter) (lagrone.robinson@duke-energy.com); Mr. Leonard Earls; Mr. Mark L. Holmes (Mark) (mark.holmes@xenuclear.com); Mr. Mark Lewis (Mark) (mark.lewis@sce.com); Mr. Mark Somerville (Mark) (mos3@pge.com); Mr. Michael L. Parker (Mike) (b)(6) Mr. Michael W. Davis (Mike) (mwdavis@energy-northwest.com); Mr. Moses Coleman (Moses) (mcoleman22@scana.com); Mr. Patrick W. Daly (Patrick) (patrick.daly@exeloncorp.com); Mr. Paul McNulty (Paul) (pmcnulty@firstenergycorp.com); Mr. R. Bruce Evans Jr. (Bruce) (robert.evans@dom.com); Mr. Randall P. Hodgson (Randy) (rhodgson@oppd.com); Mr. Richard S. LaBurn (Rick) (laburnr@dteenergy.com); Mr. Robert D. Holmes (Bob) (robert.holmes@exeloncorp.com); Mr. Robert J. Anderson (Bob) (rojander@southernco.com); Mr. Robert Porter Jr. (Bob) (robert.l.porter@nexteraenergy.com); Mr. Robert S. Gary (Bob) (robert.gary@pseg.com); Mr. Scott E. Bradley (Scott) (scott.bradley@luminant.com); Mr. Stanley F. Baker (Stan) (sbaker@firstenergycorp.com); Mr. Vincent L. Schuman (Vince) (vlschuman@pplweb.com); Mr. William J. Meyer (Bill) (william_meyer@fpl.com); Mr. William R. Vierkandt (Rick) (wrvierka@southernco.com); Mr. William T. Trichell (Tommy)

39

(wtriche@entergy.com); Ms. Cynthia K. Cashwell (Cynthia) (cynthia_cashwell@fpl.com); Ms. Indira Kochery (Indira) (iakocher@southernco.com); Ms. Pamela J. Bedgood (Pam) (parhoad@wcnoc.com)
Subject: U.S. Nuclear Power Plant Environmental Data Resulting from Fukushima
Importance: High

Attached you will find environmental data collected by the plants that has been submitted to NEI through 1200hrs on March 28, 2011.

In my previous email on Saturday, March 26, 2011, I stated that a website will be established for the collection and review of this data. The NEI IT team is performing its final testing of this website so that it can go live before the end of the day. Please note that although the website is available to the plants for data input, it may be a few days before all data collected thus far is posted on the website.

We appreciate your patience.

Ellen P. Anderson
Senior Project Manager, Radiation Safety & Environmental Protection
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

phone: 202.739.8043
cell (b)(6)
fax: 202.533.0144
exa@nei.org

(below) From the NRC FOIA documents: sampling data from US nuclear power plants reveals Fukushima fallout. It is important to note that there is a big difference between the amount of radiation sampled in a continuous sample, drawn over a 24 hour period, and a short duration sample of minutes or hours. It is analogous to testing the air filter of an automobile that has run all day compared to one that has run an hour.

US Plants Air Sample Activity
Identified In Environmental Samples
From Fukushima Event
as of 1200 on 3/28/2011

Plant	Date Detected	Isotope	Concentration	Units	Normalized Units (pCi/l)	Note	Isotope	Concentration	Units	Normalized Units (uCi/cc)
Beaver Valley	03/25/11	I-131	1.48E+01	pCi/l	14.8	surface water				
Calvert Cliffs	03/22/11	I-131	3.60E-02	pCi/m3	3.60E-05					
Catawba	03/21/11	I-131	2.80E-02	pCi/m3	2.80E-05					
Davis- Besse	03/25/11	I-131	8.95E+01	pCi/l	89.5	surface water				
Diablo Canyon	03/19/11	I-131	5.64E-13	uCi/cc	5.64E-04					
Diablo Canyon	03/20/11	I-131	7.45E-12	uCi/cc	7.45E-03	4 hour sample				
Diablo Canyon	03/20/11	I-131	1.04E-12	uCi/cc	1.04E-03	24 hour sample				
Diablo Canyon	03/21/11	I-131	5.07E-12	uCi/cc	5.07E-03	24 hour sample				
Diablo Canyon	03/22/11	I-131	8.06E-13	uCi/cc	8.06E-04		Cs-137	4.31E-15	uCi/cc	4.31E-15
Diablo Canyon	03/23/11	I-131	0.00E+00	uCi/cc	0.0					
Diablo Canyon	03/24/11	I-131	5.65E-13	uCi/cc	5.65E-04					
Diablo Canyon	03/25/11	I-131	4.90E-13	uCi/cc	4.90E-04					
Diablo Canyon	03/26/11	I-131	0.00E+00	uCi/cc	0.0					
Diablo Canyon	03/27/11	I-131	0.00E+00	uCi/cc	0.0					
Diablo Canyon	03/28/11	I-131	6.05E-13	uCi/cc	6.05E-04					
Ginna	03/22/11	I-131	1.30E-02	pCi/m3	1.30E-05					
Ginna	03/22/11	I-131	2.68E+01	pCi/l	26.8	Rain water				
McGuire	03/21/11	I-131	2.80E-02	pCi/m3	2.80E-05		Cs-137	3.70E-03	pCi/m3	3.70E-15
Nine Mile Point	03/21/11	I-131	1.81E+01	pCi/l	18.1	NMPL water				
Nine Mile Point	03/22/11	I-131	9.55E+00	pCi/l	9.6	??				
Oconee	03/21/11	I-131	2.20E-02	pCi/m3	2.20E-05		Cs-137	4.50E-03	pCi/m3	4.50E-15
Perry	03/25/11	I-131	1.44E+01	pCi/l	14.4	surface water				
Robinson	03/25/11	I-131	4.00E-02	pCi/m3	4.00E-05					
SONGS	03/17/11	I-131	0.00E+00	uCi/cc	0.0					
SONGS	03/18/11	I-131	6.00E-13	uCi/cc	6.00E-04					
SONGS	03/19/11	I-131	7.00E-13	uCi/cc	7.00E-04					

SONGS	03/20/11	I-131	2.00E-12	uCi/cc	2.00E-03
SONGS	03/21/11	I-131	1.80E-12	uCi/cc	1.80E-03
SONGS	03/22/11	I-131	7.00E-13	uCi/cc	7.00E-04
SONGS	03/23/11	I-131	6.00E-13	uCi/cc	6.00E-04
SONGS	03/24/11	I-131	6.00E-13	uCi/cc	6.00E-04
SONGS	03/25/11	I-131	6.00E-12	uCi/cc	6.00E-03
SONGS	03/26/11	I-131	3.00E-13	uCi/cc	3.00E-04
STP	03/21/11	I-131	0.00E+00	uCi/cc	0.0
STP	03/22/11	I-131	0.00E+00	uCi/cc	0.0
STP	03/23/11	I-131	2.00E-13	uCi/cc	2.00E-04
STP	03/25/11	I-131	2.00E-13	uCi/cc	2.00E-04
VC Summer	03/16/11	I-131	3.93E-02	pCi/m3	3.93E-05
VC Summer	03/21/11	I-131	5.13E-02	pCi/m3	5.13E-05

Cs-137	3.00E-13	uCi/cc	3.00E-13
Cs-137	1.00E-13	uCi/cc	1.00E-13
Cs-137	7.00E-14	uCi/cc	7.00E-14
Cs-137	ND		

(below) From the NRC FOIA documents: an email from March 23rd, 2011 with attachment titled: 'US Nuclear Plant Reported Measurements.xlsx' (data shown in 2nd screencapture below)

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 3:57 PM
To: PMT02 Hoc
Subject: Emailing: US Nuclear Plant Reported Measurements.xlsx
Attachments: US Nuclear Plant Reported Measurements.xlsx

Measurements on plant site.

OFFICIAL USE ONLY

Reported Measurements between 3/18/2011 and 3/23/2011

Date	Plant	Isotope	Concentration
3/18/2011	San Onofre	I-131	1.4E-13 uCi/cc
3/18/2011	Diablo Canyon	I-131	3.8 to 6E-13 uCi/cc
3/19/2011	San Onofre	I-131	6.5E-13 to 7.0E-13 uCi/cc
3/19/2011	Palo Verde	Cs-134	2.22E-13 uCi/cc
3/19/2011	Palo Verde	Cs-137	3.58E-13 uCi/cc
3/19/2011	Palo Verde	I-131	1.54E-12 uCi/cc
3/20/2011	San Onofre	I-131	2.0E-12 uCi/cc
3/20/2011	Palo Verde	Cs-134	3.87E-13 uCi/cc
3/20/2011	Palo Verde	I-131	2.50E-12 uCi/cc
3/21/2011	Nine Mile Point	I-131	19.1 pCi/L (rain water)
3/21/2011	Palo Verde	I-131	6.70E-13 uCi/cc
3/21/2011	Palo Verde	Cs-134	2.06E-13 uCi/cc,
3/21/2011	Palo Verde	Cs-137	2.71E-13 uCi/cc
3/22/2011	San Onofre	I-131	7.0 to 8.0E-13 uCi/cc
3/22/2011	San Onofre	Cs-137	1.25E-13 uCi/cc
3/22/2011	Columbia	I-131	6.74E-13 uCi/cc
3/22/2011	Nine Mile Point	I-131	18 pCi/L (rain water)
3/22/2011	Ginna	I-131	**26.8 pCi/L (rain water)**
3/22/2011	Palo Verde	I-131	2.01E-12 uCi/cc
3/22/2011	Palo Verde	Cs-137	2.93E-13 uCi/cc
3/22/2011	Palo Verde	Cs-134	2.76E-13 uCi/cc
3/23/2011	Millstone	I-131	**25.6 pCi/L**

OFFICIAL USE ONLY

I-131 Reporting Levels
NUREG-1201 and NUREG-1302

	I-131	Units	I-132	Units
Drinking Water	2	pCi/L	2.00E-09	uCi/ml
Non-Drinking Water	**20**	**pCi/L**	2.00E-08	uCi/ml
Air	0.9	pCi/m3	9.00E-13	uCi/cc

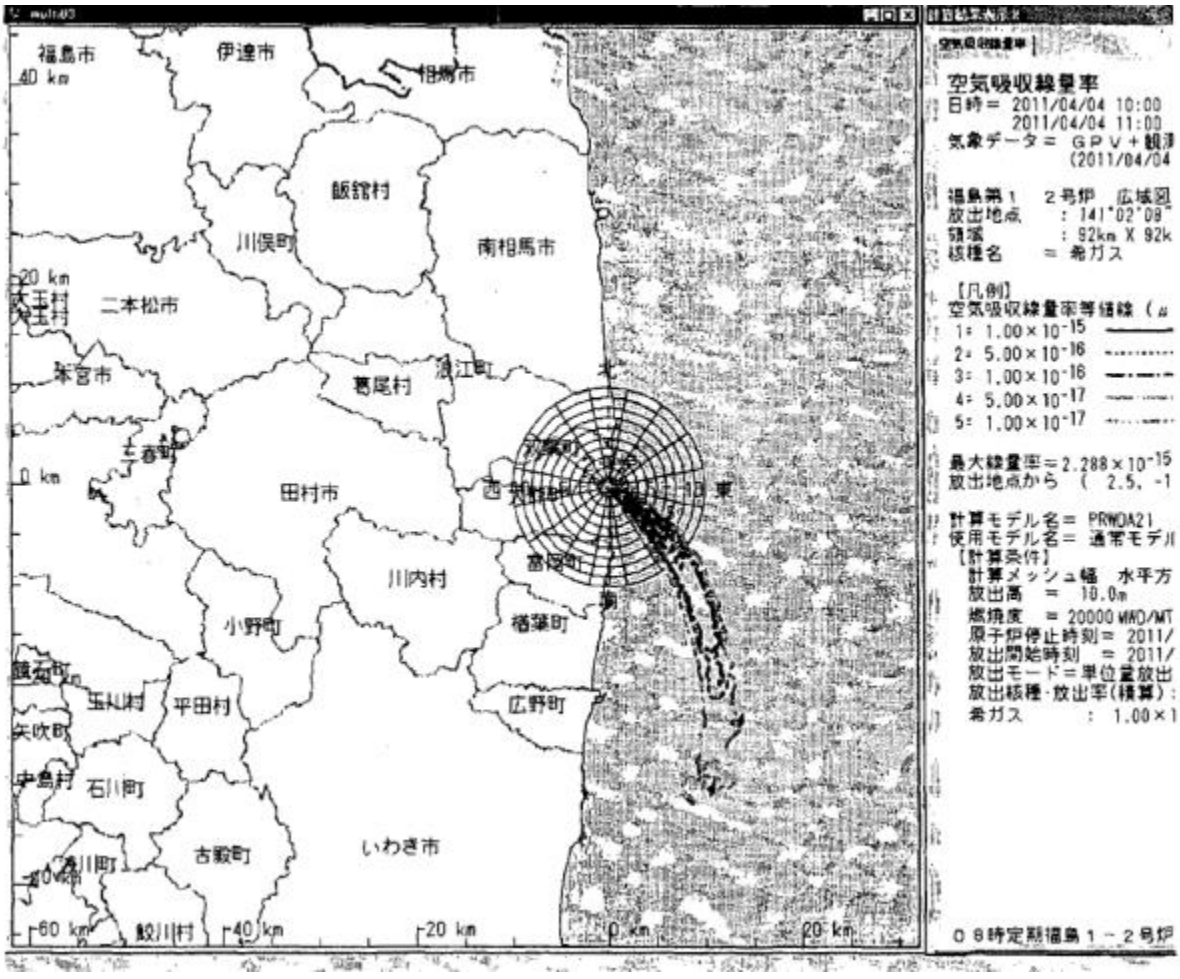
(below) From the NRC FOIA documents: Particulate grab samples from San Onofre and Palo Verde. Please note that myself and other FOIA researchers combed through hundreds of thousands of pages of documents to find these few pieces of evidence, well hidden from the casual observer in what I call the 'needle-in-a-haystack' effect.

Radiological conditions:

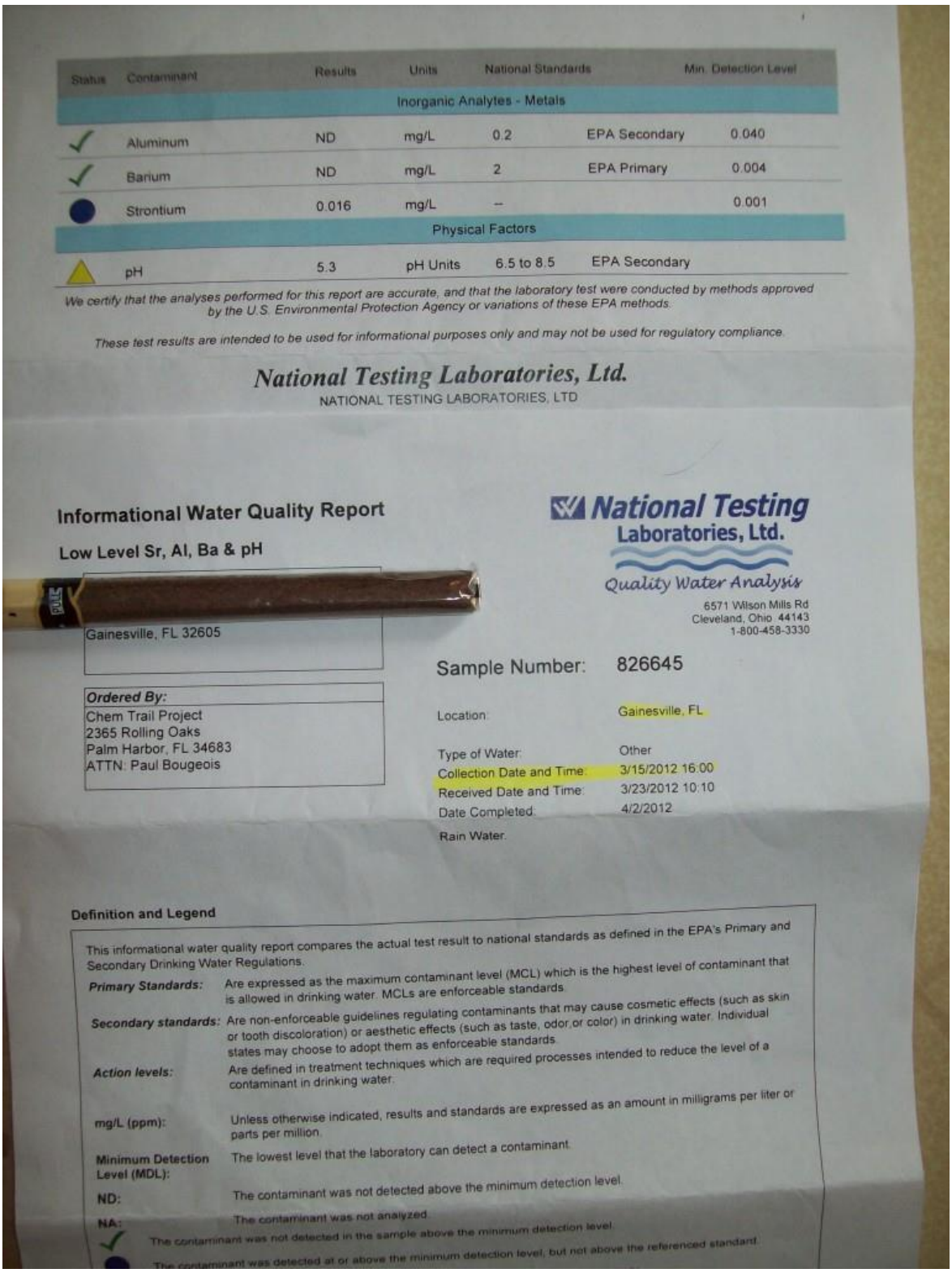
San Onofre provided an air sampling update on 3/20/11 at 1905 EDT. One-hour counting time of a 24-hour sample yielded 1.85E-12 to 2.0E-12 µCi/cc of Iodine-131, and no other isotopes. The previous report (on 3/19/11 at 2043 EDT) provided an air sample that yielded 6.5 to 7.0 × 10^{-13} µCi/cc of Iodine-131, and no other isotopes. Measurements on 3/18/11 yielded 1.79 × 10^{-13} µCi/cc of Iodine-131, which was below the lower limit of detection.

Palo Verde Generating Station provided values for samples drawn on Unit 2 Auxiliary Building Roof on 03/21/11. Particulate grab sample results yielded 3.73E-13 µCi/cc of Iodine-131, while iodine grab sample results yielded 6.70E-13 µCi/cc of Iodine-131. The previous update provided (on 03/20/11 at 1200 EDT) on particulate grab sample yielded 2.25E-12 µCi/cc of Iodine-131 and 3.87E-13 µCi/cc of Cs-134, while the iodine grab sample results yielded 2.495E-12 µCi/cc of Iodine-131. The previous update provided (on 3/19/11 at 2104 EDT) from the Unit 2 Aux Building roof yielded a result of 1.54 × 10^{-12} µCi/cc of Iodine-131.

(below) From the NRC FOIA documents: a measured plume map from April 4th, 2011. It is important to note that a) most particulate grabs were of a short duration b) *measured* plumes from Fukushima were emitted on a constant basis well into April of 2011 c) aerosolized plutonium, from Fukushima, has been detected as far away as Lithuania and d) US rooftop grabs only reveal radioactive Iodine and Cesium.



(below) Results from my own rainwater sample of 3/15/12, a year after the Fukushima disaster, reveal radioactive Strontium in Gainesville, Florida.



Status	Contaminant	Results	Units	National Standards		Min. Detection Level
			Inorganic Analytes - Metals			
✓	Aluminum	ND	mg/L	0.2	EPA Secondary	0.040
✓	Barium	ND	mg/L	2	EPA Primary	0.004
●	Strontium	0.016	mg/L	--		0.001
			Physical Factors			
▲	pH	5.3	pH Units	6.5 to 8.5	EPA Secondary	

We certify that the analyses performed for this report are accurate, and that the laboratory test were conducted by methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods.

These test results are intended to be used for informational purposes only and may not be used for regulatory compliance.

National Testing Laboratories, Ltd.

NATIONAL TESTING LABORATORIES, LTD

Informational Water Quality Report

Low Level Sr, Al, Ba & pH

National Testing Laboratories, Ltd.

Quality Water Analysis

6571 Wilson Mills Rd
Cleveland, Ohio 44143
1-800-458-3330

Gainesville, FL 32605

Ordered By:
Chem Trail Project
2365 Rolling Oaks
Palm Harbor, FL 34683
ATTN: Paul Bougeois

Sample Number: 826645

Location:	Gainesville, FL
Type of Water:	Other
Collection Date and Time:	3/15/2012 16:00
Received Date and Time:	3/23/2012 10:10
Date Completed:	4/2/2012

Rain Water.

Definition and Legend

This informational water quality report compares the actual test result to national standards as defined in the EPA's Primary and Secondary Drinking Water Regulations.

Primary Standards: Are expressed as the maximum contaminant level (MCL) which is the highest level of contaminant that is allowed in drinking water. MCLs are enforceable standards.

Secondary standards: Are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor,or color) in drinking water. Individual states may choose to adopt them as enforceable standards.

Action levels: Are defined in treatment techniques which are required processes intended to reduce the level of a contaminant in drinking water.

mg/L (ppm): Unless otherwise indicated, results and standards are expressed as an amount in milligrams per liter or parts per million.

Minimum Detection Level (MDL): The lowest level that the laboratory can detect a contaminant.

ND: The contaminant was not detected above the minimum detection level.

NA: The contaminant was not analyzed.

✓ The contaminant was not detected in the sample above the minimum detection level.

● The contaminant was detected at or above the minimum detection level, but not above the referenced standard.

(below) NOT FROM THE NRC FOIA DOCUMENTS: countries as far away as France issued rainwater and green leafy vegetable warnings.

(below) From the *Journal of Environmental Radioactivity*: Aerosolized plutonium detected in Lithuania in late March and early April of 2011.

J Environ Radioact. 2012 Dec;114:71-80. doi: 10.1016/j.jenvrad.2011.12.004. Epub 2011 Dec 27.

Radionuclides from the Fukushima accident in the air over Lithuania: measurement and modelling approaches.

Lujanienė G, Byčenkienė S, Povinec PP, Gera M.
Environmental Research Department, SRI Center for Physical Sciences and Technology, Savanoriu 231, 02300 Vilnius, Lithuania. lujaniene@ar.fi.lt

Abstract
Analyses of (131)I, (137)Cs and (134)Cs in airborne aerosols were carried out in daily samples in Vilnius, Lithuania after the Fukushima accident during the period of March-April, 2011. The activity concentrations of (131)I and (137)Cs ranged from 12 μBq/m(3) and 1.4 μBq/m(3) to 3700 μBq/m(3) and 1040 μBq/m(3), respectively. The activity concentration of (239,240)Pu in one aerosol sample collected from 23 March to 15 April, 2011 was found to be 44.5 nBq/m(3). The two maxima found in radionuclide concentrations were related to complicated long-range air mass transport from Japan across the Pacific, the North America and the Atlantic Ocean to Central Europe as indicated by modelling. HYSPLIT backward trajectories and meteorological data were applied for interpretation of activity variations of measured radionuclides observed at the site of investigation. (7)Be and (212)Pb activity concentrations and their ratios were used as tracers of vertical transport of air masses. Fukushima data were compared with the data obtained during the Chernobyl accident and in the post Chernobyl period. The activity concentrations of (131)I and (137)Cs were found to be by 4 orders of magnitude lower as compared to the Chernobyl accident. The activity ratio of (134)Cs/(137)Cs was around 1 with small variations only. The activity ratio of (238)Pu/(239,240)Pu in the aerosol sample was 1.2, indicating a presence of the spent fuel of different origin than that of the Chernobyl accident.

(below) From the Sternglass study: doses to children may be as much as a hundred to a thousand times more than an adult.

It was in the case of iodine that some of the most alarming discoveries were made. In the early 1950s researchers found that iodine became concentrated in the milk of cows that grazed on pasture contaminated with fallout. When people drank the milk, the iodine began building up rapidly in their thyroid glands. Since the thyroid gland is small in size, the concentration was very heavy. Measurements revealed that in any given situation the radiation dose to the adult thyroid would be as much as a hundred times the external dose from the fallout in the outside environment. But far more important were the results of extensive studies conducted at the University of Michigan and published in 1960. These showed that the radiation dose to the thyroids of unborn children and infants was ten to one hundred times higher than that to the adult because of the greater concentration in the smaller thyroids. This discovery held serious implications for the health of the children of Troy. It meant that the doses to their thyroids might have been as much as a hundred to a thousand times higher than those estimated by Dr. Clark and the AEC scientists, who had only considered the overall dose from the fallout in the external environment.

(below) From the NRC FOIA documents: (part 1) A March 31st, 2011 email from the Arizona Division of Emergency Management indicating something is amiss with the sampling: "...the Palo Verde data sample is different than what was collected from the Arizona Radiation Regulatory Agency." and "I just want to be prepared if I need to answer the question about why the findings are different."

NRC Region 4
817-860-8267

------Original Message------
From: Judy Kioski
To: Holly Harrington
To: Dricks, Victor
Subject: question from AZ
Sent: Mar 31, 2011 2:35 PM

Good afternoon, I know that Palo Verde Nuclear Generating Station is reporting their sampling data to the NRC. Is the NRC reporting that data? I know the Palo Verde data sample is different than what was collected from the ARizona Radiation Regulatory Agency. I just want to be prepared if I need to answer the question about why the findings are different. Please advise. Thanks, Judy Judy Kioski Public Information Officer Arizona Division of Emergency Management 5636 E. McDowell Road Phoenix, AZ 85008 work 602-464-6245 cell (b)(6) judy.kioski@azdema.gov

(below) From the NRC FOIA documents: (part 2) an email response to the Arizona Division of Emergency Management: "NRC is not publicly reporting the results that Palo Verde reports to us."

-----Original Message-----
From: Maier, Bill [mailto:Bill.Maier@nrc.gov]
Sent: Thursday, March 31, 2011 4:09 PM
To: 'judy.kioski@azdema.gov'
Cc: Aubrey Godwin; Uselding, Lara; Dricks, Victor; LIA04 Hoc; Andrews, Tom; Browder, Rachel; 'craig.fiore@dhs.gov'
Subject: FW: question from AZ

Hi Judy,

NRC is not publicly reporting the results that Palo Verde reports to us. Palo Verde is also reporting to the Nuclear Energy Institute (industry coordinator). My discussions with Aubrey Godwin of ARRA indicated that he is getting Palo Verde's results. Aubrey may be able to offer a technical explanation for any differences in results if those differences are judged to be statistically significant.

For follow-up with NEI to determine how they are distributing/using the data, I was given the following name:
Ellen Anderson

The only number that I have seen is NEI's main number in DC:
202.739.8000

I hope this helps.

Bill Maier
Regional State Liaison Officer

1

(below) From the NRC FOIA documents: (part 3) evidence that data, including measurements of I-131 in air and milk samples, was forwarded to a website and shared amongst the 'Federal Family'.

From:	Maier, Bill
Sent:	Friday, April 01, 2011 7:18 PM
To:	Collins, Elmo; Howell, Art; Howell, Linda; Kennedy, Kriss; Pruett, Troy; Vegel, Anton; Caniano, Roy; Cain, Chuck
Cc:	Browder, Rachel; Erickson, Randy; Dricks, Victor; Uselding, Lara; Carson, Louis; Werner, Greg; LIA04 Hoc
Subject:	FW: question from AZ

FYI, the website provided below by Aubrey Godwin contains the results of the State of Arizona's measurements of Iodine 131 in air and milk samples.

Bill Maier

(below) From the NRC FOIA documents: How the rooftop grab information flows: NPPs to NRC, NRC to EPA. And when there is a chance that information may become public, Eliot Brenner sweeps in and takes control of the situation.

There is some information that there is some iodine detected in Pennsylvania that, according

to their laws this is, we're uncertain about this, but according to their laws they may have to make that information public, if there's any heightened level at all, and it is a little bit higher, not anything that would be the least bit health significant.

So they're seeing if they're going to be doing any kind of release of that information. Eliot Brenner here, is working with the right people to develop a press release that tries to put the levels in some context and what NRC is doing about it.

MS. EWELL: I know you've got to figure out, I keep having pictures of a nice 18-hole golf course with nobody on it, so it'll take me a little bit to get back to what I was (inaudible). Okay. I don't know if you guys are interested, but I guess, headquarters, we're not going to be releasing a RIST (phonetic), it's a regulatory, it's a summary Dave?

Okay. About, the purpose of the RIST originally was to be asking for licensees to do external monitoring, and then provide that data to NRC, so that we could feed it to the rest of the federal families.

And at this point, NEI has talked to the licensees, and they are voluntarily doing this and they're going to provide that information to NEI, and then give it to the NRC and then we're going to be forwarding it on to EPA and other organizations.

MALE PARTICIPANT: Rich Feria (phonetic) reported to me during turnover that EPA had already put out a press release.

MS. EWELL: About Pennsylvania?

MALE PARTICIPANT: Pennsylvania and Maryland, detecting iodine-131.

MS. EWELL: Okay, all right.

MALE PARTICIPANT: We'll look into it, but --

MS. EWELL: Yes, if you could feed those to Eliot Brenner, just email.

MALE PARTICIPANT: I didn't see the press release, but we got a call from, on the previous shift from the Maryland EOC regarding slightly elevated levels. They didn't have the, they were not

knowledgeable people we were talking to.

They were giving us units that can't be true. But apparently, they're seeing something. And they're planning on going public with that, so we informed the residents, the previous shift, we sent them an email that they need to be prepared for questions. Very low levels.

MS. EWELL: Okay, there was that issue about Oyster Creek having some heightened level too that was off-scale here, did you follow that up?

MALE PARTICIPANT: No.

MS. EWELL: Is somebody following it up?

MALE PARTICIPANT: Yes, the Region I inspectors, they-re--

MS. EWELL: Okay, all right.

(below) From the NRC FOIA documents: (part 1) a March 23rd email indicating interest by the Protective Measures Team (PMT) in 'elevated environmental samples' at Nine Mile and Ginna NPPs.

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 9:00 AM
To: Henderson, Pamela
Cc: Furia, Joseph; Rogge, John; Hoc, PMT12
Subject: Summary of Sample Results at Nine Mile Point and Ginna

Pam,

Yesterday, you sent an email regarding elevated environmental samples at NNP and Ginna. PMT would like more details, especially if isotopic data is available. Please provide as soon as possible. Thanks.

John Wray
PMT Coordinator

(below) From the NRC FOIA documents: (part 2) an email from Pamela Henderson expressing concern for who is collecting radiation data in the US.

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 9:02 AM
To: PMT03 Hoc
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

John – I sent this to PMT12 this morning…

The licensee does not believe that the iodine resulted from licensed activities.
Nine Mile and Ginna are the only plants that have thus far reported elevated levels.
We have not coordinated with Region III, we were awaiting ET request for additional information before taking further action.

Who in FSME (MSSA?) is the contact for collection of radiation data in the US?

Thanks,

Pam

(below) From the NRC FOIA documents: (part 3) confirmation that the Protective Measures Team (PMT) received information on the sampling at Nine Mile and Ginna NPPs.

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 9:05 AM
To: Henderson, Pamela
Cc: Hoc, PMT12
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

Thanks. I was asked to follow up with you. I'm glad that PMT 12 got the answer directly.

1

000193

John

(below) From the NRC FOIA documents: (part 4) more concern for who is collecting radiation data is the US...

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 9:25 AM
To: PMT03 Hoc
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

John – we really need to know who in FSME is responsible. DNMS is getting lots of questions and reports too.

(below) From the NRC FOIA documents: (part 5) "...environmental data that exceeds the reporting levels first come into the Document Control desk..."

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 10:06 AM
To: Henderson, Pamela
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

I've been asking FSME and NRR to determine who gets the data. NRR tells me that the environmental data that exceeds the reporting levels first come into the Document Control desk and the NRR PM for the site. A copy also goes to DIRS in NRR for evaluation (if necessary). I see that you've already heard from Rich Conatser who is in that group. That's all I have so far. I'll let you know if/when I hear more.

John Wray
PMT Coordinator

(below) From the NRC FOIA documents: (part 6) the brutal truth: "...licensees do not have to report on elevated levels if it is not due to their licensed activities."

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 10:11 AM
To: PMT03 Hoc
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

Rich Conaster says the licensees do not have to report on elevated levels it if it is not due to their licensed activities (see last e-mail from him that I forwarded). NRC needs to be prepared to review licensee's data to support that contamination is not due to their activities. Maybe the agency needs to consider asking plants to gather data on elevated levels of contamination on their sites that could be due to the incident.

It is important to have central data collection to ensure accurate communications.

(below) From the NRC FOIA documents: (part 7) the Protective Measures Team always get's the data...

From: PMT03 Hoc
Sent: Wednesday, March 23, 2011 10:12 AM
To: Henderson, Pamela
Subject: RE: Summary of Sample Results at Nine Mile Point and Ginna

I believe that if they report data to the HOO, that data will come to PMT for evaluation.

John

(below) From the NRC FOIA documents: (part 8) serous concern that "Licensee developing a press release" over Ginna Nuclear Power Plant rainwater sample.

From: Henderson, Pamela
Sent: Wednesday, March 23, 2011 3:30 PM
To: Rogge, John; Weerakkody, Sunil; Wilson, Peter
Cc: Rolph, Ronald; PMT03 Hoc; McNamara, Nancy
Subject: I-131 identified offsite near Ginna

FYI – Licensee developing a press release

(below) From the NRC FOIA documents: (part 9) "Ginna licensing manager anticipates that CENG corporate will be developing a press release..." (CENG stands for Constellation Energy Group...owners of Ginna NPP...also see more on NRC 50.72 below)

From: Hunegs, Gordon
Sent: Wednesday, March 23, 2011 2:12 PM
To: Dentel, Glenn; Perry, Neil; Kolaczyk, Kenneth; Patel, Amar
Cc: Henderson, Pamela
Subject: I-131 identified offsite

Ginna analyzed a rainwater sample collected 9 miles west of the plant and identified 21 pci/l I-131. Ginna licensing manager anticipates that CENG corporate will be developing a press release which also will likely result in an NRC 50.72.

Gordon

(below) From the NRC FOIA documents: (part 10) cancel that press release..."NEI will be representing the industry."

From: Hunegs, Gordon
Sent: Wednesday, March 23, 2011 2:40 PM
To: Hunegs, Gordon; Dentel, Glenn; Perry, Neil; Kolaczyk, Kenneth; Patel, Amar
Cc: Henderson, Pamela
Subject: RE: I-131 identified offsite - update

CENG will not be developing a press release and instead, NEI will be representing the industry.

(below) From the NRC FOIA documents: (part 11) "NEI may be issuing a press release."

From:	Henderson, Pamela
Sent:	Wednesday, March 23, 2011 3:35 PM
To:	Wilson, Peter; Weerakkody, Sunil
Cc:	Rolph, Ronald; PMT03 Hoc
Subject:	CENG will not issue press release... NEI instead?

NEI may be issuing a press release

(below) From the NRC FOIA documents: NRC and EPA work together to present a united front of deception. The statement that there will be 'no health impact on the United States' was based on intentionally flawed modeling of short duration (96 hours or 4-5 days of emissions) and of radioactive Iodine and Cesium only.

From: Hayden, Elizabeth
To: Weber, Michael
Cc: Brenner, Eliot
Subject: EPA/NRC Press Release
Date: Thursday, March 24, 2011 1:57:00 PM

Heard about a possible press release with EPA on radiation readings showing up at plants around the U.S. Our message should be something along the lines of we are aware that minute amounts of element=-XYZ have been detected at the very sensitive monitoring equipment at a number of operating nuclear plants. Nothing detected so far comes anywhere near a level that might concern us. We remain convinced there will be no health impact on the United States.
Please keep us in the loop. Thanks.

Beth

(below) From the NRC FOIA documents: about the NRC 50.72 rule...

NUREG-1022, Rev. 3

Event Report Guidelines 10 CFR 50.72 and 50.73

Final Report

(below) From the NRC FOIA documents: Ginna NPP owners may have been caused angst by 50.72 (b)(3)(ii) which stipulates any condition that 'degrades plant safety' must be reported.

Degraded or Unanalyzed Condition (See Section 3.2.4 of this report)	
§ 50.72(b)(3)(ii) "Any event or condition that	**50.73(a)(2)(ii)** "Any event or condition that

3

Table 1 Reportable Events (continued)

results in: (A) The condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or (B) The nuclear power plant being in an unanalyzed condition that significantly degrades plant safety."	resulted in: (A) The condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or (B) The nuclear power plant being in an unanalyzed condition that significantly degraded plant safety."

(below) From the NRC FOIA documents: or was the angst over the possibility of reporting elevated levels of Fukushima fallout at Ginna NPP caused by 50.72(b)(2)(xi)?

News Release or Notification of Other Government Agency (See Section 3.2.12 of this report)	
§ 50.72(b)(2)(xi) "Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for	

Table 1 Reportable Events (continued)

which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials."	

(below) From the NRC FOIA documents: if a news release is planned NRC wants to know so it can "...respond to heightened public concern."

3.2.12 News Release or Notification of Other Government Agency

§ 50.72(b)(2)(xi)	§ 50.73
"Any event or situation, related to the health and safety of the public or on-site personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an on-site fatality or inadvertent release of radioactively contaminated materials."	There is no corresponding requirement in 10 CFR 50.73.

If not reported under 10 CFR 50.72(a) or (b)(1), licensees are required to notify the NRC via the ENS under 10 CFR 50.72(b)(2) (a 4-hour report). A news release or notification of other government agency should be apparent at the time of occurrence. Therefore, if all events are reported properly, it is expected that all reports under 10 CFR 50.72 are as a result of an on-going condition.

In the case of an event for which a news release is planned, the purpose of the report is to provide timely and accurate information so that the NRC can respond to heightened public concern. Accordingly, it is requested that the report be provided by the time the news release is issued.

(below) From the NRC FOIA documents: "Examples of events likely to be reportable..."

The purpose of this criterion is to ensure that the NRC is made aware of issues that will cause heightened public or government concern related to the radiological health and safety of the public or onsite personnel or protection of the environment.

Licensees typically issue press releases or notify local, county, State, or Federal agencies on a wide range of topics that are of interest to the general public. The NRC Operations Center does

---

not need to be made aware of every press release made by a licensee. The following clarifications are intended to set a reporting threshold that ensures necessary reporting while minimizing unnecessary reporting.

Examples of events likely to be reportable under this criterion include the following:

- release of radioactively contaminated tools or equipment to public areas
- unusual or abnormal releases of radioactive effluents
- onsite fatality

(below) From the NRC FOIA documents: more on the process and criteria for reporting radiation at US NPPs...

Routine radiation releases are not specifically reportable under this criterion. However, if a release receives media attention, the release is reportable under this criterion.

If possible, licensees should make an ENS notification before issuing a press release because news media representatives will usually contact the NRC public affairs officer shortly after its issuance for verification, explanation, or interpretation of the facts.

(below) From the NRC FOIA documents: an example of an 'unscheduled radiation release'. Since Fukushima fallout was not a result of activities at US nuclear plants, reporting was done on a voluntary basis.

(4) State Notification of Unscheduled Radiation Release

The licensee reported to the State that it was going to release about 50 curies of gaseous radioactivity to the atmosphere while filling and venting the pressurizer. The licensee then revised its estimate of the release to 153 curies. However, because the licensee had not informed the State within 24 hours of making the release, it had to reclassify the release as “unscheduled” per its agreement with the State. The licensee notified the State and the NRC resident inspector.

An ENS notification is needed because of the State notification of an “unscheduled” release of gaseous radioactivity. The initial notification to the State of the scheduled release does not need an ENS notification because it is considered to be a routine notification.

Seek and Destroy: NRC Spends Millions to Search for Negative Press

The strategy is simple. The NRC wants to know who is writing or speaking out against nuclear power and they want to know the moment an article or video is published. When a report of media offenders becomes available, a 'Cyber Situational Awareness Team' springs into action. This is Big Brother at his best, clamping down on free speech and spreading disinformation through blogs and social networking sites like FaceBook. Once the negative media is located, and this appears to be nearly instantaneous, the NRC begins an all-out information war to counter the effects of that particular piece. In many cases, a simple phone call will do to have an article removed or edited. Remember, these folks have corporate connections everywhere; writers have bosses and bosses work for owners. When the corporate owner of your newspaper calls and demands that you remove and anti-nuclear article, you better believe that article get's pulled (or edited) 99.9% of the time. Now I ask my fellow Americans, why is it that the nuclear power industry must act in this way? If nuclear power is clean and wholesome, as they insist it is, then why must the NRC spend millions in an effort to find and attack information that portrays them in a negative light? Shouldn't the NRC ask themselves, why is there so much media speaking out against nuclear power? And where are the countless activists speaking/writing out against solar power? Do solar power companies spend millions searching the press for articles that speak poorly of solar power?

(below) from the NRC FOIA documents: follow the money.

6 ISSUED BY CODE 3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn: Michael Turner, 301-492-3632
Mail Stop: TWB-01-B10M
Washington, DC 20555

7 ADMINISTERED BY (If other than Item 6) CODE 3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Mail Stop: TWB-01-B10M

Washington, DC 20555

8 NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

INFORELIANCE CORPORATION

4050 LEGATO RD STE 700

FAIRFAX VA 220332897

CODE 143147762 FACILITY CODE

(X) 9A AMENDMENT OF SOLICITATION NO.

9B DATED (SEE ITEM 11)

10A MODIFICATION OF CONTRACT/ORDER NO.
GS35F0273L NRC-T005

X 10B DATED (SEE ITEM 13)
09-30-2011

14 DESCRIPTION OF AMENDMENT/MODIFICATION

The purpose of this modification is to increase the obligation amount by $449,140.75 from $902,700.00 to $1,351,840.75.

Total Order ceiling: $1,351,840.75 (Unchanged)
Total Obligated Amount: $1,351,840.75 (Changed)
Period of performance: 10/01/11 - 09/30/13 (Unchanged)

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A NAME AND TITLE OF SIGNER (Type or print)

15B CONTRACTOR/OFFEROR

(Signature of person authorized to sign)

15C DATE SIGNED

16A NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
Michael A. Turner
Contracting Officer

16B UNITED STATES OF AMERICA
BY (Signature of Contracting Officer)

16C DATE SIGNED
11-09-2012

1) Note the increase and the date.

2) The 'period of performance' is from 10/11 to 9/13, about 2 years, but by late 2011 there is a substantial 'modification' on the 'obligation'...the only thing that has changed is Fukushima.

(below) NOT FROM THE NRC FOIA DOCUMENTS: screencapture is from the InfoReliance website.

infoRELIANCE

Company | Services | Clients | Careers | News | Contact

SERVICES

- Software Engineering
- Cyber Security
- Cloud Computing
- Portals & Collaboration
- IT Consulting
- Secure Mobile Computing
- Business Intelligence
- Microsoft Services

Cyber Security

InfoReliance builds dynamic, effective and transparent security solutions to defend our nation's most sensitive and critical information assets. Our cyber-experts work 24-7-365 to guard against increasingly sophisticated threats.

We actively and aggressively defend some of the most highly visible and highly targeted networks in the world. We assess our clients' current security posture, then design and implement solutions that balance security with operational needs.

Sound defense begins with sound planning and secure design. Our experienced, highly skilled experts facilitate predictive defense through compliance, secure engineering, and a platform-agnostic approach to operations. Our expertise includes:

- Security Policy
- Regulatory Compliance
- Risk Management
- Certification and Accreditation
- Disaster Recovery and Continuity of Operation Plans (COOP)
- Security Architecture
- Software Assurance

In defending fielded systems, our security team is driven by unwavering vigilance and mission focus. We stand watch 24 hours per day, 365 days per year. Our security solutions include:

- Security Operations Centers (SOC)
- Cyber Threat Analysis

QUICK FACTS

CMMI Level 3

3 Office Locations

At InfoReliance, our clients' success is our top priority. We believe in a consultative approach to technology; each project begins with a clear understanding of your goals and objectives.

The result: actionable, responsive and strategic IT solutions for your organization.

(below) From the NRC FOIA documents: follow the money.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO. | 1. CONTRACT ID CODE | PAGE 1 OF

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
M019	11-09-2012	CSO-13-008 11/1/13	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Wanda M Brown Mail Stop: TWB-01-B10M Washington, DC 20555	3100	U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	3100

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
MAR, INCORPORATED 1803 RESEARCH BLVD STE 204 ROCKVILLE MD 208506106		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO. GS35F0229K DR-33-06-317-T045
CODE 062021639 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-19-2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

(below) From the NRC FOIA documents: follow the money, MAR Inc. part 2

14 DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to exercise an administrative change to the Contracting Officer Representative Authority.

Please see page 2 for modification details.

Ceiling $2,129,773.95 (unchanged)
Total Obligations $1,903,335.60 (unchanged)
Period of Performance: 5/19/2008-7/31/2013 (unchanged)

The modification does obligate funds, all other terms and condition remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A NAME AND TITLE OF SIGNER (Type or print)		16A NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Wanda M Brown Contracting Officer	
15B CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C DATE SIGNED	16B UNITED STATES OF AMERICA (Signature of Contracting Officer)	16C DATE SIGNED 11-9-12

(Below) From the NRC FOIA documents: more from the money trail...

DR-33-06-317-T045
Modification No.19
Page 5 of 5

A summary of obligation for this contract from award date through the date of this action is given below:

FY'08 Obligation Amount----------$279,335.60
FY'09 Obligation Amount----------$575,000.00
FY'10 Obligation Amount----------$ 15,000.00
FY'11 Obligation Amount----------$314,000.00
FY'12 Obligation Amount----------$ 720,000.00

Cumulative total of NRC obligations is: **$1,903,335.60**

This modification does not obligate funds; all other terms and conditions under this contract task order remain unchanged.

1) Notice the increase between FY '11 and FY '12...after the Fukushima disaster the ammount spent more than doubles.

2) Total obligation over 5 years: over 1.9 million dollars

3) This is just one contract for one IT company. There is at least one other IT company under the direction of the NRC.

(below) From the MAR Inc. website...

(below) From the NRC FOIA documents: searching all sectors of media for negative press...

From: Mitlyng, Viktoria
Sent: Monday, March 28, 2011 8:47 AM
To: Brenner, Eliot; Hayden, Elizabeth
Cc: Chandrathil, Prema
Subject:

Below is the coverage of Friday's forum with Durbin and Kirk. None of which is in today's NRC in the News; not even a representative sample. Is our news service not catching Midwestern news? In addition, this weekend, coverage related to at least two other Region 3 plants is missing – Quad Cities and Kewaunee. Throughout the Japan crisis, most of the coverage in Midwestern press has not been picked up in the NRC in the News. And we have been way too busy to collect the clips and send them to HQ. Can we look into why this is happening? Please let us know. Thank you. Vika

(below) From the NRC FOIA documents: results of a search...

http://illinoisreview.typepad.com/illinoisreview/2011/03/kirk-opening-remarks-at-nuclear-safety-forum.html

http://chicago.cbslocal.com/2011/03/25/kirk-durbin-grill-nuclear-safety-officials/

http://www.suntimes.com/news/metro/4514592-418/kirk-durbin-quiz-nuclear-experts.html

http://www.mlive.com/news/grand-rapids/index.ssf/2011/03/stores_running_out_of_potassiu.html

http://www.examiner.com/conservative-in-chicago/durbin-kirk-question-nuclear-officials

http://www.chicagotribune.com/news/chi-ap-il-illinoisnuclearpl,0,2925280.story

http://www.chicagotribune.com/news/chi-ap-il-illinoisnuclearpl.0,2925280.story

NBC

http://www.nbcchicago.com/news/local/Illinois-Senators-question-nuclear-experts--118690579.html

ABC

http://abclocal.go.com/wls/video?id=8035110#global

FOX

http://www.myfoxchicago.com/dpp/news/metro/illinois-nuclear-power-plants-kirk-durbin-reactors-japan-meltdown-fears-20110315

http://www.myfoxchicago.com/dpp/news/metro/illinois-nuclear-power-plants-20110313

CBS - QUESTIOINS ABOUT IG REPORT

http://chicago.cbslocal.com/2011/03/25/kirk-durbin-grill-nuclear-safety-officials/

Viktoria Mitlyng

(below) From the NRC FOIA documents: a complaint about 'news stories left out'.

From: Hayden, Elizabeth [mailto:Elizabeth.Hayden@nrc.gov]
Sent: Monday, March 28, 2011 10:54 AM
To: 'bulletin news'; 'Juliana Hoskinson'
Cc: Brenner, Eliot; Mitlyng, Viktoria
Subject: News Stories left out

Juliana, Paul,

Can you shed some light on why these stories are not showing up in our news clips package? This is a lot of stories.

Beth Hayden
Senior Advisor
Office of Public Affairs
U.S. Nuclear Regulatory Commission
--- Protecting People and the Environment
301-415-8202

+++|20

---

elizabeth.hayden@nrc.gov

(below) From the NRC FOIA documents: more on news being left out from a search...

From: Juliana Hoskinson
To: Hayden, Elizabeth
Cc: Brenner, Eliot; Mitlyng, Viktoria; "bulletin news"
Subject: RE: News Stories left out
Date: Monday, March 28, 2011 12:10:57 PM

Hi Beth,

I've looked into the links you sent. The first one is a conservative blog that we didn't know NRC was interested in. Let us know if you'd like us to keep an eye on it in the future. Also, two of the links in the list are for an AP story that was included in Friday's briefing.

We did not have the other stories. I apologize. Our team has been dealing with a much larger volume of news than usual and is working very hard not to miss all the relevant news of the day. We know these stories are important to you and we will reassess our processes and resources and see how we can be more effective in capturing that news for NRC.

We will include all the weekend's stories we omitted in tomorrow's briefing. Please let me know if you have any questions.

Best regards,
Juliana.

Juliana Hoskinson
Director of Product Management, Bulletin News
11190 Sunrise Valley Drive, Suite 130
Reston, VA 20191
(703) 483-6192 (direct)
(b)(6) (cell)
(703) 483-6112 (fax)

(below) From the NRC FOIA documents: plume map take-down part 1

From: McIntyre, David
Sent: Monday, March 28, 2011 1:27 PM
To: ET05 Hoc; CS_IRT
Cc: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; Medina, Veronika; Blount, Tom
Subject: RE: NRC logo in plume map

I've written to their web folks through the website, asking them to take it off.

From: ET05 Hoc
Sent: Monday, March 28, 2011 1:18 PM
To: CS_IRT
Cc: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; McIntyre, David; Medina, Veronika; Blount, Tom
Subject: NRC logo in plume map

Remove attributions to the NRC from the plume map. This map was not provided through any official or known unofficial channels of the NRC.

http://www.sovereignindependent.com/?s=nrc

Thanks,

Ops Center

(below) From the NRC FOIA documents: plume map take-down part 2

From: Watkins, Charles
To: McIntyre, David; ETDS Hoc; CS_IRT
Cc: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; Medina, Veronika; Blount, Tom
Subject: RE: NRC logo in plume map
Date: Monday, March 28, 2011 1:48:48 PM

David, thank you for the notification. In the future, as you just did, please send all erroneous or malicious external web site notifications etc to CS_IRT@nrc.gov or call 301-415-6666.

CISRT will take the lead by contacting US-CERT, OPA, OIG and others who will make contact and take action with the web site owner and associated Internet Service Provider or law enforcement agencies. Only those with official duties and capacity should be contacting the external entities on behalf of the US Government. As a rule, most agency actions are defensive in nature and we leave offensive actions to the proper authorities. Thank you, Charlie

Charles Watkins II, CISSP, EnCE
Cyber Situational Awareness Team
NRC, Computer Security Office
(301) 415-6199 Work Phone
(b)(6) **Work Cell**

(below) From the NRC FOIA documents: plume map take-down part 3

From: Brenner, Eliot
To: Watkins, Charles; McIntyre, David
Cc: Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; Medina, Veronika; Blount, Tom
Subject: RE: NRC logo in plume map
Date: Monday, March 28, 2011 2:06:20 PM

Charles: David works for OPA.

We succeeded in having this bit of bogosity (new word) removed from several websites in the early days of the crisis when we spotted it, got word out via social media, blogged about it and otherwise knocked it down. We're always happy to keep you guys in the loop.

In terms of reaching out to other elements of the government (outside of the public affairs structure), it's all yours. Glad the Ops Center folks were able to spot yet another use of this thing and notify you.

Eliot

(below) From the NRC FOIA documents: plume map take down part 4

Charles Watkins II, CISSP, EnCE
Cyber Situational Awareness Team
NRC, Computer Security Office
(301) 415-6199 Work Phone
(b)(6) **Work Cell**

From: McIntyre, David
Sent: Monday, March 28, 2011 1:27 PM
To: ET05 Hoc; CS_IRT
Cc: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; Medina, Veronika; Blount, Tom
Subject: RE: NRC logo in plume map

I've written to their web folks through the website, asking them to take it off.

From: ET05 Hoc
Sent: Monday, March 28, 2011 1:18 PM
To: CS_IRT
Cc: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; McIntyre, David; Medina, Veronika; Blount, Tom
Subject: NRC logo in plume map

Remove attributions to the NRC from the plume map. This map was not provided through any official or known unofficial channels of the NRC.

http://www.sovereignindependent.com/?s=nrc

Thanks,

Ops Center

114/119

(below) From the NRC FOIA documents: plume map take down part 5

From:	Watkins, Charles
To:	McIntyre, David; ETOS Hoc; CS_IRT
Cc:	Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Landau, Mindy; Medina, Veronika; Blount, Tom
Subject:	RE: NRC logo in plume map
Date:	Monday, March 28, 2011 1:48:48 PM

David, thank you for the notification. In the future, as you just did, please send all erroneous or malicious external web site notifications etc to CS_IRT@nrc.gov or call 301-415-6666.

CISRT will take the lead by contacting US-CERT, OPA, OIG and others who will make contact and take action with the web site owner and associated Internet Service Provider or law enforcement agencies. Only those with official duties and capacity should be contacting the external entities on behalf of the US Government. As a rule, most agency actions are defensive in nature and we leave offensive actions to the proper authorities. Thank you, Charlie

(below) From the NRC FOIA documents: updated MAR contract

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO. | 1. CONTRACT ID CODE | PAGE 1 OF 1

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
M017	10-31-2012	CSO-12-107 9/25/12	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Jordan Pulaski Mail Stop: TWB-01-B10M Washington, DC 20555	3100	U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	3100

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
MAR, INCORPORATED 1803 RESEARCH BLVD STE 204 ROCKVILLE MD 208506106		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO. GS33F0229K DR-33-06-317-T069
CODE 062021639 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 08-31-2009

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

E. IMPORTANT: Contractor [ ] is not, [X] is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to extend the task order period of performance at no additional cost to the Government. Therefore, the period of performance of this task order will be from July 24, 2009 through July 31, 2013.

Ceiling $2,898,159.48 (unchanged)
Total Obligation Amount $2,316,000.00 (changed)
Period of Performance 7/24/2009-7/31/2013 (Changed)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
Linda Klages, VP Contracts	Linda Klages (Signature of person authorized to sign)	10-31-12	Jordan Pulaski Contracting Officer	BY Jordan Pulaski (Signature of Contracting Officer)	10-31-12

NSN 7540-01-152-8070
PREVIOUS EDITION NOT USABLE

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA - FAR (48 CFR) 53.243

TEMPLATE - ADMC01

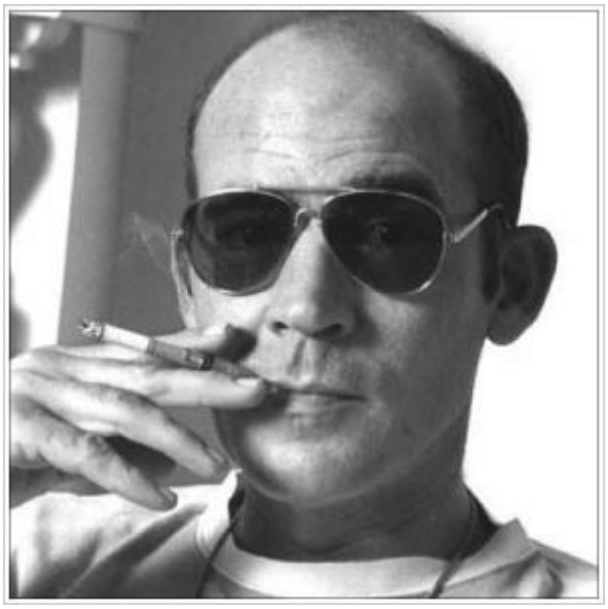
SUNSI REVIEW COMPLETE

NOV 7 2012

ADMC02

Chapter 4

Fear and Loathing on Fukushima Unit 4



(above: Author Hunter Thompson (1937-2005) was never afraid to report the truth no matter how ugly it was.)

The trick is to convince the American public, and indeed the world, that the worst-of-the-worst has not already happened at Fukushima. Even if that means a media campaign of fear-mongering based around a fantasy doomsday scenario involving the collapse of Unit 4 and its spent fuel pool. Interestingly enough, all the alternative and mainstream media outlets that are promoting this bogus Unit 4 doomsday scenario are the same ones who have chosen not to report on the Nuclear Regulatory Agency's Freedom of Information Act documents pertaining to Fukushima. These documents tell the true story of Fukushima: the multi-agency cover-up that downplayed and concealed the radioactive plume and fallout, the reality of a prolonged station blackout that produced three 'China Syndrome' meltdowns, and the Unit 4 spent fuel pool zirconium fire and subsequent 'melt on the floor' of the fuel rods. The sad reality is that the effects of a nuclear plant meltdown or spent fuel pool fire can be so sudden and so severe that the possibility exists that no safety precautions can be taken quickly enough to avoid the consequences completely. In the case of the Fukushima catastrophe, it took about a week to produce a measurable plume that traveled south down the coast and then swept inland across Tokyo. These plumes were laden with aerosolized plutonium. I ask you: how do you evacuate Tokyo in less than a week? How will we evacuate New York if Indian Point has an accident and produces a plume? Where do you relocate a city of millions of people? So you see, the reality of the potential of a meltdown or meltdowns is so horrific, it must be hidden from the public at all costs. And when a meltdown does occur, the truth of its severity and its effects must also be hidden from the public at all

costs. Can you imagine what it would have been like if TEPCO, the Government of Japan, the NRC and the White House had been up front and 100% honest about the disaster from the start? What would have happened if officials announced that 1) a plutonium laden plume was drifting towards Tokyo and 2) multiple plumes and fallout were heading across the Pacific towards the West Coast of the US? What would have happened if officials were up front and honest about the triple 'China Syndrome' and Unit 4 'melt on the floor' and its effects? No matter how you slice it, it would be ugly, very ugly. It seems to me that when a country desires both national security and nuclear power at the same time, it desires the impossible. Furthermore, how can one have a rational discussion about national security if one does not include a frank, open discussion about the decommissioning of all nuclear plants? Which is a greater threat to the American public, Iran's nuclear program or our own nuclear program? Why would Iran build a nuclear bomb to use against the US when we have hundreds of stationary bombs, in the form of reactors and fuel pools, already positioned throughout the country, with incredible payloads far beyond the capacity of any bomb or missile? Think of the possibilities: terrorist attack, sabotage, earthquake, tsunami, earthquake AND tsunami, flooding from a broken dam upriver, or even the old-fashioned accident that aging reactors are bound to have from time to time...why do we leave ourselves so vulnerable?

About the Fukushima Unit 4 Spent Fuel Pool:

The evidence, from the NRC FOIA documents pertaining to Fukushima, has led me to believe that:

1) The March 11th, 2011 earthquake caused immediate structural damage to the Unit 4 building. Spent fuel pool coolant began to drain out through a crack or cracks that were a result of the earthquake.
2) There was an H2 explosion and a wall or walls of the SFP #4 were 'blown out'.
3) On March 15th 2011, the hot offload of fuel experienced a zirconium cladding fire and subsequent meltdown to the floor of the spent fuel pool. According to the IAEA, SFP #4 was on fire and emitting radiation directly to the atmosphere for at least 9 hours and 10 minutes before TEPCO claimed it was extinguished.
4) 75% or more of the radiation contained in SFP #4 may have been released into the atmosphere. Modeling was done on a 100% release.
5) Any fuel rods recovered (official numbers vary on what the inventory was) will be ones that were unused and 'cool'…probably less than 25% of inventory. It is possible that all fuel rods were affected and none will be salvageable.

The Evidence:

To be clear: I cannot prove that the spent fuel pool of Unit 4 has been destroyed or damaged. Nor can the nuclear apologists prove that the pool is full of water and the fuel rods are intact. It should be noted that those who claim that the damage to SFP 4 was minimal and that the rods will be recovered have only their rhetoric to back them up. They offer no proof. YouTube videos alleging to be of the Unit 4 spent fuel pool could be any spent fuel pool in the world. ABC and CBS News have both had film crews at the stricken plant to inspect the Unit 4 offload process but the video evidence they present is not seamless. The video camera is always turned off

before entering the building and then turned back on once inside. Again, the inside of the spent fuel pool shown in these videos could be any spent fuel pool in Japan. Is it not evidence in and of itself that after all this time they have not proven beyond a reasonable doubt that their claims are true? How hard would it be to hold a current newspaper in front of a video camera and then make an inspection of Units 1-4 for the world to see? Do you believe TEPCO? Do you believe the NRC? Do you believe the Government of Japan or our own government? All of these entities have extensive track records of deception and dishonesty and they all have reason to hide the truth, especially in the case of the Fukushima disaster.

(below) NOT FROM THE NRC FOIA DOCUMENTS: the effects of a prolonged station blackout (SBO) caused by a 9.0 earthquake and 46 foot tall tsunami are catastrophic. (this picture is from TEPCO)

(below) From the NRC FOIA documents: normal operating temperature of the coolant in a spent fuel pool is 30 degrees Celsius.

- Starting conditions: Pool full, 30 ℃

(below) From the NRC FOIA documents: March 14th, 2011 the temperature of SFP #4 is now at 84 degrees Celsius.

- The temperature of water in the spent fuel pool went up. At 4:08am on March 14th, the temperature in the spent fuel pool of Unit 4 was 84 degree centigrade.

(below) From the NRC FOIA documents: March 15th FAX from the IAEA to the NRC "Release Radioactivity Unit 4 Fukushima Daiichi NPP"

From: HOO Hoc
To: HOO Hoc
Subject: FYI: New ENAC Information for March 15, 2011 - Corrected
Date: Tuesday, March 15, 2011 7:17:58 AM
Attachments: Meteo Products 2011-03-15 0300 - RSMC Tokyo[1].pdf
Letter - Summary of reactor unit status at 2011 15-March Daiichi Unit 4 Radiation UTC[1].pdf
Letter - Summary of reactor unit status at 2300 14-March Daiichi[1].pdf
nisa press release 15-March-2011[1].pdf
Attachment 3 to METI PR 24 Japanese[1].pdf
Attachment 2 to METI PR 24 Japanese[1].pdf
Attachment 1 to METI PR 24 Japanese[1].pdf
Attachment 4 to METI PR 24 Japanese[1].pdf
METI Press Release 24 in Japanese[1].pdf
FAX Release Radioactivity Unit 4 Fukushima Daiichi NPP 20110315 0724UTC[1].pdf

Please see the attached new information we retrieved from the IAEA ENAC site.

Headquarters Operations Officer
U.S. Nuclear Regulatory Commission
Phone: 301-816-5100
Fax: 301-816-5151
email: hoo.hoc@nrc.gov
secure e-mail: hoo1@nrc.sgov.gov

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

(below) From the NRC FOIA documents: March 15th, 2011-Japanese authorities inform the IAEA that the spent fuel pond at Unit 4 is on fire and that "...radioactivity is being released directly into the atmosphere."

IAEA
International Atomic Energy Agency

INCIDENT AND EMERGENCY CENTRE

Subject: Release of radioactivity from Unit 4 of Fukushima Daiichi nuclear power plant

At 04:50 UTC on 15 March 2011 the IAEA was informed by the Japanese authorities that the spent fuel storage pond at Unit 4 of the Daiichi nuclear power plant is on fire and radioactivity is being released directly into the atmosphere. Dose rates up to 400 millisievert per hour have been reported at the site. There is the possibility that the fire has been caused by a hydrogen explosion.

The IAEA has contacted the World Meteorological Organization and has asked that the results of atmospheric models be circulated to all Member States.

The IAEA will issue further information as soon as it becomes available.

Günther Winkler
Emergency Response Manager
15-March-2011 05:10 UTC
IAEA Incident and Emergency Centre

(below) From the NRC FOIA documents: Japanese authorities claim the fire at the spent fuel pool of Unit 4 is extinguished 9 hours and 10 minutes after it begins. Evidence found in the NRC FOIA documents contradicts this claim. As of March 16th, TEPCO had yet to remove the rubble blocking the path of fire trucks and other heavy equipment to the Fukushima facility. Helicopter water drops, the only other method of delivering water to the spent fuel pools, are said to be ineffective by NRC officials.

IAEA

International Atomic Energy Agency

INCIDENT AND EMERGENCY CENTRE

Subject: Release of radioactivity from Unit 4 of Fukushima Daiichi nuclear power plant

At 07:20 UTC on 15 March 2011 the IAEA was informed by the Japanese authorities that the fire at the spent fuel storage pond at Unit 4 of the Daiichi nuclear power plant was extinguished at 02:00 UTC.

The IAEA will issue further information as soon as it becomes available.

Rodolfo Cruz Suarez

Emergency Response Manager

15-March-2011 07:24 UTC

IAEA Incident and Emergency Centre

(below) From the NRC FOIA documents: Situation Report Update shows Unit 4 spent fuel pool in grave danger. Radiation levels are too high to initiate countermeasures at 30 REM/hr. Note that NRC officials were adamant that the 'lube oil fire' of Unit 4 was NOT a lube oil fire and instead referred to it as a 'seminal event'.

From: Jackson, Donald
Sent: Tuesday, March 15, 2011 8:59 PM
To: Dentel, Glenn; Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Clifford, James; Miller, Chris; Weerakkody, Sunil
Cc: Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; McKinley, Raymond
Subject: 2000 CA Briefing and Attached Situation Report
Importance: High

I have attached the 1930 Situation Report Update provided to the Commission TAs. The Chairman joined the phone call at around 2015 to confirm reports of an ongoing Unit 4 fire that was reported on CNN. I have summarized key changes to the previous email from Glenn Dentel in bulletized fashion below. The attachment is a concise comprehensive report of current status.

Unit 1-
- Little Change
- Some Fuel Damage
- SW Injection Working
- Loss of Sec Ctmt

Unit 2-
- **New Report That Primary Containment Appears Intact**
- **Loss of Secondary Containment- TEPCO made a hole in roof to positively vent H2 Gas**
- Some Fuel Damage
- **Less Stable SW Injection**

Unit 3-
- Little Change
- Some Fuel Damage
- SW Injection Working
- Loss of Sec Ctmt

Unit 4-
- Previous Fire determined to be a lube oil fire
- **New fire reported in vicinity of refueling deck, believed to be H2 fire**
- **SFP Level reported to be very low, radiation levels 30 R/hr due to shine**
- **No fire fighting actively due to high rad levels**
- **Fire began 4-5 hours ago**
- **TEPCO plans to remove secondary containment roof or wall section to fight fire externally**

CCC/205

Units 5 and 6-

90

(Below) From the NRC FOIA documents: from a March 15th brief by the NRC ET (executive team)...'Fire in the reactor #4 which was burning spent fuel was extinguished.'

FOR OFFICIAL USE ONLY

None

10. Notable Items from OpE Clearinghouse Screening Meeting: [Brief the status of recent items that have potential to develop into significant OpE.]

Screened-in as an Issue for Resolution and an OpE COMM the Japanese events.
Preliminary OpE COMM linked into the summary.
Appears that Dai-ichi # 2 reactor core was uncovered and might have partially melted through the containment vessel.
Fire in the reactor #4 which was burning spent fuel was extinguished.
No fly zone 19 mile radius established over the Fukushima Dai-chi nuclear plant.

Per Richard Conatser – multiply micro Sv/h by 0.1 to get rem/hr.

(below) From the NRC FOIA documents: as the spent fuel pools heat up, access problems (of which radioactive MOX sludge was a factor) and high radiation levels impede any response to the disaster.

- **SFPs heating up, approximately 80 degrees C**

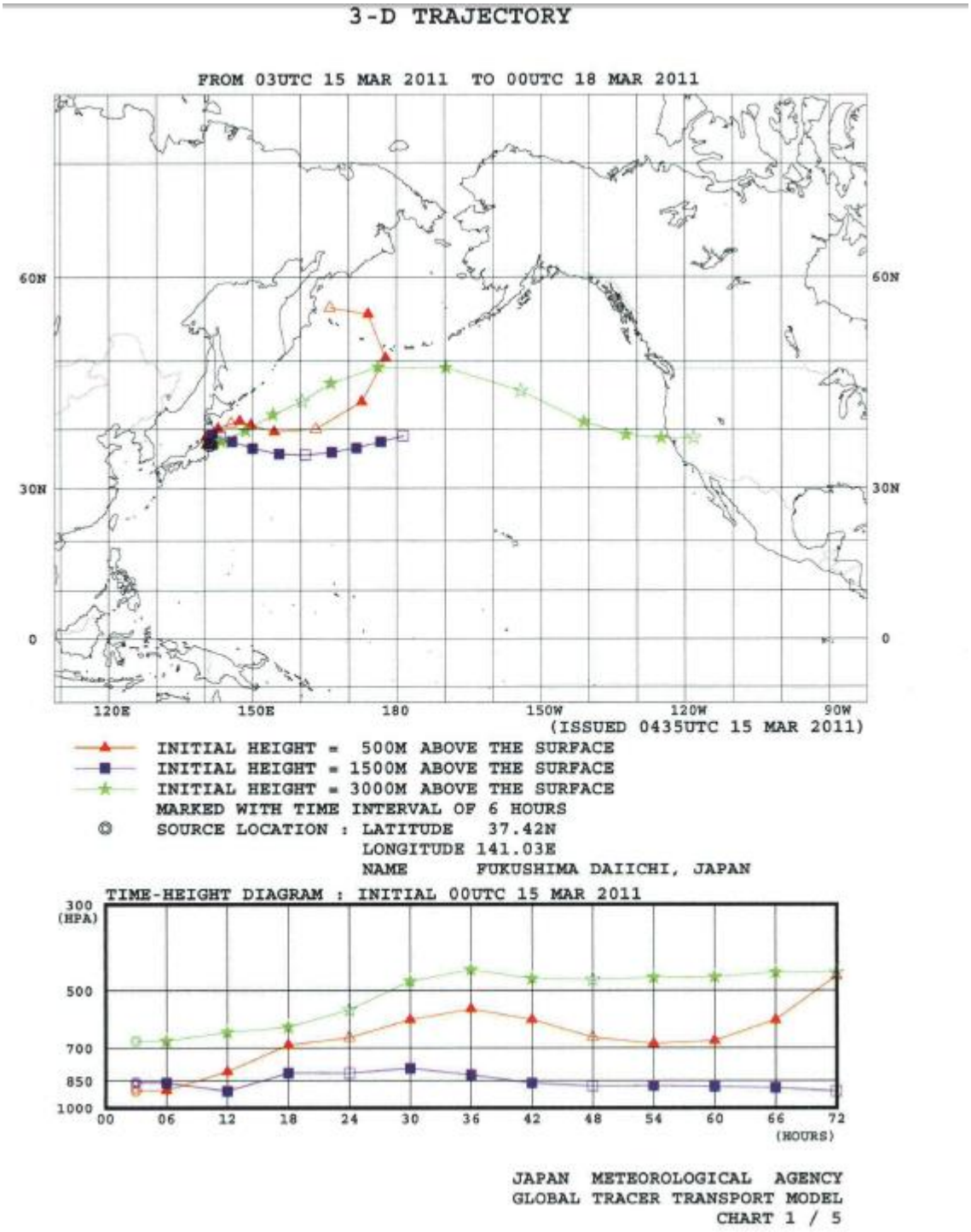
Other Items:

- **INPO has issued its highest level event notification requiring plants to assess and report on 4 items including B.5.b, SAMG, SBO, Flooding and Fire readiness.**
- Additional NRC Team arrives this evening
- NRC has determined that Japanese PARs currently adequate
- Japanese government is accepting US Government help from Military, DOE, and other specialties
- **It was reported that TEPCO currently has around 50 staff on site, and that 5 individuals may have received fatal radiation doses during emergency actions.**

Please refer to the attachment, it has really good information.

Very Respectfully,
Don Jackson

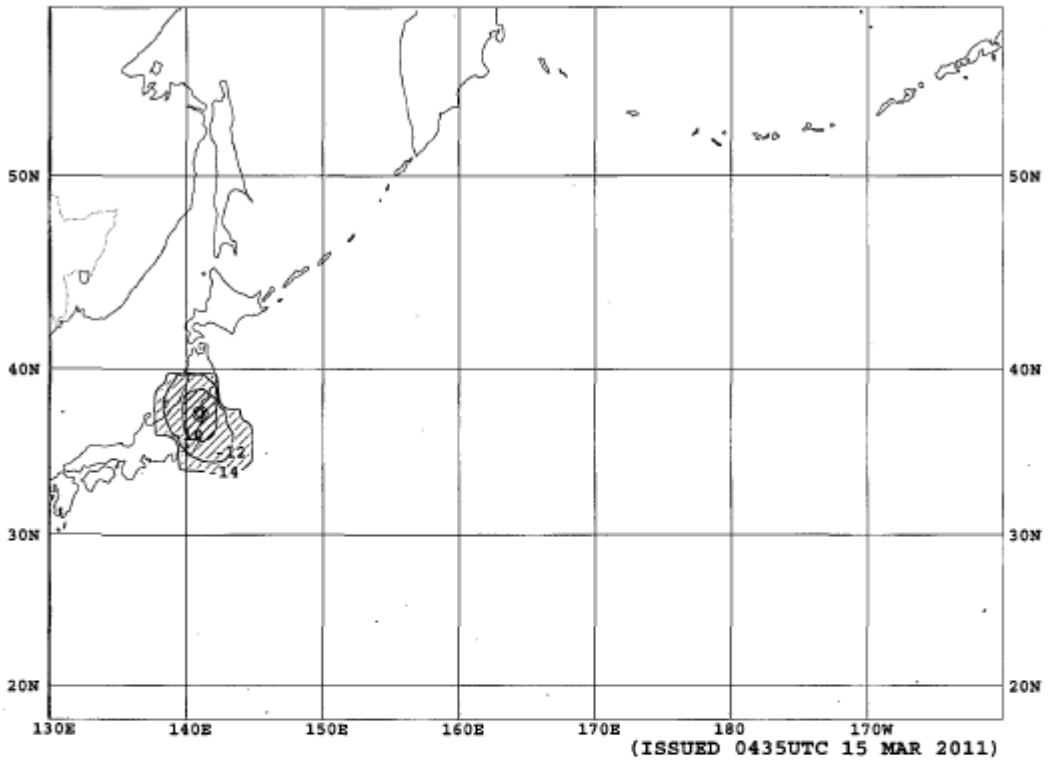
(below) From the NRC FOIA documents: (part 1 of a 5 part series) plume modeling (direction of plume by elevation) from the 15th to the 18th of March, 2011 by the Japan Meteorological Agency. While this modeling may or may not be based on the releases of SFP #4, it is indicative of where the winds of that time period might have carried radiation.



(below) From the NRC FOIA documents: (part 2 of a 5 part series) plume modeling of Cs-137 by the Japan Meteorological Agency. If modeling of *plutonium* was done by any agency or country, it has yet to be found in the NRC FOIA documents pertaining to Fukushima.

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 03UTC 15 MAR 2011
TO 00UTC 16 MAR 2011



(ISSUED 0435UTC 15 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0300UTC 15 MAR 2011
END OF THE EMISSION : 0300UTC 18 MAR 2011
◎ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI, JAPAN
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 4.86E-9 (BQ.S/M3)
CONTOURS: 1E-10, 1E-12, 1E-14

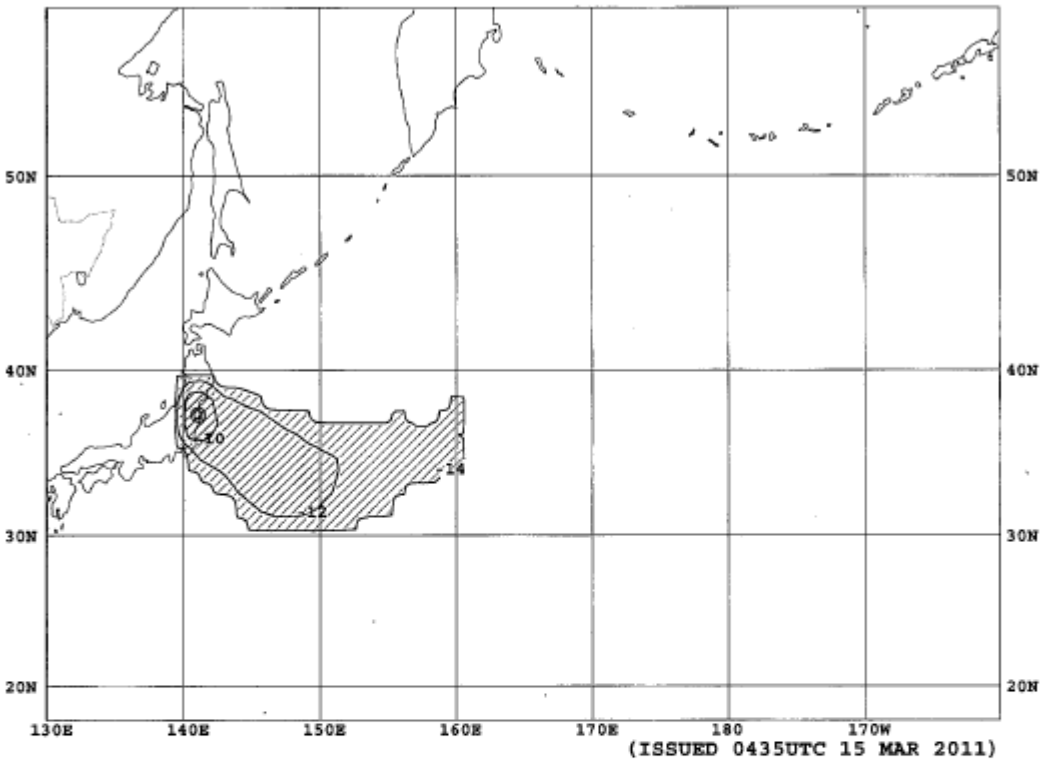
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 2 / 5

(below) From the NRC FOIA documents: (part 3 of a 5 part series) plume modeling of Cs-137.

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 00UTC 16 MAR 2011
TO 00UTC 17 MAR 2011



(ISSUED 0435UTC 15 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0300UTC 15 MAR 2011
END OF THE EMISSION : 0300UTC 18 MAR 2011
◎ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI, JAPAN
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 3.32E-9 (BQ.S/M3)
CONTOURS: 1E-10, 1E-12, 1E-14

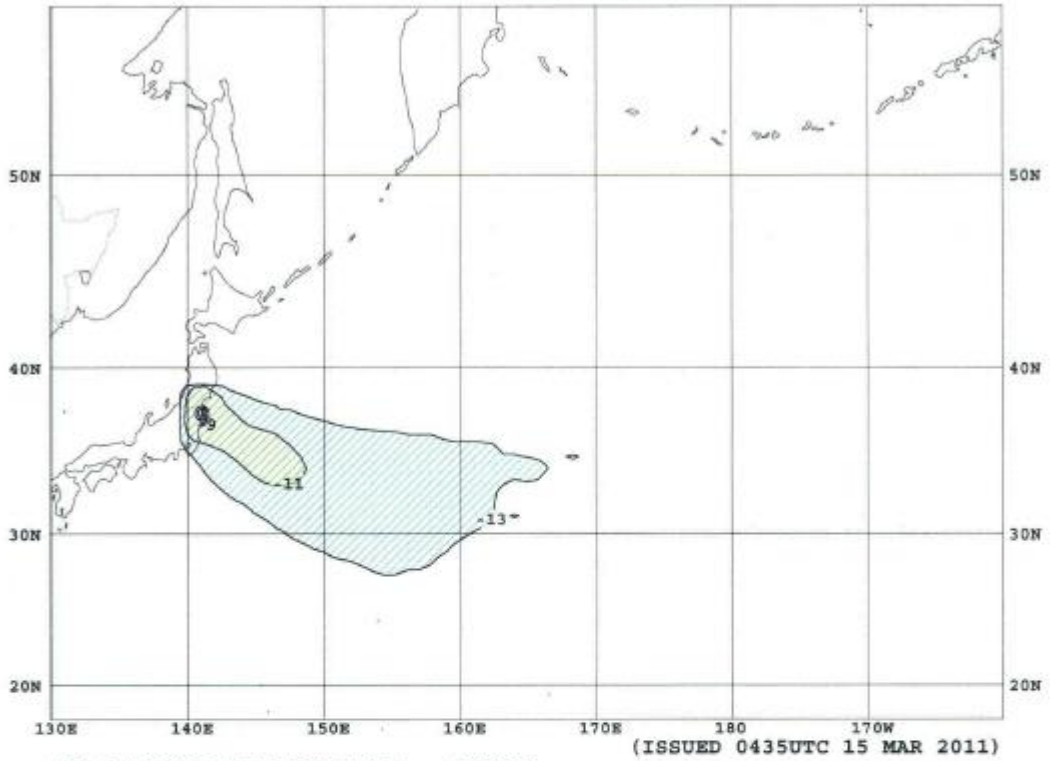
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 3 / 5

(below) From the NRC FOIA documents: (part 4 of a 5 part series) plume modeling of Cs-137.

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 00UTC 17 MAR 2011
TO 00UTC 18 MAR 2011



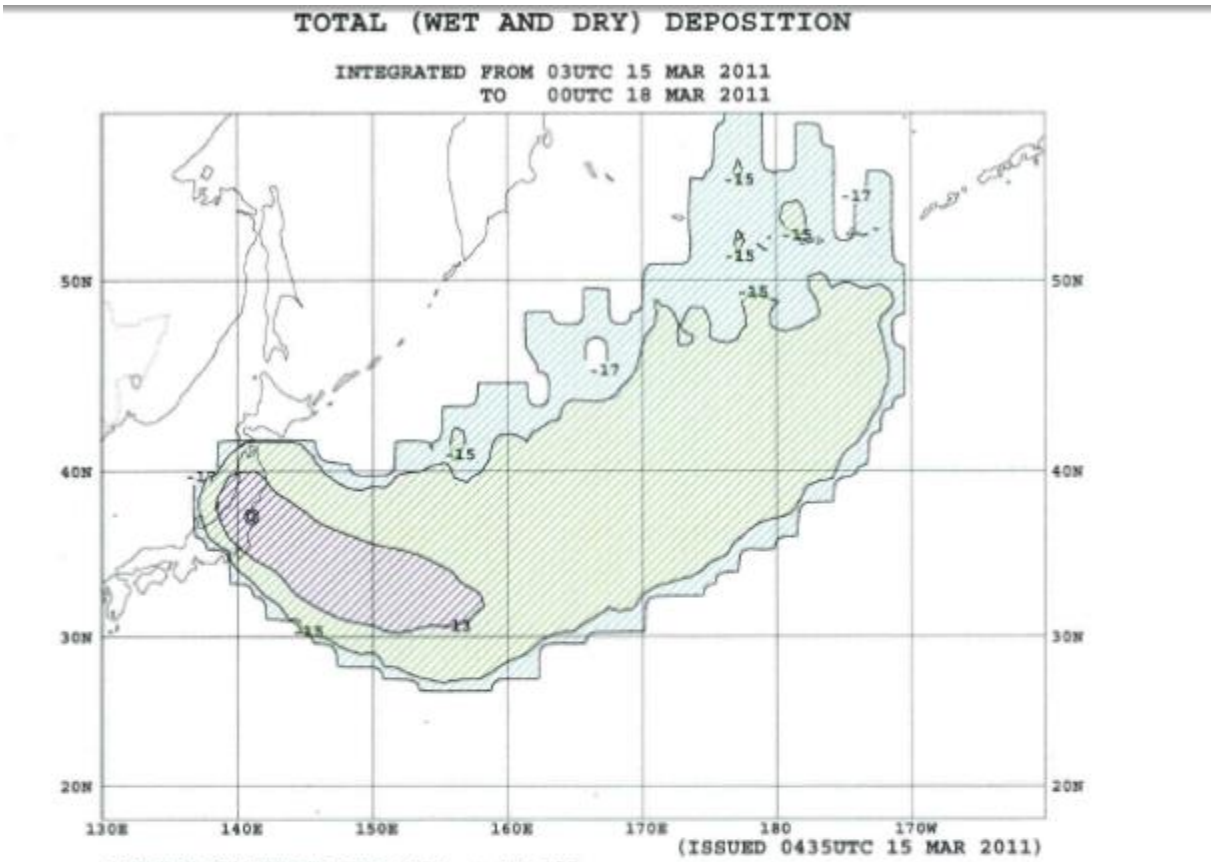
(ISSUED 0435UTC 15 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0300UTC 15 MAR 2011
END OF THE EMISSION : 0300UTC 18 MAR 2011
◎ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI, JAPAN
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 1.33E-9 (BQ.S/M3)
CONTOURS: 1E-9, 1E-11, 1E-13

CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 4 / 5

(below) From the NRC FOIA documents: (part 5 of a 5 part series) plume modeling of Cs-137.



(below) From the NRC FOIA documents: confirmation of damage to wall of Fukushima Unit 4.

<Unit 4>

- Because of the replacement work of the Shroud of RPV, no fuel was inside the RPV.
- The temperature of water in the Spent Fuel Pool had increased. (84°C at 04:08 March 14th)
- It was confirmed that a part of wall in the operation area of Unit 4 was damaged. (06:14 March 15th)

(below) From the NRC FOIA documents: email from March 15th, 2011 "U4 zirc fire, catastrophe"

Miller, Geoffrey

From: Kotzalas, Margie
Sent: Tuesday, March 15, 2011 7:14 AM
To: Miller, Geoffrey
Subject: Japan - U still here?

Hey. I heard that we sent another team of 9 people to Japan and that Chuck Casto is leading it. Do you know who else is on the team? I'll see what I can hear from my side.

I couldn't sleep again last night. Michelle was doing a shift in the Ops center (protective measures team) last night. She texted me "U2 ex-vessel, U4 zirc fire SFP, catastrophe" [Outside of Scope]

Outside of Scope

(below) From the NRC FOIA documents: Ministry of Economy Trade and Industry (M.E.T.I.) News Release: at 10:30 UTC on March 15th-orders are given to extinguish the fire at Unit 4 and prevent "re-criticality".

News Release

経済産業省
Ministry of Economy, Trade and Industry

(March 15th)

00:00: The acceptance of experts from IAEA was decided. NISA agreed to accept the offer of dispatching of the expert on NPS damage from IAEA considering the intention by Mr. Amano, Director General of IAEA. Therefore, the schedule of expert acceptance will be planned from now on according to the situation.

00:00: NISA also decided the acceptance of experts dispatched from NRC.

07:21 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

07:24 Incorporated Administration Agency, Japan Atomic Energy Agency (JAEA) reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Fuel Cycle Engineering Laboratories, Tokai Research and Development Centre.

07:44 JAEA reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Science Research Institute.

08:54 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

10:30 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the directions as follows.

For Unit 4: To extinguish fire and to prevent the occurrence of re-criticality

For Unit 2: To inject water to reactor vessel promptly and to vent

(below) From the NRC FOIA documents: email from March 16th, 2011-"U4 situation deteriorating. SFP water inventory is lost...dose rates around U4 make entry impossible..."

From: Howell, Linda
Sent: Wednesday, March 16, 2011 7:23 AM
To: Collins, Elmo; Howell, Art; Kennedy, Kriss; Pruett, Troy; Vegel, Anton; Caniano, Roy; Uselding, Lara; Maier, Bill
Subject: FW: 0630 EDT (March 16, 2011) USNRC Earthquake/Tsunami SitRep
Attachments: NRC Status Update 3-16.11--0630am.pdf

Importance: High

Items to note: The U2 containment may be in better shape than previously expected (despite press reporting). U4 situation is deteriorating, SFP water inventory is lost. Japanese military had planned to drop sea water over U3 and probably U4 yesterday but this plan was abandoned due to high dose rates. The dose rates around U4 make entry impossible at this time. The skeleton crew of 50 that had been held on site (~750 workers were evacuated) was moved offsite approximately 0.5 miles away due to dose concerns. As of 0600 CT this morning, Japanese media reporting (from NPR) indicated that the crew might not yet be back on site.

The evacuation area around the Fukushima Daini plant has been expanded to 20 Km.

THIS INFORMATION COULD CHANGE RAPIDLY AS THE DAY PROGRESSES.

(below) From the NRC FOIA documents: email from March 16th, 2011 "The walls of the Unit 4 spent fuel pool have collapsed, and there is no water in there."

From: Boska, John
Sent: Wednesday, March 16, 2011 11:31 AM
To: Guzman, Richard
Cc: Pickett, Douglas
Subject: Developments in Japan
Importance: High

Rich, please review and comment, for distribution to our branch.

In a briefing with Joe Giitter that just ended, we were informed that the situation is now much worse in Japan. The walls of the Unit 4 spent fuel pool have collapsed, and there is no water in there. There were a large number of fuel assemblies in the pool, and the fuel may no longer be intact. The radiation levels are increasing so much that it may prove difficult to work on the other 5 reactors at the site, which could lead to more fuel damage and releases.

The NRC plans to man the Operation Center (OC) 24/7 for a long period of time, and other NRC task groups are being established. A generic communication is being prepared to go to our licensees. Joe Giitter will be working an 8 hour shift in the OC (3pm-11pm), but he will try to be in his office for a couple of hours each day before going to the OC. Allen Howe has been assigned to help prepare for a Commission meeting on reactor safety. Nelson has been assigned to lead a communications team for NRR.

If you have BWR or spent fuel expertise, and would like to volunteer for a shift in the OC, please let me know. They are trying to set up a rotation of working 4-5 days, 8 hours per shift, then a couple of days off. Also, as more of our technical experts get assignments, it may be difficult to complete licensing actions. Giitter and Nelson recognize this, and said that the Japanese response will take priority over the metrics. Also, Harold Chernoff is compiling a list of licensing actions (ready to be issued) that may be sensitive (spent fuel pool rerack, reduced containment testing, etc.) that will have to be approved by the NRR LT prior to issuance. Please let Harold know if you have anything that may meet the criteria.

(below) From the NRC FOIA documents: cover-page for a March 16th transcript wherein the damage to Unit 4 is discussed extensively. Speakers include then NRC Chairman Gregory Jaczko, Regional Administrator for Region 3 Chuck Casto and Director of the Office of Public Affairs Eliot Brenner.

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Japan's Fukushima Daiichi ET Audio File

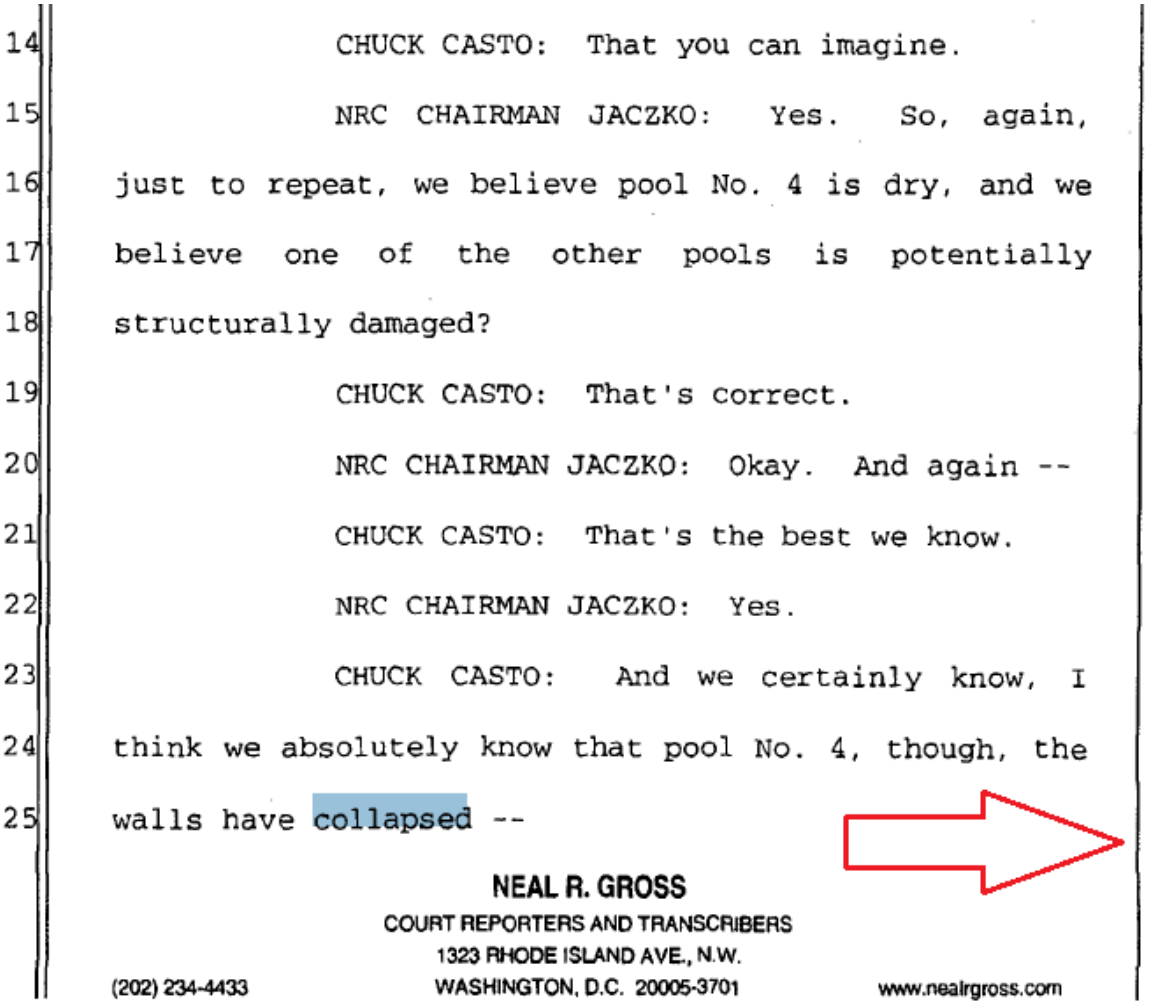
Docket Number: (n/a)

Location: (telephone conversations)

Date: Wednesday, March 16, 2011

Work Order No.: NRC-944 Pages 1-457

(below) From the NRC FOIA documents: Chuck Casto: "...we absolutely know that pool no. 4, though, the walls have collapsed..."



CHUCK CASTO: That you can imagine.

NRC CHAIRMAN JACZKO: Yes. So, again, just to repeat, we believe pool No. 4 is dry, and we believe one of the other pools is potentially structurally damaged?

CHUCK CASTO: That's correct.

NRC CHAIRMAN JACZKO: Okay. And again --

CHUCK CASTO: That's the best we know.

NRC CHAIRMAN JACZKO: Yes.

CHUCK CASTO: And we certainly know, I think we absolutely know that pool No. 4, though, the walls have collapsed --

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

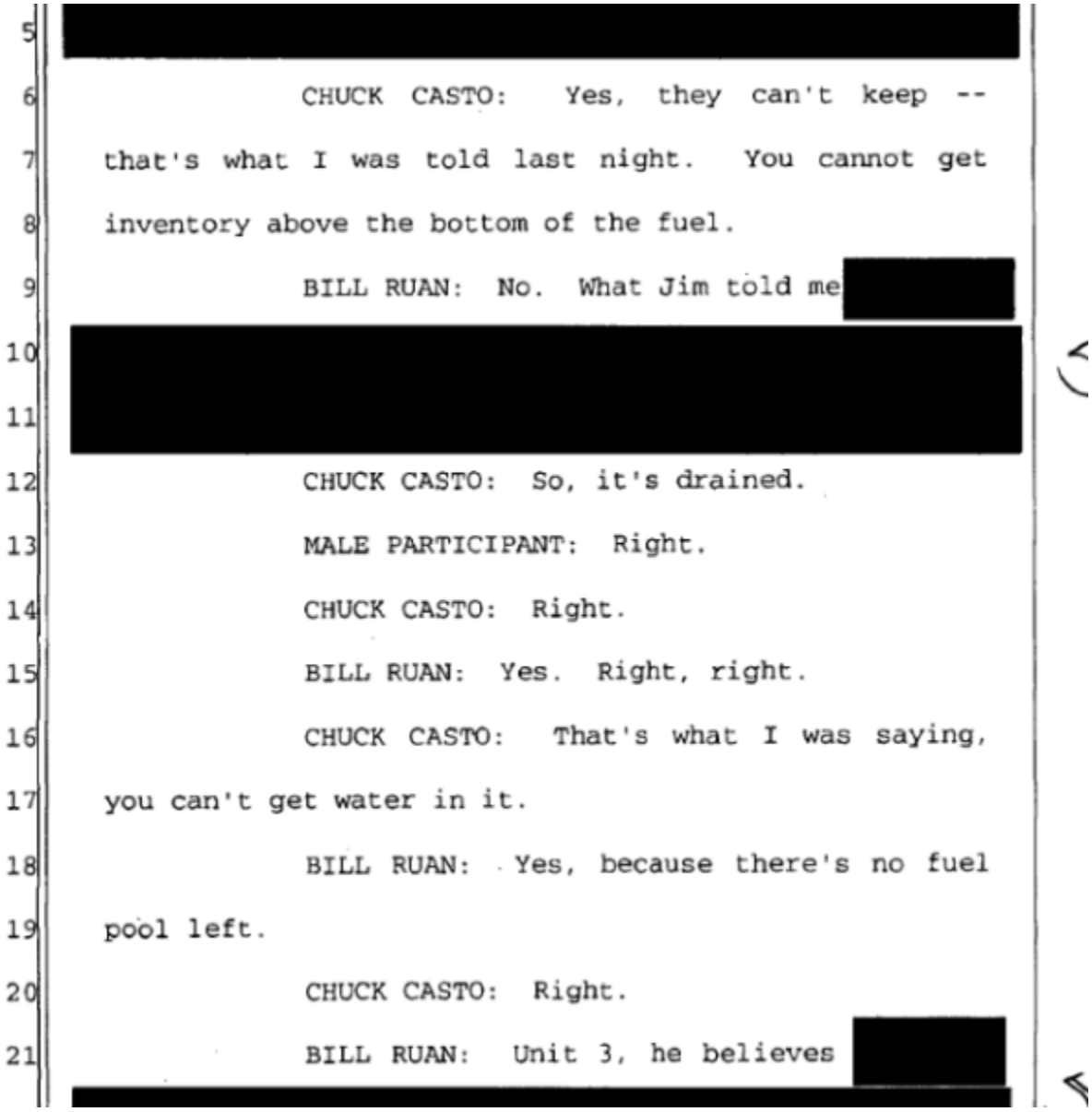
NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: -- on pool No. 4.

NRC CHAIRMAN JACZKO: And again, because I'm going to get asked the question, where's that coming from. I'm going to say it's from a team that is in Japan that is embedded that is working closely with the Japanese utility and the Japanese regulatory agency, is that correct?

CHUCK CASTO: Correct.

(below) From the NRC FOIA documents: Chuck Casto: "You cannot get inventory [coolant] above the bottom of the fuel."



[redacted]

CHUCK CASTO: Yes, they can't keep -- that's what I was told last night. You cannot get inventory above the bottom of the fuel.

BILL RUAN: No. What Jim told me [redacted]

[redacted]

CHUCK CASTO: So, it's drained.

MALE PARTICIPANT: Right.

CHUCK CASTO: Right.

BILL RUAN: Yes. Right, right.

CHUCK CASTO: That's what I was saying, you can't get water in it.

BILL RUAN: Yes, because there's no fuel pool left.

CHUCK CASTO: Right.

BILL RUAN: Unit 3, he believes [redacted]

[redacted]

(below) From the NRC FOIA documents: further discussion of damage to the Unit 4 spent fuel pool.

DAVE SKEEN: Okay. That's great, Chuck.

We've been doing some brainstorming here, trying to figure out if they've really lost integrity on 3 and 4 spent-fuel pools. The structural people are saying there's really no use to put water on there anymore because all you're going to do is spread the contamination. As it steams, you're going to make the contamination worse.

CHUCK CASTO: This is Chuck.

I think they only have one spent-fuel pool that's lost geometry, right, and lost structure.

DAVE SKEEN: Yes, Unit 4, we think they lost, blew the wall out of the side of the spent-fuel pool.

CHUCK CASTO: But the other ones, if we could put water in them, you still would want to put

water in them, wouldn't you?

MALE PARTICIPANT: Yes. If we can get water in them, they still are even trying that as we speak now, but are unable to do it. As far as we know, the other three will hold water, if we can get it in there to some extent. One of them, they said, seismically, might be cracked, but we don't know that.

DAVE SKEEN: Right. But, again, if it's been dry this long, if they've had the zirc fire and it's already (inaudible, possibly "slumped") the fuel that was there --

CHUCK CASTO: Yes.

DAVE SKEEN: -- by putting water in there and steaming it, all you're doing is spreading the contamination with the steam at some point.

CHUCK CASTO: Yes. But, like I said, Dave, let's go both paths. Let's do a water path and a sand path.

DAVE SKEEN: I agree. You have to be ready to do both things. And we have to assume that 1 and 2 are headed the same way and, eventually, we will have to do sand there.

CHUCK CASTO: Right. You're right. Let's go ahead and do both solution paths. So, recommend 1 and 2, water; 3 and 4, since they had

zirc/water reactions, to do something different.

DAVE SKEEN: Yes, and that's probably just drop sand and try to shield, you're trying to cut down dose at this point. So, you're just trying to cover up the ruble that's left.

CHUCK CASTO: Now did you read the NUREG? I know you read the NUREG, Dave, about putting water on the molten fuel, that it can help. They still recommend it.

DAVE SKEEN: Right.

CHUCK CASTO: It depends on how you do it, you know.

DAVE SKEEN: Yes.

CHUCK CASTO: Go about spreading it.

And, also, it depends on whether there is a crust built up.

DAVE SKEEN: That's right. Right, because you'll be insulating the ruble, too. So, the heat is going to build up and it's going to last longer. But, at some point, you have to figure out what's worse, to let the things be hot and burn a little longer, even if the shield is insulated, or is it worse to spread more contamination? So, that's the kind of line you've got to walk to try to figure it out.

And if you guys are on the ground over

there, you can probably get better information than we have.

(below) From the NRC FOIA documents: Chuck Casto stakes his career on Unit 4 having major damage.

CHUCK CASTO: I've got to get to another meeting, but I just wanted to tell you that Tony took [redacted] 5

For me, I'm evermore convinced that there's nothing there. There's major damage to that building. And I just have to stake my career on it. But I don't see that there's any structural integrity there at all. [redacted] You know, there was steam last night at five o'clock when the helicopter went by, steam or smoke. Who knows? It might have been a fire inside the building. You can't tell. 5

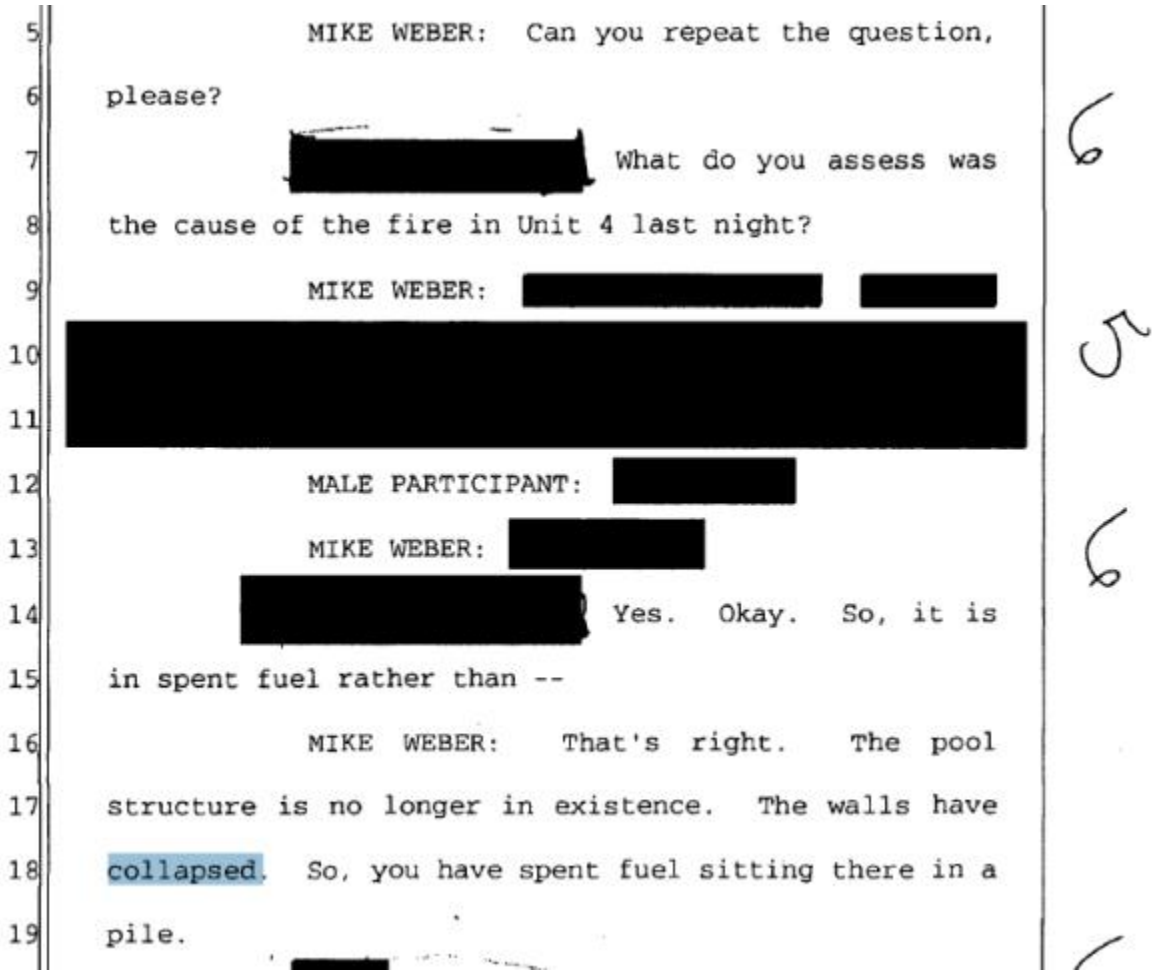
FEMALE PARTICIPANT: Unit 4, correct?

CHUCK CASTO: Do what?

FEMALE PARTICIPANT: Unit 4?

CHUCK CASTO: Yes, Unit 4.

(below) From the NRC FOIA documents: Mike Weber "The pool structure is no longer in existence. The walls have collapsed. So, you have spent fuel sitting there in a pile."



MIKE WEBER: Can you repeat the question, please?

[redacted] What do you assess was the cause of the fire in Unit 4 last night?

MIKE WEBER: [redacted]

[redacted]

MALE PARTICIPANT: [redacted]

MIKE WEBER: [redacted] Yes. Okay. So, it is in spent fuel rather than --

MIKE WEBER: That's right. The pool structure is no longer in existence. The walls have collapsed. So, you have spent fuel sitting there in a pile.

(below) From the NRC FOIA documents: a discussion of "quenching" the pool (filling it with water…saltwater at first)

RICHARD DeVERCELLY: One thing I'll add -- this is Richard DeVercelly -- the strategy to get the water into the spent-fuel pool I definitely believe is the right thing to do. One thing that we need to be

prepared for and understand is, depending upon the amount of fuel exposure that is already occurring in there, and the temperature of the cladding that's on that fuel, we could end up with some fuel damage as a result of the overquenching.

MALE PARTICIPANT: Which may have been already damaged.

RICHARD DeVERCELLY: Correct. So, we could anticipate potential releases, elevations of radiation, contamination. It's the right thing to do; it needs to be cooled.

MALE PARTICIPANT: Right. I mean, right, you're talking like balloon and burst, right?

RICHARD DeVERCELLY: I'm talking like throwing hot water on an iced-over windshield. There would be fragmentation of the fuel cladding as a result of overcooling.

MALE PARTICIPANT: Right.

MALE PARTICIPANT: A lot of the fuel is probably melted. I mean, if you got that exothermic reaction to be generating all that hydrogen gas, an actual exothermic reaction produces twice the heat of decayed heat. There's probably quite a bit of spent-fuel pool that, whether it's melted some or --

MALE PARTICIPANT: That's correct.

MALE PARTICIPANT: -- open, or whatever --

MALE PARTICIPANT: Just adding that more fuel failure may result in the pool when we cool it.

MALE PARTICIPANT: Right. (Inaudible, possibly, "There would be definitely a big shock.")

MALE PARTICIPANT: And they've evaluated whether that water's more effective even with that risk? It's more effective to put water on it than sand or some sort of solid with, you know, some shielding? They've guessed on that analysis and arrived at that conclusion?

MALE PARTICIPANT: I don't think they're doing analysis. I think they're trying to do anything they can. My thought with the sand versus the water, I don't know where you are in four days, a week, whatever. All that heat is just going to stay down there in that sand, and it's just going to keep baking, baking, baking, you know.

MALE PARTICIPANT: Yes.

MALE PARTICIPANT: And where are you, a thousand degrees with the sand?

MALE PARTICIPANT: With the sand, you may help with shine, but you're not helping with cooling.

MALE PARTICIPANT: Yes. I mean, well, (inaudible) months. You know, that would be a very

insulated way down there --

MALE PARTICIPANT: And I think that NUREG, it says you cool, you use water on that core, molten core, no matter what.

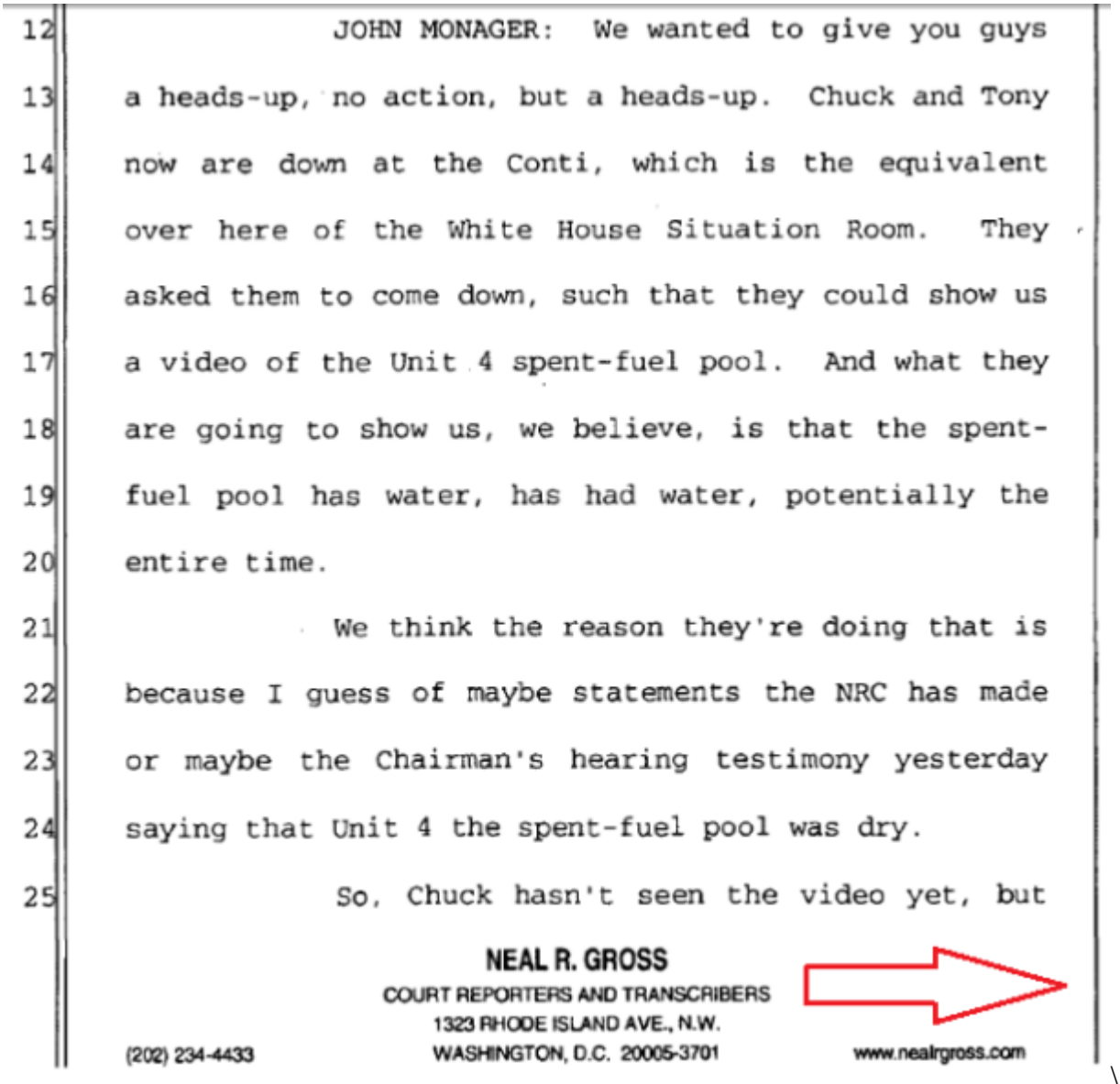
MALE PARTICIPANT: Right.

MALE PARTICIPANT: It gets some cooling. Even it's formed a crust --

MALE PARTICIPANT: Right.

MALE PARTICIPANT: -- it gets some cooling.

(below) From the NRC FOIA documents: this next series of screencaptures centers around a discussion about a video that TEPCO alleges shows water in the Unit 4 spent fuel pool. The TEPCO video surfaced after then NRC Chairman Gregory Jaczko stood before members of Congress on the 15th of March, 2011 and announced that the spent fuel pool at Unit 4 was dry. Throughout the NRC FOIA documents there is evidence that TEPCO pressured officials at the NRC to 'reconsider' their position. A final back-and-forth between Gregory Jaczko, Chuck Casto and Eliot Brenner settles the matter when they decide Jaczko will not 'roll back' any of his statements on Unit 4.



JOHN MONAGER: We wanted to give you guys a heads-up, no action, but a heads-up. Chuck and Tony now are down at the Conti, which is the equivalent over here of the White House Situation Room. They asked them to come down, such that they could show us a video of the Unit 4 spent-fuel pool. And what they are going to show us, we believe, is that the spent-fuel pool has water, has had water, potentially the entire time.

We think the reason they're doing that is because I guess of maybe statements the NRC has made or maybe the Chairman's hearing testimony yesterday saying that Unit 4 the spent-fuel pool was dry.

So, Chuck hasn't seen the video yet, but

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

\

JOHN MONAGER: Right, right.

Well, the other thing -- and we've got to run it down now; well, we've got to run it down back here -- but I believe the status that has been reported for the past, you know, 24-48 hours is Unit 1 and 2, the spent-fuel pools are boiling; Units 3 and 4, the spent-fuel pools are going through zirc/water reaction, you know, essentially, at the bottom.

So, I'm not sure where we got that summary for the four units. I know we were under the belief that, Unit 4, the wall had been blown out, but

regardless of that, someone else would have had to tell us about Units 1, 2, and 3.

we wanted to give you guys a heads-up in case there is any clarifications or corrections we need to do.

Did that make sense?

MALE PARTICIPANT: [redacted]

[redacted]

JOHN MONAGER: Right, right.

(below) From the NRC FOIA documents: the TEPCO video discussion continues…

CHUCK CASTO: If you guys would work on that?

I reviewed the video. Tony and Brook (phonetic) and I reviewed the video. You know, it's not very clear. You're talking about a helicopter that's trying to do a lot of things at once in a field. And they tried to scan all four units. You have to look through a window. And they claim there's a reflection of water on the Unit 4 spent-fuel pool. It's not clear. I mean you really can't see anything. There's something there. You don't know if it's steel or water. They claim it's a reflection.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

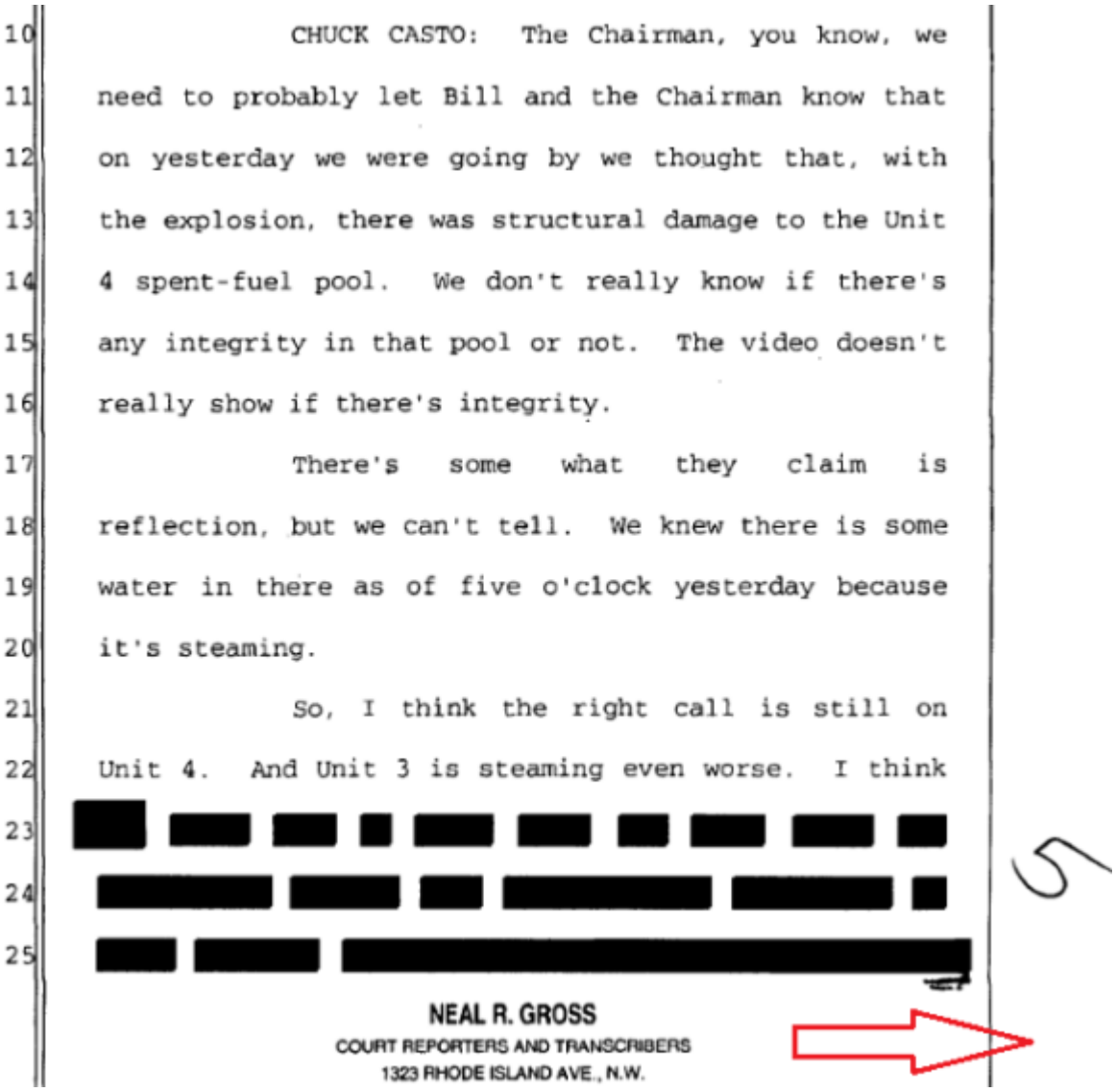
Now we do know that it's steaming. Now there's steam coming out of the side of the building where the spent-fuel pool is. So, it is steamy as a minimum.

I guess we need to know -- and that was at five o'clock yesterday.

MALE PARTICIPANT: At Unit 4?

CHUCK CASTO: So, I guess we need to know, how long does it take to steam down a spent-fuel pool?

(below) From the NRC FOIA documents: more on the TEPCO video…



CHUCK CASTO: The Chairman, you know, we need to probably let Bill and the Chairman know that on yesterday we were going by we thought that, with the explosion, there was structural damage to the Unit 4 spent-fuel pool. We don't really know if there's any integrity in that pool or not. The video doesn't really show if there's integrity.

There's some what they claim is reflection, but we can't tell. We knew there is some water in there as of five o'clock yesterday because it's steaming.

So, I think the right call is still on Unit 4. And Unit 3 is steaming even worse. I think [redacted]

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.

MALE PARTICIPANT: You don't have a copy of that video, do you?

CHUCK CASTO: They claim that it's a special video file that takes a special video player and all this stuff, software, and the file's too large to give to us. Imagine that.

MALE PARTICIPANT: Yes.

CHUCK CASTO: Look, they're not going to let us have that video. You know, the next thing you know, that thing gets out. You know, they're not interested in sharing that thing with us right now.

MALE PARTICIPANT: No, no, I was just asking to complete.

CHUCK CASTO: Yes. I mean that was a good question. We asked that, and it was asked in the meeting, and they said no. So, we do what we can do. They say, "Hey, if you look" - [redacted] right? --

[redacted] Yes.

6

CHUCK CASTO: [redacted] is from DOE, [redacted] He was standing there with me, and he looked at it.

What's your assessment of it?

[redacted] I mean it's just a split-second shot as the helicopter is flying by.

CHUCK CASTO: Yes.

[redacted] I'm not the expert on the facility design that the NRC folks are here, but I couldn't tell a thing.

BILL: Do we know it's the Unit 4 spent-fuel pool? Are we certain that that's the case?

CHUCK CASTO: Well, that's a good question, Bill. Because the guy that was showing us the video from Conti, from the Government, said, "TEPCO told us this is where the spent-fuel pool is." So, we don't even know that that's the damned spent-fuel pool that we was looking at.

NRC CHAIRMAN JACZKO: Chuck, Chuck --

CHUCK CASTO: All we can tell is some feet away, some feet away, there was steam coming out of the building. And they said, "Well, yeah, that's not right where we think the spent-fuel pool is, but the wind's blowing really hard today and the wind's blowing the steam away from the spent-fuel pool."

NRC CHAIRMAN JACZKO: Chuck?

CHUCK CASTO: So, we really don't know what the hell we looked at.

MALE PARTICIPANT: Chuck, I think the Chairman's trying to join the bridge.

NRC CHAIRMAN JACZKO: Chuck?

CHUCK CASTO: You've got --

NRC CHAIRMAN JACZKO: Chuck?

CHUCK CASTO: -- a building that's had an explosion and has debris everywhere, and you're trying to look at it with a helicopter that's flying by in split-seconds. You can't tell anything in there.

You know, they claim there's a glimmer of a reflection, but, you know, it's steaming. Unit 3 is steaming even harder.

NRC CHAIRMAN JACZKO: Chuck?

CHUCK CASTO: They're methods that -- I'm sorry, Mr. Chairman.

NRC CHAIRMAN JACZKO: Chuck, again, just can you tell me the source of your belief that there is no water in the No. (sic) fuel pool?

CHUCK CASTO: Well, that's what we were just talking about. Yesterday they showed us snapshots, and it looked like to our team members that there was not a structural integrity in the spent-fuel

pool for Unit 4.

NRC CHAIRMAN JACZKO: And again, they are the --

CHUCK CASTO: I'm sorry. TEPCO and Conti, the Japanese Government showed us snapshots, and it looked, after the explosion, and it looked like the pool had lost structural integrity of the snapshots. Those were outer walls of the building. Today they're saying, well, the pool doesn't have an outer wall, is not associated with the outer wall, so they could still be intact.

However, they flew a helicopter by the four units, and it's really inconclusive as you look at the video, which they showed us, but won't share it with us, for whatever reasons. And they say, "Look, there it looks like a reflection in there." And we said, "Well, is that the spent-fuel pool?" And the guy says, "Where that's where they tell us the spent-fuel pool is, and we think that's a water reflection."

Off to the side about 15 or 20 feet, I would guess, is steam coming out of the building. So, you would assume that that's the spent-fuel pool with some amount of water in it, left in it. But that was 14 hours ago.

25 NRC CHAIRMAN JACZKO: Uh-hum. So, do you

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

have any change in your view of the condition of the pool, of water in the pool?

CHUCK CASTO: I would say, with steam, there is some water in the pool. It may not be empty. There is some water in the pool, but that was 14 hours ago.

NRC CHAIRMAN JACZKO: Okay.

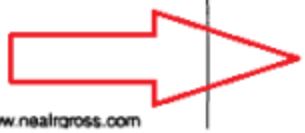
CHUCK CASTO: So, we don't know. You know, there was some amount of water in it, but we don't know how much water was in it because it's steaming, but 14 hours ago, today we can't tell you how much water is in that pool.

NRC CHAIRMAN JACZKO: So, do you think there's water in the pool right now?

CHUCK CASTO: That's what I was asking the Reactor Safety Team. Tell me how long it would take to steam-down the pool, you know, but there's a lot you don't know. You don't know the steaming rate, how much water is in there. There's a lot.

You know, you could assume that, let's say it's at the top at the fuel. How long would it take to steam-down to the bottom of the fuel? And how many hours do you have there?

Their recovery methods are to try, again, which they've, I think, failed once, to drop water



from a helicopter. The other is that they're trying to clear the road, so that they can bring in some crowd control tanks, you know, like you see in a riot, these crowd controls. In our opinion, those are highly-inefficient methods of trying to get water in a spent-fuel pool, especially in a building that's had an explosion and has damage everywhere. And we are not even sure that that pump has enough head to pump up to the top of that building. So, you know, that's a good try. You should do it maybe, but not an effective or a long-term solution.

NRC CHAIRMAN JACZKO: So, at this point, you no longer believe that the pool is dry? Is that what I'm hearing?

CHUCK CASTO: I would say, as of five o'clock yesterday, the pool had some water in it.

NRC CHAIRMAN JACZKO: Okay. Now I've said publicly the pool is dry.

CHUCK CASTO: Yes, I know that.

NRC CHAIRMAN JACZKO: Do you think that that's inaccurate?

CHUCK CASTO: We can -- it's so inconclusive, we really can't tell, either way. I mean --

NRC CHAIRMAN JACZKO: Well, so it's

inaccurate for me to say it's dry? Is that what you're saying? It's okay if that's the case; just tell me.

CHUCK CASTO: I would say it's probably inaccurate to say it's dry.

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: It appears today, with the video, that they had had some water in it at five o'clock yesterday or it wouldn't be steaming.

NRC CHAIRMAN JACZKO: Okay. Okay. Okay. Okay.

(below) From the NRC FOIA documents: the saga of the TEPCO video continues…

NRC CHAIRMAN JACZKO: Okay. But we're not necessarily good with the statement that the pool is dry?

MARTY VIRGILIO: Well, that's not, you know, our four points don't speak to the pool being dry.

NRC CHAIRMAN JACZKO: Right, right. No, I know, but they speak to my credibility. That's the problem.

MARTY VIRGILIO: Yes, but think about where that statement came from. It came from TEPCO to John Monager yesterday.

NRC CHAIRMAN JACZKO: Okay, that's the source of it?

MARTY VIRGILIO: Yes.

NRC CHAIRMAN JACZKO: TEPCO said the pool was dry?

MARTY VIRGILIO: That's what he told John Monager yesterday, and they asked John, given a dry

NEAL R. GROSS

pool, what are the four or five things, what things could we do to control the radiation release?

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: And I don't think that's the only one. I think, to Jim Trapp, they told him the same thing.

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: Now today they're saying, "Well, we were just postulating that it would go dry."

NRC CHAIRMAN JACZKO: Okay.

MARTY VIRGILIO: I mean that was pretty clear with Monager; they had told him it was dry and we needed some actions. What actions would you take if you had lost the integrity of the pool?

NRC CHAIRMAN JACZKO: Okay. That's fine. Okay.

MARTY VIRGILIO: So, TEPCO and the Government are now changing their position. That's great.

NRC CHAIRMAN JACZKO: Yes.

(below) From the NRC FOIA documents: a discussion about the source of information about the Unit 4 spent fuel pool.

NRC CHAIRMAN JACZKO: Okay. But we have -- so, the source of the information about the pool was directly from TEPCO?

MARTY VIRGILIO: Right, to John Monager.

NRC CHAIRMAN JACZKO: Okay. So, it was directly from TEPCO to John Monager. Maybe it's right, maybe it's wrong, but what is the likelihood, you think, that we have a full pool at this point?

CHUCK CASTO: It's highly unlikely with the steam that's boiling off of it.

NRC CHAIRMAN JACZKO: Okay. And you have indications of steam?

CHUCK CASTO: Yes, it's on the [redacted] the steam.

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: Unit 3 is steaming more than Unit 4.

(below) From the NRC FOIA documents: Jaczko will not be "rolling back" any of his statements on Unit 4

ELIOT: I'm not hearing anything to suggest we should be rolling back tonight, correct?

NRC CHAIRMAN JACZKO: Yes. Yes, that's correct.

ELIOT: Thank you.

NRC CHAIRMAN JACZKO: Anything else you wanted to add?

ELIOT: No, no.

NRC CHAIRMAN JACZKO: I mean, Chuck, let me ask you that. Do you think I need to roll back any of the statements that I made?

CHUCK CASTO: I don't, I don't think so. You know, we've gone over it. It may not have been dry, but it certainly wasn't full. With the steam on it, it's inconclusive of where the water level is on Unit 4 --

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: -- I think is the best --

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: Or on Unit 3, certainly on Unit 3.

NRC CHAIRMAN JACZKO: Okay.

CHUCK CASTO: And without mitigating actions, without adding water to that spent-fuel pool, it's, you know --

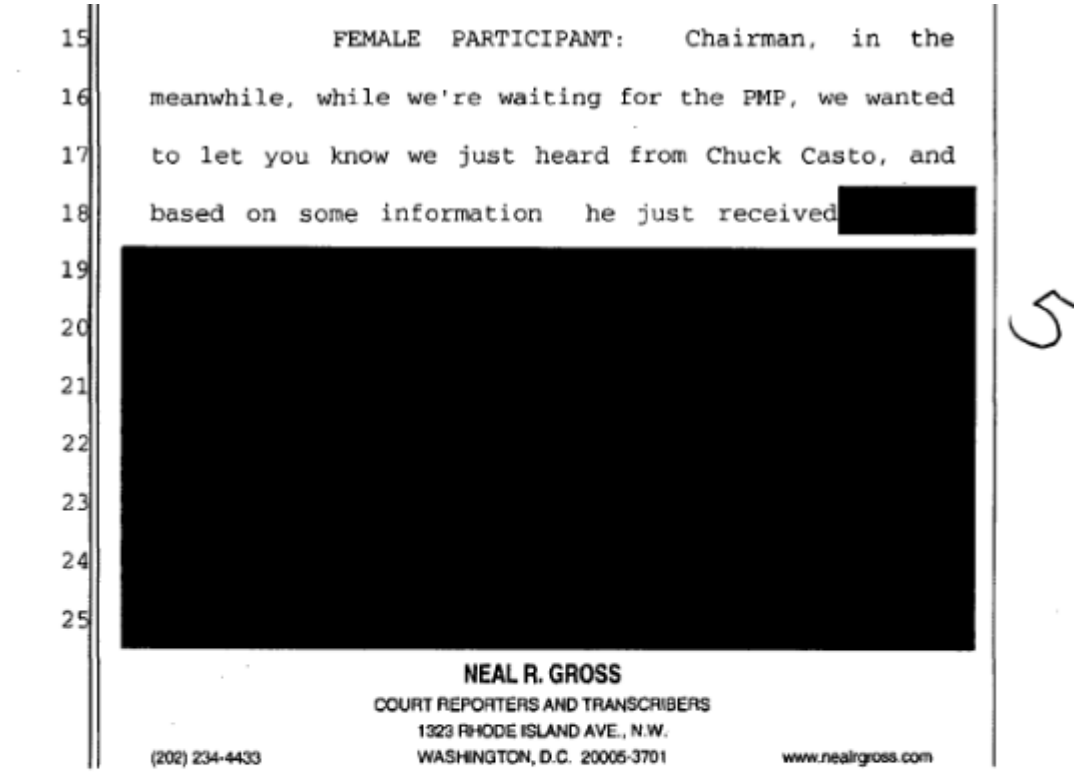
NRC CHAIRMAN JACZKO: It will be dry?

CHUCK CASTO: -- you lose water.

NRC CHAIRMAN JACZKO: Yes. Okay. Okay. Thanks.

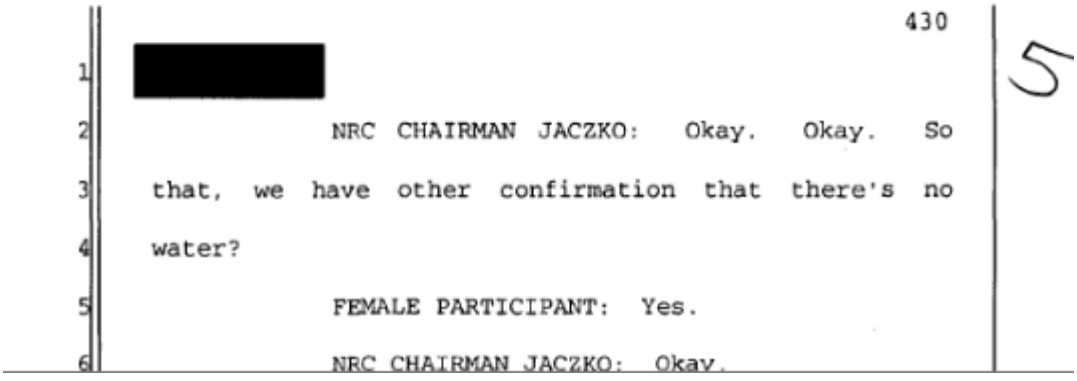
Bye.

(below) From the NRC FOIA documents: confirmation from a secondary source that the SFP of Unit 4 is dry.



FEMALE PARTICIPANT: Chairman, in the meanwhile, while we're waiting for the PMP, we wanted to let you know we just heard from Chuck Casto, and based on some information he just received [redacted]

[redacted]



[redacted]

NRC CHAIRMAN JACZKO: Okay. Okay. So that, we have other confirmation that there's no water?

FEMALE PARTICIPANT: Yes.

NRC CHAIRMAN JACZKO: Okay.

(below) From the NRC FOIA documents: March 16th, 2011 inputs for a RASCAL (plume modeling) projection. Considering the assumption that "all of the fuel melted" on Unit 4 it's no wonder this information was not to be shared outside of the NRC.

From: OST05 Hoc
Sent: Wednesday, March 16, 2011 2:59 PM
To: Lynch, James; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena
Cc: LIA04 Hoc; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michael; Turtil, Richard; Virgilio, Rosetta; Collins, Elmo; Dean, Bill; McCree, Victor; Satorius, Mark
Subject: RE: RASCAL projection

Jim and RSLOs,

The RASCAL inputs below are for your information. Please do not share this information outside of NRC.
Jim, would you please communicate to Cheryl Rogers that we are not able to share this information outside of the NRC at this time?

I've been advised by the Protective Measures Team that the following assumptions were made in RASCAL:

Unit #2: 33% core damage and containment leakage
Unit #3: damage to the spent fuel pool, 50% of fuel melted
Unit #4: spent fuel pool leaked and all of the fuel melted

I hope this provides the clarification that you were seeking.

1 PPPP/27

(below) From the NRC FOIA documents: March 17th, 2011 "…freezing out information from the other Commissioner offices" and " the ET stuck to the story that U4 SFP is likely dry."

Bozin, Sunny

From: Franovich, Mike
Sent: Thursday, March 17, 2011 9:06 PM
To: Ostendorff, William
Cc: Nieh, Ho; Warnick, Greg; Kock, Andrea; Zorn, Jason
Subject: FW: 1700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep
Attachments: USNRC Earthquake-Tsunami Update.031711.1700EDT.pdf

Sir,

The report format and content continue to improve but I'm afraid to say that the process of freezing out information from the other Commissioner offices is continuing. There is nothing substantively new discussed in this call that we didn't get earlier today. There were some outrageous statements from Mr. Grobe and full spin control defending the press release with the what is now being portrayed as not 'worst case' assessments (contrary to the LIA report that states they are worst case). There was an admission by Grobe that the PAG limits are not exceeded beyond 5 miles based on actual DOE aerial sample. Many other items were not discussed and I will summarize for you in the morning. The call was brief and the ET stuck to the story that U4 SFP is likely dry.

Mike

(below) From the NRC FOIA documents: March 17th, 2011 email-note that the NRC is sticking with the pool as being empty and offer reasons why.

From: Jackson, Donald
Sent: Thursday, March 17, 2011 8:44 PM
To: Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Clifford, James; Miller, Chris; Weerakkody, Sunil
Cc: Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; McKinley, Raymond; Rogge, John; Jackson, Donald
Subject: March 17, 2011- 2000- CA Briefing On Japan Reactor Accidents
Attachments: USNRC Earthquake-Tsunami Update 031711 1700EDT.pdf

Importance: High

The following is a synopsis of the briefing with changes or noteworthy items underlined:

Status of Fukushima Daiichi Units:

Unit 1-
No Significant Change

Unit 2-
No Significant Change

Unit 3-
No Significant Change, Noted sustained vapor plume observed from SFP

Unit 4-
Japanese have said that pool is not empty. We are sticking with it as being empty. Jack Grobe elaborated our position- visual H2 explosion damage evident, no vapor coming from pool, extremely high dose debris on ground outside of U4 SFP had to be buried by bulldozer to lower dose rates, assumed to be pieces of fuel from U4 after explosion. Evidence leads to support our call of an empty pool.

(below) From the NRC documents: a March 17th "NRC INFORMATION NOTICE" that states "Unit 4 suffered a total loss of water along with an inability to retain water."

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

NRC INFORMATION NOTICE 2011-05: TOHOKU-TAIHEIYOU-OKI EARTHQUAKE EFFECTS ON JAPANESE NUCLEAR POWER PLANTS

IN 2011-05
Page 2 of 5

Units Four through Six had been shutdown for refueling outages at the time of the earthquake, with the core for Unit Four offloaded to the SFP, which suffered a total loss of water along with an inability to retain water. The SFPs for Units Five and Six appeared intact, but heating up.

(below) From the NRC FOIA documents: Reactor and Water Pool Release Considerations as of March 18th, 2011. Note the peak of an incredible 400 REM/hr at the Fukushima facility and the statement that "periodic additional releases of radioactivity are occurring as the plants vent to atmosphere".

~ukushima Reactor and Water Pool Release Considerations (as of 18 March 2011)

(~sA-~""~-S

3 ,~, tl <i)."3"C\~~

The Nuclear Regulatory Commission (NRC) indicates that three of the six reactors are likely to have experienced a significant amount of core damage. The amount of core damage and the extent of core cooling currently being provided are not known with any certainty. The NRC reports that Japanese officials believe that some core cooling is being provided via seawater injection. However, NR discussion with the NRC indicates the technical basis for the Japanese conclusion has not been provided. Consequently, there is significant uncertainty as to whether core conditions are stable or degrading.

Radiation levels on site have reportedly stabilized somewhat from a peak of 400 REM per hour which occurred on 16 March 2011 to current levels of 40 REM per hour near unit 4. However, it is not possible to conclude whether core damage is continuing from this data, because on-site radiation levels are significantly affected by the direct radiation from the damaged reactors and fuel storage pools. It is likely, as a minimum, that periodic additional releases of radioactivity are occurring as the plants vent to atmosphere.

In a more severe scenario, where it is not possible to restore sufficient core cooling to the three damaged reactors, significant additional radioactivity releases will occur over time. The amount of radioactivity released is highly dependent upon whether the reactor containment structures remain intact. There is no way of predicting whether containment will be maintained. If containment is not maintained, Bettis Laboratory estimates downwind radiation

(below) From the NRC FOIA documents: Reactor and Water Pool Release Considerations as of March 18th, 2011 continued…"NRC believes that water from the unit 4 storage pool completely drained and a violent zirconium and water reaction occurred…"

doses would be approximately 5 REM whole body dose (Total Effective Dose Equivalent) and 76 REM thyroid dose at 50 miles and 1 REM whole body dose and 13 REM thyroid dose at 170 miles (the distance from Yokosuka to Fukushima) assuming all three reactors are damaged to the following extent; 100 percent damage for unit 2 and 40 percent damage for units 1 and 3. It cannot be determined how quickly core damage would progress from current conditions upon loss of cooling and containment, but it would be a period of hours or a few days rather than weeks.

Adding to the uncertain situation, cooling has been lost in the fuel storage pools in units 1 through 4. NRC believes that water from the unit 4 storage pool completely drained and a violent zirconium and water reaction occurred resulting in a significant release of radioactivity to the atmosphere. However, since the wind direction was towards the east (i.e., seaward), it is not possible to determine the magnitude of the release that occurred or whether the release is continuing, since measurement data is not available from that direction. Since the release occurred, the prevailing wind direction has been seaward with only one day where wind was directed inland towards populated levels. The wind is expected to shift inland from the northeast beginning early 21 March 2011 for about two days.

If the fuel storage pool in unit 4 remains dry, ongoing releases of radioactivity are expected. On 17 March 2011, it was reported that the fuel storage pools in units 1 and 3 are only partially covered as evidenced by steam emanating from these units. On 18 March 2011, the Japanese reported that water remains in the fuel storage pool in unit 4 but the fuel storage pool in unit 3 may be dry. If cooling water is not restored to the units 1 and 3 water pools, it is probable that the fuel stored in these pools will be damaged, resulting in additional releases of radioactivity. The level of water in these pools has not been reliably reported, therefore, when such releases might occur can not be determined and the magnitude will depend upon at what point water is completely boiled off. Bettis Laboratory calculations indicate that without cooling a pool would boil away in a period of time of 10 to 20 days if the pool integrity was intact and more rapidly if a leak occurred. Once dry, fuel damage and a radiological release will occur.

Fukushima Reactor and Water Pool Release Considerations (as of 18 March 2011)

(below) From the NRC FOIA documents: Reactor and Water Pool Release Considerations as of March 18th, 2011 continued…Bettis Laboratory estimates doses at 50 miles from a spent fuel pool meltdown. Evidence throughout the NRC FOIA documents pertaining to Fukushima indicate that estimates, assumptions and modeling was based on a worst-case-scenario at Unit 4.

Fukushima Reactor and Water Pool Release Considerations (as of 18 March 2011)

Bettis Laboratory has estimated that if fuel from a storage pool is completely damaged then downwind radiation doses would be approximately 9 REM whole body dose and 3.6 REM thyroid dose at 50 miles and 1.6 REM whole body dose and 0.7 REM thyroid dose at 170 miles.

Based on the above analysis, if it is assumed that the situation can be stabilized for all reactors and associated fuel storage pools then it is likely that continuing releases of radioactivity would occur at levels similar to that previously observed. Under this scenario, exposure rates are relatively low (0.060 REM per day whole body dose and 0.480 REM per day thyroid dose at 50 miles and 0.010 REM per day whole body dose and 0.190 REM per day thyroid dose at 170 miles). However, Navy civilians, military personnel, and their dependants should depart within the next few

days, depending on their proximity to Fukushima, prior to exceeding the general public exposure limit specified by BUMED of 0.100 REM per year.

(below) From the NRC FOIA documents: Reactor and Water Pool Release Considerations as of March 18th, 2011 continued. Here is why they don't want you to know what really happened at Fukushima Unit 4…"In the more extreme scenarios involving significant additional core or pool damage, there would not be sufficient time to evacuate Navy civilians, military personnel, and their dependents to avoid the higher exposure levels discussed above."

The departure timeframe of a few days does not account for the increasing rate of exposure due to buildup of ground deposition. Current measured loose surface contamination levels at 170 miles are approximately 1,500 pCi/100cm2 over wide areas.

Additional releases similar to those previously observed will cause loose surface contamination levels to double each 24 hours. High levels of loose surface contamination over such wide areas and distanCes create significant ingestion and inhalation hazards which add to the dose calculated above and reduce evacuation time. Additionally, for each successive release, thyroid doses will exceed levels at which potassium iodide should be administered as far out as 170 miles. Administering potassium iodide to large populations of Navy civilians, military personnel and their dependants reinforces the need for departure.

In the more extreme scenarios involving significant additional core or pool damage, there would not be sufficient time to evacuate Navy civilians, military personnel, and their dependants to avoid the higher exposure levels discussed above.

(below) From the NRC FOIA documents: an email from March 18th, 2011…"Proposal to handle dried spent fuel pool.docx"

From: Clifford, Paul
Sent: Friday, March 18, 2011 9:06 AM
To: Ruland, William
Cc: Attard, Anthony; Bahadur, Sher; Mendiola, Anthony
Subject: RE: Proposal to handle dried Spent fuel pool.docx

The idea of filling the pool with Argonne is good for the reasons that Bob explains.

For the release of fission product radionuclides when the rods fail, most of the volailes should have decayed away based on the half-lives listed below. The nuclides shown in red should all but decayed assuming the rods have been in the spent fuel pool for longer than 6 months. This means that distributing K-I pills provides litle benefit for the releases associated with SFP (does provide benefit for core releases).

Nuclide	Half-Life
Xe-133	5.243d
Xe-135	9.10h
Xe-135m	15.3m
Xe-137	3.82m
Xe-138	14.1m
Xe-139	39.7s
Kr-85	10.76y
Kr-85m	4.48h
Kr-87	1.27h
Kr-88	2.84h
Kr-89	3.15m
Kr-90	32.3s

(below) From the NRC FOIA documents: emails from March 18th, 2011 show concern for the duration that fuel rods have been left to cool in the spent fuel pool. Fuel rods that are a fresh offload are much hotter than fuel rods that have cooled for 2 or more years. Hotter fuel is naturally more dangerous if coolant levels drop or if a spent fuel pool drains out entirely.

From: Lee, Richard [mailto:Richard.Lee@nrc.gov]
Sent: Friday, March 18, 2011 1:29 PM
To: Tinkler, Charles
Cc: Gauntt, Randall O
Subject: FW: Fukushima data

Inventories of the Fukushima unit 4 data.

From: Gauld, Ian C. [mailto:gauldi@ornl.gov]
Sent: Friday, March 18, 2011 2:38 PM
To: Lee, Richard
Cc: Parks, Cecil V.
Subject: RE: Fukushima data

Richard

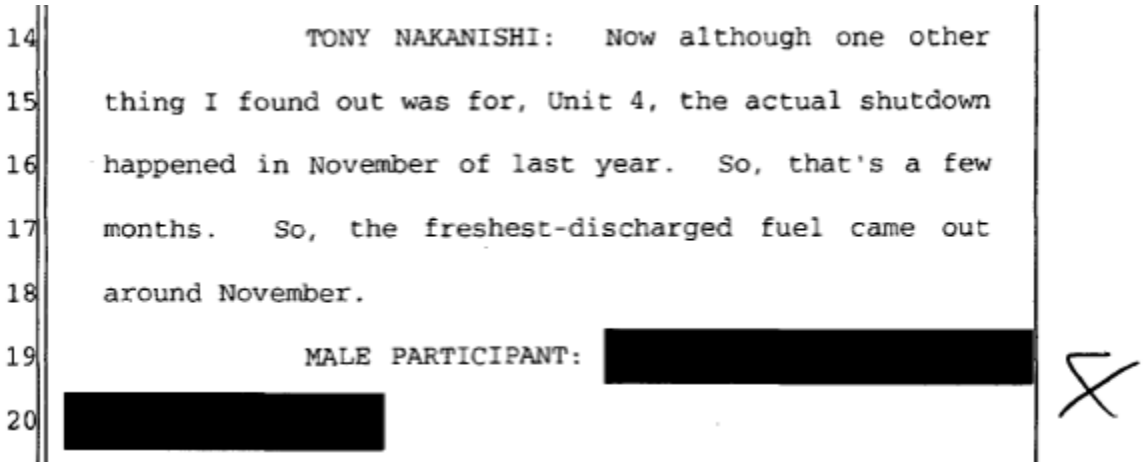
Here are the is Fukushima unit 4 pool data. Two source files: one for the hottest fuel with 105 day cooling, the other for 500 day fuel. These data are normalized to a metric ton of uranium. This will make it easier to convert to grams/W etc if needed, since operating power was 25 MW/t. If an assembly basis, or total inventory basis are preferred, this can be quickly changed. The metric tons of 105 day fuel in the pool is 94 t (548 assemblies = full core), and 113 t of longer cooled fuel (657 assemblies).

Also, please replace the reactor core data (file F4-reactor.txt) with the attached file. Some of the longer cooling time step were not correct.

Thanks

Ian

(below) From the NRC FOIA documents: evidence of a fresh offload of hot fuel into the Unit 4 spent fuel pool.



TONY NAKANISHI: Now although one other thing I found out was for, Unit 4, the actual shutdown happened in November of last year. So, that's a few months. So, the freshest-discharged fuel came out around November.

MALE PARTICIPANT: [redacted]

[redacted]

(below) Cover-page for NRC's "Waste Confidence Generic Environmental Impact Statement" NUREG-2157 for the next screencapture.

(below) From NRC's "Waste Confidence Generic Environmental Impact Statement" NUREG-2157…'time-to-release' could be less than 10 hours if fuel has had less than 2 years to cool.

NUREG–1738 the NRC used a value of 95 percent in sensitivity studies to address concerns that the fraction of the public that does not evacuate could be higher. "Late evacuation" is a reasonable assumption for decay times of less than about 2 years, for which the time-to-release could be less than 10 hours. However, the time-to-release (following the initiating event) will be longer than 10 hours after the spent fuel has cooled at least 2 years, and early evacuation, in which evacuation is completed before the release begins, would be increasingly more likely as the decay time increases. Early evacuation results in lower public doses because more people

(below) From the NRC FOIA documents: March 18th brief: Unit 4 "pool may be dry; damage to fuel rods suspected"

OFFICIAL USE ONLY

Earthquake/Tsunami Status Update March 18, 2011 1800 EDT

Unit 4 – (NRC priority: 2)
Core Status: offloaded
Core Cooling: N/A
Primary Containment: N/A
Secondary Containment: lost (visual)
Spent Fuel Pool: 1201 bundles in pool (Source: GEH); pool may be dry; damage to fuel rods suspected (Source: JAIF); water was dumped on site with water cannons; fire trucks are supplying seawater for cooling spray

(below) From the NRC FOIA documents: March 18th, 2011…the source term provided to NARAC (does plume modeling) includes the assumption that ”100% of the total spent fuel was released to the atmosphere from Unit 4.” Note the flawed modeling based on a limited 96 hour release. Measured plume maps found in the NRC FOIA documents prove that emissions were ongoing beyond the month of March, 2011.

The source term provided to NARAC was: (1) 25% of the total fuel in unit 2 released to the atmosphere, (2) 50% of the total spent fuel from unit 3 was released to the atmosphere, and (3)

OFFICIAL USE ONLY

OFFICIAL USE ONLY

Earthquake/Tsunami Status Update March 18, 2011 1800 EDT

100% of the total spent fuel was released to the atmosphere from unit 4. All 96 hour dose projections (Alaska, Hawaii, West Coast) are well below the 1 rem total effective dose (TED) Protective Action Guide (PAG) based on predicted Cs-137 deposition. Except for Alaska, all thyroid dose estimates are well below the EPA 5 rem PAG. The thyroid estimate is very conservative and does not consider intervention actions like distribution of potassium iodide, removing dairy cows from contaminated pastures, or interdicting milk or leafy vegetables contaminated with I-131.

(below) From the NRC FOIA documents: a March 18th, 2011 email with a reference to then NRC Chairman Jaczko's testimony that SFP 4 was dry. Jaczko's information was derived from NRC officials that were 'embedded' with TEPCO, Conti and the Government of Japan.

From: Annys Shin <ShinA@washpost.com>
To: Uselding, Lara; Geoffrey.Miller@nrc.go <Geoffrey.Miller@nrc.go>
Sent: Fri Mar 18 12:41:00 2011
Subject: washpost query on nrc v. japanese gov't data

Hi Lara and Geoffrey
i'm working on a story for tomorrow's paper looking at difference discrepancies between what the japanese gov't has been saying about the situation at the FD plant and other sources, including NRC

i am included a ref to the testimony by the chairman the other day about there being no water in the fuel pool at unit 4.

was wondering how i explain where NRC gets its info from?

any help is appreciated. thanks.

Annys Shin
Staff Writer
Washington Post
1150 15th St. NW
Washington, DC 20071
o. (202) 334-5465

(below) From the NRC FOIA documents: a March 18th, 2011 email showing concern for the spacing of hotter fuel rods in the Unit 4 spent fuel pool. If freshly offloaded rods are clumped together, it makes a low or no coolant situation exponentially worse. "Checker-boarding" stores hot fuel rods next to cool fuel rods to even out the heat.

Sent: Friday, March 18, 2011 6:41 PM

To: Peko, Damian

Cc: Schwab, Patrick

Subject: Fukushima spent fuel pools

4

Damian,

I am working on the DOE Office of Nuclear Energy's response team, under John Kelly. Do you have information from TEPCO on how they arranged the spent fuel in the pools before the earthquake? In particular, did they store all the hotter fuel elements close to each other? Or did they spread them out, with older, cooler fuel assemblies stored in between the hotter fuel assemblies? We are especially interested in the Unit 4 pool, of course.

Thank you for your help.

Pat

Patrick R. Schwab, Ph.D.

Office of Nuclear Energy

Department of Energy

301-903-8186

Room E-479 Germantown Bldg.

patrick.schwab@nuclear.energy.gov

(below) From the NRC's NUREG-2157: hot fuel rods stored in close proximity could allow the "runaway oxidation reaction to spread". This is known as a "propagating zirconium cladding fire" or a "zirc fire".

Under certain conditions, the high temperature runaway zirconium oxidation reaction occurring in one part of the pool could also spread to other spent fuel in the pool. The proximity of fuel assemblies to one another, combined with the effects of radioactive heat transfer when these assemblies are at very high temperatures, could allow the runaway oxidation reaction to spread from spent fuel with high decay heat to spent fuel with lower decay heat that would otherwise not have begun burning.

(below) From the NRC FOIA documents: a March 29th, 2011 email showing the 'perfect storm' for the Unit 4 spent fuel pool: full core offload about 120 days ago, no checker-boarding of hotter fuel, structural damage, dry pool and "cladding/water" reaction.

From: Brown, Frederick
Sent: Tuesday, March 29, 2011 10:56 PM
To: Cheok, Michael; Gibson, Kathy
Cc: Ruland, William; Dudes, Laura; Uhle, Jennifer; Hiland, Patrick; Hackett, Edwin; Skeen, David; RST01 Hoc; Hoc, PMT12; McDermott, Brian; Coe, Doug; Scott, Michael; Brown, Frederick; RST01 Hoc
Subject: Request for Ops Center RTS support
Importance: High

Assumed status (slightly different than the status in the attached assessment):

Unit 1 Rx: Shutdown 3/11. 70% core damage. Cooling with 30 gpm. Significant salt deposits in vessel, core spay plugged. Primary pressure 65 psig. Drywell pressure 25 psig. Secondary containment destroyed. Containment has been vented at least once since fuel damage occurred. Attempting to establish Nitrogen purge prior to resuming venting.

Unit 2 Rx: Shutdown 3/11. 30% core damage. Significant salt deposits in vessel/drywell. Assumed RPV breach, with at least some core ex-vessel that ocurred approximately 3/15. Primary containment breached in the torus. Secondary containment breached. Significant release of volatile fission products has occurred through both airborne release and also via water drainage out of the Rx building.

Unit 3 Rx: same assumptions as Unit 2, but do not assume RPV failure and location of primary containment breach may be the drywell.

SFP 1: 292 bundles. Pool intact. All fuel at least 12 years old. No secondary containment. Rubble on top of pool. Water can be added through external spray. Now at saturation temperature.

SFP 2: 587 bundles. Pool intact. Water added to the point of pool over-flow. Pool had reached saturation temperature at one time.

SFP 3: 548 bundles. ¼ core offload previous refueling. No checker boarding of hotter fuel. Structural damage to pool area suspected. Pool leakage possible. External addition of water has been made repeatedly, but flooding of pool may not be possible due to damage.

SFP 4: 1331 bundles. Full core offload about 120 days ago. No checker boarding of hotter fuel. Structural damage to pool area is known to exist, and structure may not support a full pool weight load. Pool leakage likely, requiring addition of water periodically. Pool was likely dry enough to have cladding/water reaction which produced enough hydrogen to lead to catastrophic explosion that destroyed secondary containment.

(below) From the NRC FOIA documents: cover-page for a summary of the Chief Cabinet Secretary Edano's press briefing of the 19th of March, 2011. Note the colored chart found below indicates that the Unit 4 spent fuel pool is "now in preparation for filling the water".

Earthquake Report – JAIF

No.14

"Chief cabinet secretary Edano's press briefing on radiation detected from food collected in Fukushima's neighboring areas"

The following is the summary of the chief cabinet secretary Edano's press briefing held at 16:00, March 19, 2011, on the consequence of the Fukushima #1 NPS.

	Not Damaged	Damage Suspected	Might be "Not damaged"	Not Damaged	Not Damaged
er	Not Functional	Not Functional	Not Functional	Not necessary	Not necessary
power	Not Functional	Not Functional	Not Functional	Not necessary	Not necessary
	Severely Damaged	Slightly Damaged	Severely Damaged	Severely Damaged	Open a vent hole on the r hydrogen explosion
ssure Vessel	Fuel exposed partially or fully	Fuel exposed partially or fully	Fuel exposed partially or fully	Safe	Safe
ure Vessel	Stable	Unknown	Stable	Safe	Safe
	Unknown	Low	Low	Safe	Safe
nt Management)	Continuing (Seawater)	Continuing(Seawater)	Continuing(Seawater)	Not necessary	Not necessary
Vessel (AM)	Continuing(Seawater)	to be decided(Seawater)	Continuing(Seawater)	Not necessary	Not necessary
	Temporally stopped	Temporally stopped	Temporally stopped	Not necessary	Not necessary
pool	Water injection to be considered	(No info.)	Water level low Water injection continue	Water level low Preparing Water Injection Hydrogen from the pool exposed	Pool Temp. High, but decreasing
	The West Gate: 313.1 μ Sv/h at 11:30, Mar. 19			North of Service Building: 2972.0 μ Sv/h at 19:00, Mar. 19	
	20km from NPS	* People who live between 20km to 30km from the Fukushima #1NPS are to stay indoors.			
	Level 5	Level 5	Level 5	Level 3	
	Immediate threat is damage of the fuels in the fuel pool outside the containment vessel. The operation for filing the pool with water has been conducted Unit-3. Unit-3 is now in operation to fill the water for more than 7 hours from about 14:00 March 19. Unit-4 is now in preparation for filing the water. Attempting to receive external power supply. TEPCO is laying a power cable between the transmission line. The line to Unit-1 and 2 was connected, and are scheduled tommorrow. Unit 3 to 6 are scheduled to be connected until March 20.				

(below) From the NRC FOIA documents: a March 19th email from former American Nuclear Society President William Burchill asking relevant questions…

From: William E. Burchill <burchill@ne.tamu.edu>
To: Siu, Nathan
Sent: Sat Mar 19 13:55:15 2011
Subject: Fukushima Questions from Burchill

Nathan,
Can you give me any insight on the following questions or refer me to a source of answers?

1. How badly were the unit 3 and 4 SFP structures damaged by the earthquake?
2. Was the SFP water drained due to the earthquake? If yes, over what period of time?
3. Are the SFPs structurally sound enough to be refilled with water, a slurry, or sand?
4. What are the SFP loadings (# F/As, weight, heat load, radioactivity)?
5. How much has the cladding in the SFPs been oxidized (perhaps as inferred from the hydrogen released)?
6. What is the degree of fuel melting in the SFPs?
7. Is the fuel in the SFPs in a coolable geometry?
8. What effect has the spraying with water cannons had (fuel cooling, fuel degradation, water accumulation)?
9. What are the options to refill the SPFs with water, i.e., plant systems, external systems, water supplies, heat sink?
10. Will refilling the SFPs with water cause the fuel within to "slump" as occurred at TMI?
11. Will refilling the SFPs with water produce massage amounts of hydrogen? If yes, is it likely to explode before it is vented from the building?
12. Will refilling the SFPs with water produce a potential nuclear criticality?
13. Is filling the SFPs with a slurry or sand being aggressively evaluated?

How engaged is NRC in helping the TEPCO, NISA, META address these questions?
It was great to see you at PSA 11. Thanks for your time.
Best regards,

William E. Burchill, Ph.D.
Past President
American Nuclear Society
Retired Department Head
Nuclear Engineering
Texas A&M University
129 Zachry Engineering Center
College Station, TX 77843-3133
Phone: (979) 845-1670
FAX: (979) 845-6443
E-mail: burchill@tamu.edu

(below) From the NRC FOIA documents: saltwater injection to the Unit 4 spent fuel pool did not begin until March 20th, 2011 due to access problems at the Fukushima facility. Prior to the 20th of March, helicopter water drops and water cannons, both labeled ineffective by NRC officials, were the only means by which TEPCO could attempt to cool the reactors and spent fuel pools.

Furthermore, the Japanese Self Defense Forces did not start spraying salt water into the Unit 4 SFP until March 20, five days after the explosion, which is long enough that essentially complete boil-off of water would have occurred in this high-density pool with all of its freshly off-loaded assemblies close-packed together.

(below) From the NRC FOIA documents: cover-page for the next series of screen captures taken from March 20th, 2011 teleconference calls.

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Japan's Fukushima Daiichi ET Audio File

Docket Number: (n/a)

Location: (telephone conference)

Date: Sunday, March 20, 2011

Work Order No.: NRC-944 Pages 1-201

NEAL R. GROSS AND CO., INC.
Court Reporters and Transcribers
1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

(below) From the NRC FOIA documents: mention of 'signal events' from Unit 3 and Unit 4. TEPCO's cover-story was that the March 15th event was a 'lube oil fire'. NRC officials disputed TEPCO's contention/evidence about the 'lube oil fire' just as they did with TEPCO's video 'evidence' of water in the spent fuel pool of Unit 4.

JOHN MONNINGER: But what's the latest AMS data that you guys have? I think what I got handed when I got in here was the last thing that we had on Friday morning and it (audio interference) after yesterday's wind shift.

LARRY CAMPER: Yeah, we got that would have been about 3:45 pm our time. You know, it shows the serpentine pattern and then need due north, due south. You know, you're still seeing that deposition of material that traveled north, north-northwest from the site. The last values, measured values, do not exceed 30 MR per hour.

DAN DORMAN: Yeah, that's okay. I've seen that. I, I asked Jim Trapp to work back with the PMT and see if we can correlate back Tuesday, Wednesday time frame -- my recollection is that the low-pressure system came through; the wind rotated all the way around the compass -- and see if we can correlate that to one of the signal events, like on Unit 3 or Unit 4 and see if --

LARRY CAMPER: You got it. You're on it. We're starting to think the same thing. If you go

back to the -- the event you're referring to is, occurred between 3/14, midnight 3/14 and 1:22 on 3/15. That's when you had a spike that occurred with 30 R per hour. And frankly, we're, we're reasonably beginning to believe that the so-called -- how did they characterize it? --

MALE PARTICIPANT: Lube oil fire.

LARRY CAMPER: -- yeah, the lube oil fire may very well have been, you know, something far more significant coming out of uniform because what we're now beginning to think, at least Don Cool and I, talking with the PMTs, you know, it may well be that that was a seminal event in which the volatiles were deposited out there on soil to the north-northwest of the site. And if that's the case, the good news is that the volatiles are already out there. The bad news is, the thing we're all trying to chew on, is what's going on in Unit 4 now in terms of any future consequences from interaction of melted spent fuel material with concrete and so forth.

DAN DORMAN: It's, it's interesting to me you're focusing on that lube oil fire because Jim, Jim and I when we were talking this morning were focusing on the Unit 4 explosion, but I'm fuzzy in my recollection of which came first.

LARRY CAMPER: Well, I, I think we're saying we're skeptical that it was a lube oil fire.

DAN DORMAN: Yeah, I'm -- we --

LARRY CAMPER: We know it wasn't a lube oil fire. We know that. They can take that off the table.

DAN DORMAN: Yeah. I guess, I guess if -- yeah, I'll be interested to see an analysis that lines up the time sequence of events compared to that wind shift because I think that, obviously, that wind shift, to me, is the only -- the only, you know, Jim kind of said, well, maybe the explosion drove this big plume out there or it was a directional explosion out to the northwest.

Well, I could understand that even out to a mile or two. But if, if you had an explosion that with, the wind was still blowing up fee, you get a little bit of wind from the explosion it back, but not 30 kilometers. So, so I'm thinking that that, whatever, whatever was happening during that wind shift is what put that deposition out there.

LARRY CAMPER: Yeah, we're thinking the exact same thing. We're all in the same place. We're ruling out lube oil fire. I don't think any of us are buying that.

(below) From the NRC FOIA documents: The concern with Unit 4

JOHN MONNINGER: We out here, we have been concerned about spent fuel pool reactor 4 for a very long time also.

You know, the stuff they're doing, you know, initially, the fire trucks and now, then they had the, the riot spray pumps, and then yesterday or, you know, probably about 36 hours ago, they brought in that airport super high-capacity remote unmanned pumper truck --

BRIAN SHERON: Yeah.

JOHN MONNINGER: -- and also the, the helicopters. All those systems are really not highly effective, or actually just marginally effective. And, you know, the problem is, I mean, we're shooting from so far away, you have incredible losses.

BRIAN SHERON: Right.

JOHN MONNINGER: I mean, just with that powdering, the dropout, et cetera. So that's, so that's all that. So, yes, we've been concerned with Unit 4 all along.

And I think Unit 4 is the one we got in a little bit of trouble with, with, you know, the

assessments of structural integrity to the side of the spent fuel pool wall. I think that's the one that has the damage further down on the sides. So we had had some questions from right on asking whether one entire wall of the spent fuel pool had been taken out.

They later came back with some drawings and some photos showing their, our concerned with the wall. Yes, that was a major exterior concrete wall, but the spent fuel wall was a different wall that was further in. But, okay.

DAVE SKEEN: Hey, John, this is Dave Skeen. I'm sorry. I just caught the last part of your conversation there. I, I thought it was 3, we were concerned about, the wall and the spent fuel pool, because that was the one that had the largest explosion, and that looked like it blew out of blew out a pretty big piece of concrete wall.

JOHN MONNINGER: Yes.

DAVE SKEEN: The concern with 4 was always it should have about 10 times the decay heat in there of 3 because they had to have full core offload in there.

JM: Right.

DS: Yet, when we see pictures, we never see any steam coming out of 4, which would lead you to

believe that there's no steam. There must not be any water to steam out of there.

JOHN MONNINGER: Right.

DAVE SKEEN: And so it seems like it must dry.

JOHN MONNINGER: Right.

(below) From the NRC FOIA documents: "…the Japanese, they just grilled us non-stop…"

JOHN MONNINGER: Yeah?

LARRY GOLDENBERG: Larry Geldenberg. How are you doing?

JOHN MONNINGER: Good. Good. How are you doing, Larry?

LARRY GOLDENBERG: Okay. Thanks for the briefing. Very thorough. Listen, we're sitting here talking about this situation you're describing in Unit 4, the spent fuel pool, spent fuel cooling into the core and all that.

JOHN MONNINGER: Right.

LARRY GOLDENBERG: We did an analysis called Super Core, and I'm just talking to Don Cool here, who's my PMT director at the moment. And, you know, listening to this conversation, he believes these assumptions that you're (inaudible) with are consistent with those in the super core analysis. So we have some idea of what the doses would be. I'll be honest with you, they'd be very high.

DON COOL: The calculation that we did -- this was the calculation done back on Wednesday with everybody grumbling at us about, oh, you're being unrealistic, you're crazy, why don't you do 100 percent of the fuel in pool number 4 being melted? But that sounds like what you're describing to me.

Now, maybe we don't (inaudible) some of the other components.

JOHN MONNINGER: Right.

DON COOL: But the component of Unit 4 that we included was 100-percent fuel destruction on the Unit 4 pool if the pool was right, so you'd have an unfiltered, unfiltered release.

JOHN MONNINGER: Right.

DON COOL: And then we assumed you had 50-percent damage on the Unit 2 spent fuel pool and then we had 33 percent of the Unit 2 reactor core with some things.

So we might back out a couple of those components, but what you're telling me is that the assumption on 4, unfortunately, it's still too close to real.

JOHN MONNINGER: Well --

DON COOL: I didn't, and I didn't hear all the conversation. I walked in towards the end of it.

JOHN MONNINGER: There, there is no information that we have been given that gives us a clear assessment or insights on water levels in the unit. The best thing you see is the steaming on TV.

DON COOL: And no steam on 4?

JOHN MONNINGER: No steam on 4. And they

had, they had said, you know, several days ago Unit 3, they believed, was dry back on March 18 -- actually, prior to March 18 -- but actually March 18 out here in the morning, you know, which is about 48 hours ago, has been dry.

DON COOL: As of 48 hours ago?

JOHN MONNINGER: Greater than 48 because that's when they would have told us. NO.

DAVE SKEEN: And that's why they wanted to spray Unit 3, because they thought it may have been dry?

JOHN MONNINGER: Right.

DAVE SKEEN: But what they don't say anything about is there's been no steam off of Unit 4 for days.

JOHN MONNINGER: Right. Right. And they're, they told us that they're working Unit 4 also, you know, with the fire trucks and the spray systems, et cetera.

But the big thing is, you know, they can work them but they're not very effective. I mean, so that's why they, they've finally come to the conclusion that the success path is this concrete auger truck that has the hose directly over top of the spent fuel pool. You know, I mean, they can shoot

tens of tons of water per hour, but if only five or 10 percent is getting in there, it's going up (inaudible).

Well, one of the concerns is they turn the site into a swamp, but the other is just the contamination and the runoff from all this water that's not going into the spent fuel pool.

DON COOL: Well, if those pools are dry and they go to spray water down on top of spray water down on top of them, think of the steam and what you're going to release when you start hitting that dry fuel.

JOHN MONNINGER: Yep. Yep.

DON COOL: You may get rad fields so high that they can't even use the pumper trucks.

JOHN MONNINGER: Right. So I, I think -- you know, I mean, Japan, they, they for years have had a very good, you know, nuclear industry base, a very good nuclear research program, safety program, et cetera. My belief is they know all these issues. [redacted] They just haven't figured it all out yet, and they're waiting until they figure it all out before they were really let people know. That's my, my

assessment.

DAVE SKEEN: Okay. John, let's let us let you go get a shower and get ready for the day. Don and I are going to go talk about this a little bit on what we think the Rad levels might be if it melts through.

And maybe if we -- you get with Chuck, and if you guys get a chance later to talk, maybe we can get back on the phone with you. Do you think you get a chance to do that?

JOHN MONNINGER: Yeah. But we've got to be very careful with that because we got in trouble before by passing up that information saying our assessment was that Unit 4 was dry because the wall's been knocked out. And then there was a big issue in the press and in the papers, the disagreement between the United States government and the Japanese government and the status of the reactor. I mean that issue, you know, it is a major issue in the press.

And then, every single meeting we went to with the Japanese, they just grilled us nonstop on the issue. And then, meeting after meeting, we would say, you know, the basis for that was we were assuming that wall was coming out. We understand that is not the case. [redacted] And five

5

minutes later, during that meeting, a different senior official would ask us the same damn question.

DAVE SKEEN: Yeah. Well, I'm still going to go back to we haven't seen any steaming coming out of Unit 4 since early in the event, which leads us to believe that there's no water there to steam.

JOHN MONNINGER: Yep. We agree with you. So the only thing I'm saying is, you know, we would be interested in the calculations but we've got to be extremely careful what we do with them.

DAVE SKEEN: Yeah. We'll leave that up to you, but we'll get that information for you guys to have in your pocket anyway.

JOHN MONNINGER: Yeah. Yeah.

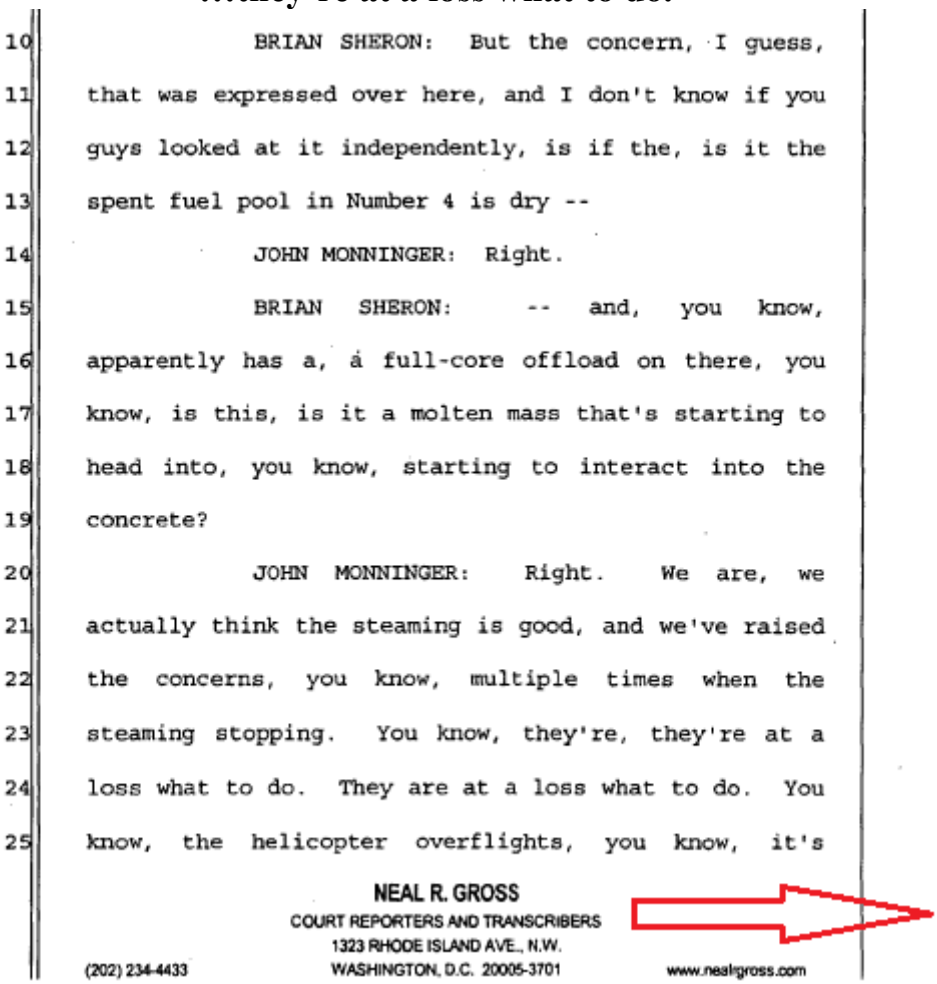
DAVE SKEEN: All right. Thanks, guys.

BRIAN SHERON: Thanks, John.

DAVE SKEEN: Thank you.

JOHN MONNINGER: Good bye.

(below) From the NRC FOIA documents: on the Unit 4 spent fuel pool "…they're at a loss what to do."



BRIAN SHERON: But the concern, I guess, that was expressed over here, and I don't know if you guys looked at it independently, is if the, is it the spent fuel pool in Number 4 is dry --

JOHN MONNINGER: Right.

BRIAN SHERON: -- and, you know, apparently has a, a full-core offload on there, you know, is this, is it a molten mass that's starting to head into, you know, starting to interact into the concrete?

JOHN MONNINGER: Right. We are, we actually think the steaming is good, and we've raised the concerns, you know, multiple times when the steaming stopping. You know, they're, they're at a loss what to do. They are at a loss what to do. You know, the helicopter overflights, you know, it's

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

reported out, and you go to the meetings, and they say, you know, so many -- not hundreds -- but so many tens of tons of water have been dropped, you know, or hundreds of tons of water have been dropped.

And then you look at TV and you're like, well, that cannot be, like less than 10-percent effective due to the speed of the helicopter, the winds, et cetera. And they acknowledge, and you're -- you know, so the one thing is being reported in the media that these fire trucks are going in and out, the helicopters are doing this, the super capacity pumping system. But then, when you get actually down into Tepco and start talking to the engineers, you find out that it really isn't that effective.

So we, you know, in terms of, you know, that pool or even Unit 3 -- I mean, Unit 3 was, you know, they believe Unit 3 was, you now, they believed Unit 3 was dry, and it was multiple days before, you know, they got those, even those first fire trucks in, so that's why they put their priority on Unit 3. And they believed they had some time on Unit 4.

(below) From the NRC FOIA documents: John Monninger on Unit 4
"…spent fuel pool…going through the floor…"

So, so we agree, you know, that Unit 4, you know, there's no idea what's going on with Unit 4. There's no, we have don't have any clear idea that Unit 3 has gotten any better. And, you know, we've gotten in a little bit of trouble out here, you know, passing on or just even discussing assessments, you know?

And, you know, if you guys want to talk what you're talking about before, you know, the spent fuel pool, you know, going through the floor -- which is in my mind, too, and I've mentioned it to several people -- what's that going to do? Right now, the rad levels at the site are high as hell. Okay? You know, several of us have talked about, if that happens, are the rad levels at the site somehow going to skyrocket?

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

Skyrocket -- I mean, they're already 10 to 30 R per hour in areas. If it goes through the spent fuel pool floor, what is that going to do to access to your site to continue to do anything for Unit 1 spent fuel pool, Unit 2 spent fuel pool, Unit 4 spent fuel pool, or the three reactors?

So that's, that's the concern. You understand that?

DAVE SKEEN: Yeah. We got you, John. We'll take a look at that.

(below) From the NRC FOIA documents: Brian McDermott on the Unit 4 spent fuel pool "…people are worrying that that stuff has maybe melted through that concrete floor."

25 BRIAN McDERMOTT: Hey, John, this is Brian.

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

The, if you guys could find out, you know, maybe from Tepco or whoever, NISA, what's the status, what is their best estimate of the status of the spent fuel pool in Unit 4? We talked about this earlier today.

I think it's causing some angst around here because, you know, there's no steam that's been seen coming out of there. And, you know, people are worrying that that stuff has maybe melted through that concrete floor.

JOHN MONNINGER: Right.

BRIAN McDERMOTT: And the next stop is the top of the torus.

JOHN MONNINGER: Right.

BRIAN McDERMOTT: I'm sorry.

JOHN MONNINGER: And it's going to bust through that torus.

BRIAN McDERMOTT: Right, and then you've got potential steam explosions with this melting into the water in the torus. And then after that, who knows where it goes.

(below) From the NRC FOIA documents: Marty Virgilio on Unit 4 spent fuel pool "…I don't see how there could be possibly water left in there."

MARTY VIRGILIO: Yeah, I appreciate that. And so let's get back to -- that pool probably has the 10 times the decay heat of Unit 3 has in it. And if there's been no cooling for there for a prolonged period of time, I don't see how there could be possibly water left in there. And from the evidence that we've seen, you might see a light mist or something there, but I don't how you have water in the pool, unless it's maybe down at the very bottom.

MALE PARTICIPANT: They don't.

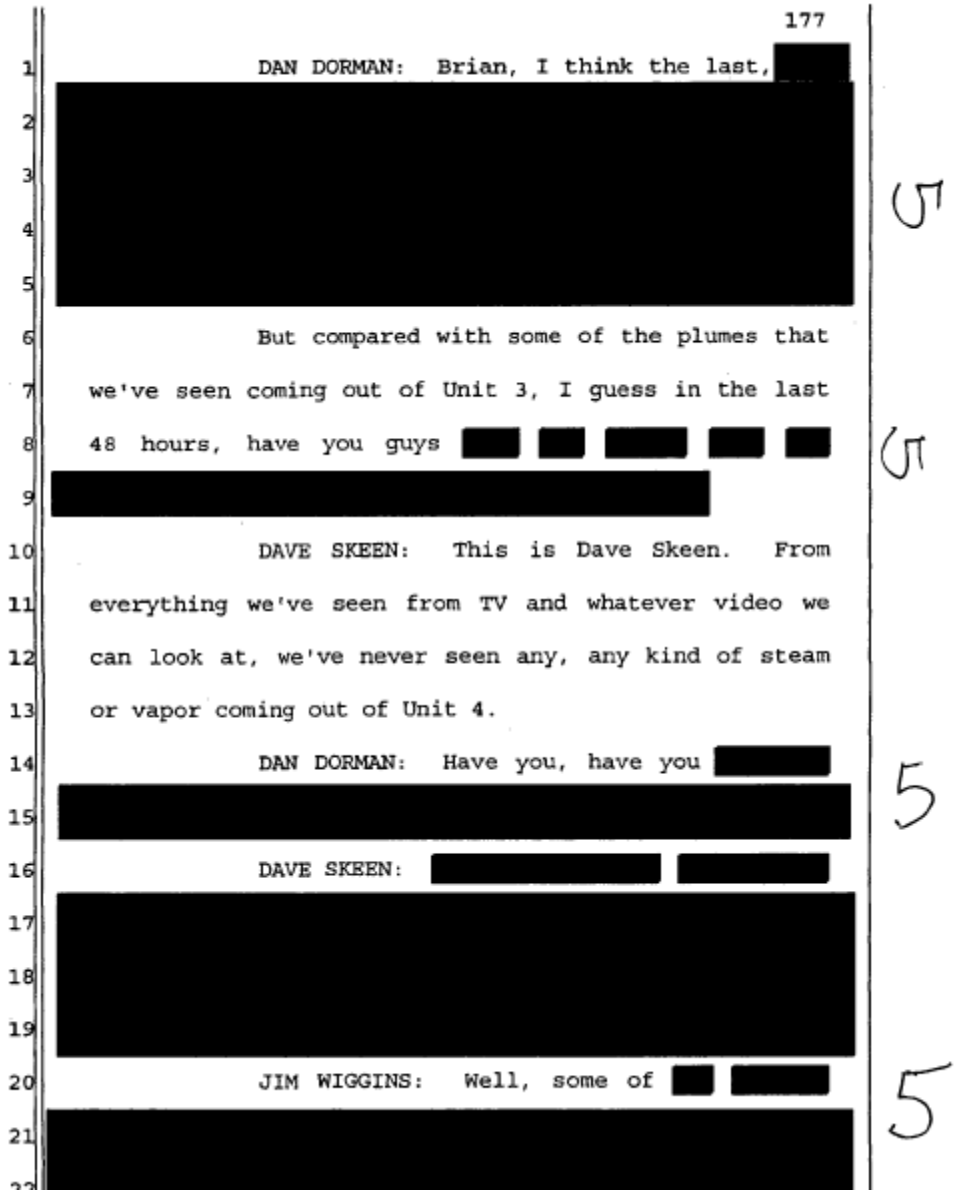
MARTY VIRGILIO: I don't see it.

DAVE WELLER: This is Dave Weller from the NR Team. The other supposition had looking at those is there's a potential that as the core is in a dry pool or in a dry area, it is interacting with concrete and other materials, and you can be seen some interaction there that generates a little bit of smoke. And that might be what we're seeing.

MIKE WEBER: Yeah, there's where the gasses would come off when that core hits the concrete.

MARTY VIRGILIO: All right, guys. That's all -- just that you're aware.

(below) From the NRC FOIA documents: Dave Skeen on Unit 4 spent fuel pool "…we've never seen any, any kind of steam or vapor coming out of Unit 4."



177

DAN DORMAN: Brian, I think the last, [redacted]

[redacted] 5

But compared with some of the plumes that we've seen coming out of Unit 3, I guess in the last 48 hours, have you guys [redacted] 5

[redacted]

DAVE SKEEN: This is Dave Skeen. From everything we've seen from TV and whatever video we can look at, we've never seen any, any kind of steam or vapor coming out of Unit 4.

DAN DORMAN: Have you, have you [redacted]

[redacted] 5

DAVE SKEEN: [redacted]

[redacted]

JIM WIGGINS: Well, some of [redacted] 5

[redacted]

(below) From the NRC FOIA documents: an email from March 20th, 2011 from Yama-Yamaguchi and a stunning admission "We will be closed 1F-1 to 1F-4 permanently" and "we should have more strong emergency redundant cooling system required for fule [fuel] pool…"

----- Forwarded Message -----
From: yama-yamaguchi <yama-yamaguchi@basil.ocn.ne.jp>
To: Morgan Joe & Lucy <(b)(6)> Whitman John <Jwhitman@uccdive.com>
Cc: Sampath Ranganath
Sent: Sunday, March 20, 2011 9:29 PM
Subject: Fuku report on 3/21.

John and Joe.

1F-2&1 is atill checking each syatem and each equipments.

1F-3&4 is still charging seawater to fuel pool and parallelly trying to conect outside power line.

1F-5&6 is stable.

Our concerning points.

I'mvery much concerned about fuel pool inside and RPV inside fuel condition after make so much H2 (Zr + 2H2O = ZrO2 + 2x H2) therefore ZrO is very much brittle already come out pellets come out fule tube and go down and liner plate and RPV drain pipe also make hole at over there.

1) We will be closed 1F-1 to 1F-4 permanently.
2) We should have at least require redundant out site power source such as power line from pacific side and japan sea side line also Hokaido line/kyusyu line.
3) We should have more strong emagency redundant cooling system required for fule pool also it's location/design change required for RPV BLDG.
4) We should have design change of Emergency diesel generation system with ECCS.

YAMA.

(below) From the NRC FOIA documents: an email from Brian Sheron, NRC's Director of the Office of Nuclear Regulatory Research, in regards to some questions from Congressional staff. It appears as if someone was showing interest as to why the NRC decided the melted fuel rods would not ablate (burn through) through the concrete floor of the spent fuel pool.

From: Sheron, Brian
Sent: Monday, March 21, 2011 5:54 PM
To: Droggitis, Spiros
Subject: Answers to Congressional Staff Questions

1.) Request for doses in millirem.

Don Cool responded and explained that we could not give doses in millirem because it requires additional assumptions on uptake, etc. However, he said doses would be small fractions of PAGs

2.) What was the basis for concluding that the core debris in the unit 4 SFP would not ablate the concrete floor?

Basis was preliminary calculations run with the MELCOR code that showed temperatures did not reach levels that would cause ablation. However, further calculations are being performed.

3.) What is the half-life of Xenon-133?

Don Cool provided the response that it is 2.2 days.

(below) From the NRC FOIA documents: a March 21st email reveals that ' Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analysis and followup is needed to address Fukushima and complete dryout and concrete attack…'

From: Tinkler, Charles
Sent: Monday, March 21, 2011 3:17 PM
To: Santiago, Patricia; Chang, Richard; Wagner, Katie
Cc: Schaperow, Jason
Subject: Requests

Right now we have 2 actions we are following up

1. Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analyses and followup is needed to address Fuskushima and complete dryout and concrete attack, clarification sought by the PMT
2. We have received additional requests from Naval Reactors. These are being put on hold. Discussed with Brian Sheron

Charles Tinkler
Charles.Tinkler@nrc.gov

(below) From the NRC FOIA documents: an email from March 21st, 2011 about the Unit 4 spent fuel pool "the one that they've had trouble keeping covered"

From: Tobin, Jennifer
To: Bonaccorso, Amy; Janbergs, Holly
Cc: Deavers, Ron
Subject: RE: Call
Date: Monday, March 21, 2011 3:56:10 PM

He had a lot of questions on the spent fuel pool at Unit 4 (the one that they've had trouble keeping covered) since the Chairman said it was dry in his statement to Congress last week. He wanted to know about the progression of filling the pool since then.

Jenny (Tobin) Wallenhorst
Export Licensing Officer
Office of International Programs
office, 301-415-2178

(below) From the NRC FOIA documents: cover-page for March 23rd, 2011 teleconference calls…

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Japan's Fukushima Daiichi ET Audio File
Day 13

Docket Number: n/a

Location: n/a

Date: March 23, 2011

Work Order No.: NRC-1100 Pages 1-194

(below) From the NRC FOIA documents: March 23rd, 2011 and TEPCO is trying another scheme in an attempt to get closer to the pool with a 50-meter boom truck…

MR. WEBBER: Yes.

MR. FRENOVICH: Mike, this is Mike Frenovich.

Speaking of Unit 4 spent-fuel pool, do we have any information on this new operation that is going on using a 50-meter boom from a construction site that the TEPCO folks have brought in to pump water as close as they can to the pool itself?

MR. WEBBER: I think we have the information that you have.

(below) From the NRC FOIA documents: NRC officials have problems with TEPCO's thermal signature…

FRED: If you believe those temperature measurements, they can walk up there with an operator and put a hose in it. There's no big deal.

MR. CASTO: Yes. And without water in them. I mean, what they did, Fred, was if you look at the thermal signature -- well, there's a couple of problems. It's a long story. But if you look at the top of the thermal signature -- first of all, you don't know what's at the bottom of thermal signature. The other issue is all those temperatures they published in the newspaper, if you think about it, Unit 1 spent-fuel pool has the roof of the building laying over top of it. Okay? Unit 2 has some debris. Unit 3, everybody agreed was empty. And Unit 4, the question whether -- but yet all the temperatures are about the same within a few degrees of each other. When you got a lid on Unit 1 and you know that Unit 3

(below) From the NRC FOIA documents: March 23rd, 2011 water drops on spent fuel pool #4 continue with no change to external dose.

MR. CASTO: Let me just add one more thing from the Cabinet meeting tonight. They reported on spent-fuel pool #4. Today they continued to pour water on it from above, and they've observed no substantial change to external dose. That was what they reported on Unit 4 tonight.

(below) From the NRC FOIA documents: NRC Officials discuss the 'bounding analysis' that includes 100% of the Unit 4 spent fuel pool.

MR. SNODDERLY: Mike, this is Mike Snodderly. I just have one question.

From the bounding analysis, you talked about (inaudible) one core and two spent-fuel pools. Does that assume an instantaneous release or (inaudible)? What's the time frame for the release to forming the plume?

MR. WEBBER: That would be -- when you say instantaneous, it would be over a 24-hour period all occurring on the same day?

So it's a concurrent release taking place over the span of a day.

MR. SNODDERLY: Okay. Thank you.

MR. WEBBER: Other questions?

MALE PARTICIPANT: (inaudible) 100 percent of everything that's in the spent-fuel pools and in the core go airborne?

MR. WEBBER: Can you repeat the question?

MALE PARTICIPANT: Does that also assume that 100 percent of the inventory gets released?

MR. WEBBER: No. It's 25 percent of Unit 2 reactor, 50 percent of Unit 3 spent-fuel pool, and 100 percent of Unit 4's spent-fuel pool.

MALE PARTICIPANT: Okay. Thanks.

(below) From the NRC FOIA documents: March 23rd, 2011…Robert Lewis, Director of NRC's Office of Preparedness and Response, on a NARAC plume/dose model "It also includes I think a large fraction 100 percent of Unit 4 which we know has already had some release."

MR. LEWIS: I was just going to say, Chairman -- this is Rob Lewis -- we are looking at the model and trying to talk to NARAC about exactly what they did. It does include iodine is what I understand. It also includes I think a large fraction 100 percent of Unit 4 which we know has already had

NEAL R. GROSS

68

some release. And it includes some very conservative mineralogy we believe --

CHAIRMAN: Okay.

(below) From the NRC FOIA documents: March 23rd, 2011…NRC officials unable to take the Unit 4 spent fuel pool "off the table" as a source term (radioactive emission)

BILL: Well, I understand what you're saying. But I would think if it was confirmed that Unit 4's spent-fuel pool is full of water and less than 100° C, maybe we'd be able to take that term off the table.

MR. APPLEMAN: Might. You might. We're not heading in that direction today.

BILL: I understand. Thanks.

(below) From the NRC FOIA documents: seawater injection to the Unit 4 spent fuel pool from the 24th to 25th of March, 2011 causes "white smoke".

Unit 4

From March 22 to Match 25, 130 to 150 t of water was poured into the Spent Fuel Pool each day using a concrete pump. Sea water was also poured in through Spent Fuel Cooling System from 21:05 UTC on March 24 to 01:20 on March 25. White smoke is still being observed as of 23:00 UTC March 25.

New information was provided on water level for the spent fuel pool overflow tank, which is at 5.85 m.

(below) From the NRC FOIA documents: an email from March 28th, 2011 calculations show that TEPCO is losing water in a 1 to 22 ratio in the spent fuel pool of Unit 4. Without leak a 44.60 inch increase in water height should have occurred after adding 125 tons of water. TEPCO numbers show a mere 2 inch rise in coolant height after adding 125 tons of water.

From: Sheikh, Abdul
To: Ali, Syed; Scott, Michael; john.geissner@nrc.gov <john.geissner@nrc.gov>; Taylor, Robert
Sent: Mon Mar 28 01:32:10 2011
Subject: Spent Fuel Cooling

This morning TEPCO informed us of the following:

Volume of water to fill the pool: 1400 metric tons
Volume of water pumped yesterday in SFP for Unit 4: 125 Tons
Increase in water level: 50 mm (2 inch)

I made calaculations and found the following:

Volume of water in the pool: 1385 metric tons
Increase in water level due to 125 Tons of water: 44.60 inch

Of course some water will be lost in the spray to the other areas of reactor building. But not in a ratio of 1 to 22. We should ask clarification from TEPCO about this issue.

Abdul

(below) From the NRC FOIA documents: a March 28th, 2011 email evidence that some were questioning an NRC technical opinion that criticality in the Unit 4 spent fuel pool (probably re-criticality at this point if you consider the evidence already put forth in this book) is unlikely based on the presence of "low density racks of borated stainless steel". Note that the Unit 4 racks were not borated. Also note the reference to 204 fresh fuel assemblies and "fuel damage due to uncovery'.

Thanks, Richard

From: Carlson, Donald
Sent: Monday, March 28, 2011 9:13 PM
To: Wagner, John C.; Parks, Cecil V.; Hopper, Calvin Mitchell; Lee, Richard; Wood, Kent; VanWert, Christopher
Cc: Scott, Michael; Ulses, Anthony; Yarsky, Peter; Giessner, John; Taylor, Robert
Subject: RE: Support for Japan - SFP Criticality Potential Update

All,

Rob Taylor (NRC/NRR, on Cc) called from Japan to revisit the Unit 4 pool criticality issue. He provides the following details:

- Unit 4 racks are not borated
- Switching to unborated fresh water injection on 3/29
- Shutdown last November with 1/3 of the core offload being 1st cycle fuel
- 204 fresh fuel assemblies were present in the pool
- Japanese concerns that the racks may have shifted
- Fuel damage due to uncovery

Our NRC+ORNL technical opinion as of March 19 was as follows:
Statement: Criticality is very unlikely for any likely configuration in the SFP, especially if boron is being added. Moreover, if criticality were to occur, it would be of much less consequence than an empty pool. (The statement also included reminders that the water in BWR SFPs is generally not borated and that criticality is not possible without water.)

That opinion may have been based in part on a preliminary understanding that the Unit 4 SFP had low-density racks of borated stainless steel.

Question: Do we now see a need to modify or expand the above technical opinion? If so, how?

Responses or questions provided by 10:00am EST Tuesday would be especially appreciated.

As always, your help and advice is deeply appreciated.

Best regards,
Don

(below) From the NRC FOIA documents: the effects of pumping seawater in a reactor or spent fuel pool after a meltdown…hot aqueous chloride would cause stress corrosion cracking of the stainless steel cladding and piping etc.

>Date: Fri, 25 Mar 2011 09:57:48 -0700
>Subject: reactor#3 and others
>From: devine@berkeley.edu
>To: Peterson@nuc.Berkeley.edu
>
>---
>Per,
>
>I'm troubled by the report I just heard on CNN, which indicated that Co
>was in the ocean adjacent to the plant and in the water that burned the
>three workers. Apparently the workers were exposed to Co-containing
>water while in the turbine room. The presence of Co at these two
>locations suggests that water from the core is releasing into the ocean
>and into the turbine room.
>
>The cause of the leak(s) might be pipes that were cracked during the
>hydrogen explosions. Alternatively, the leak(s) might be due to
>corrosion and/or stress corrosion cracking. The possibility of
>corrosion and scc must be urgently addressed.
>
>The email that I sent to you one week
>ago was prompted by our parking-lot discussion in which you mentioned
>the amount of salt water that was being used to cool the reactors. My
>concern then was that the chloride would cause stress corrosion
>cracking of the stainless steel cladding that coats the inside of the
>RPV and of stainless steel piping that is part of the cooling system.
>I indicted that an upper limit SCC velocity of about 0.8 cm/day in
>stainless steel exposed to hot aqueous chloride. Hot aqueous chloride
>would severely corrode, and possibly crack, low alloy steel and carbon
>steel, especially if oxygen (from air) is also present.
>

(below) From the NRC FOIA documents: March 29th, 2011 from an NRC brief…"…no access [to U-4] due to dose rates." High dose rates=no repairs/countermeasures.

TEPCO injecting fresh water into Units 1, 2 and 3; and *has transitioned* to temporary electric pumps for injection (all three units); Actions underway to pump water from flooded turbine building basements into condensers/other tanks. TEPCO plans to inject water into U-1 SFP from Cement Pumper truck on 30. March. Lighting returned to U-4 control room, currently no access due to dose rates. TEPCO is considering spraying Zeolite on the outside and interior of the Rx Bldgs in an effort to minimize re-suspension of fission products in the air but having difficulty planning application due to the elevated dose rates.

Highly radioactive water (approx 100 R/hr) found in a "trench" (pipe and cable chase) outside Unit 2; source of water unclear. TEPCO stated that this water is not flowing into the ocean, though the water will overflow this trench if it rises about 1 meter (trench is 4 meters deep). There is water in the trenches outside of Units 1 and 3 as well. Actions have been taken, or are in progress, to preclude contaminated water in trenches from reaching the ocean (e.g., sandbags, etc.).

(below) From the NRC FOIA documents: GE had "first hand observations" based on "eye-witness accounts" from the refueling floor of the Unit 4 spent fuel pool when the earthquake struck.

From: Taylor, Robert
Sent: Tuesday, March 29, 2011 5:34 AM
To: RST01 Hoc
Cc: Scott, Michael
Subject: Calculation on Unit 4 SFP

Follow Up Flag: Follow up
Flag Status: Flagged

RST,

We understand GE has done a "calculation" regarding the Unit 4 SFP based on first hand observations based on eye-witness accounts from individuals who were on the refueling floor when the earthquake struck. It apparently also includes assumptions regarding other ignition sources in the area (aka acetylene) that could have exacerbated the hydrogen explosion. Can we ask GE for a copy of the calculation? This could help us understand the timeline from earthquake to explosion. Any first-hand knowledge and insights would greatly enhance our understanding and interactions with the Japanese.

Please let me know if you have any questions.

Regards,
Rob

(below) From the NRC FOIA documents: March 31st email indicating that a note about the Unit 4 SFP that was in an earlier report is now missing from an updated report…but was the "differing information about water levels" ever resolved?

From: Shaffer, Mark R [mailto:ShafferMr@state.gov]
Sent: Thursday, March 31, 2011 4:44 AM
To: LIA07 Hoc
Cc: LIA02 Hoc
Subject: USNRC Earthquake/Tsunami Status Update

I'm confused….the note below regarding Unit 4 SFP was contained in the 1800 EDT report, but it is missing/deleted from the 0430 report? Has this differing information about water levels now been resolved?

Note: *There is differing information on the current inventory of water in the Unit 4 SFP. While TEPCO is reporting level indication and some visual/thermography indication of a large current inventory, there is conflicting evidence indicating that the pool can only successfully retain much less inventory than normal. These contrary indicators include: steam that is emitted immediately when new water is added to the pool; physical damage to the structure that supports the pool; and the NRC's assessment of the post-earthquake timeline of events that led to the explosion in Unit 4. In summary, while there may be 3 to 6 days of inventory in the pool, there may also be much less inventory. TEPCO has successfully waited at least two days between additions of water.*

(below) From the NRC FOIA documents: March 31st, 2011…an email that disputes then Chairman Gregory Jaczko's statement to the 'Deputies meeting' that the Unit 4 spent fuel pool was full of water. Jaczko's statement from the 30th of March, 2011, as indicated in this email, contradicts his own from March 15th, 2011.

From: LIA07 Hoc
Sent: Thursday, March 31, 2011 9:37 AM
To: EOP
Cc: LIA01 Hoc; ET07 Hoc
Subject: Re: USNRC Earthquake/Tsunami Status Update March 31 0430 EDT

Steve:

This is regarding your question on the NRC March 31 0430 EDT Status Report. During the Deputies meeting yesterday (March 30), Chairman Jaczko discussed plant status based on his visit to Japan. He indicated that the Unit 4 spent fuel pool was full of water. This is different from our understanding of the spent fuel pool status. The status report was intended to convey the differences.

Please call the Headquarters Operations Officer at 301-816-5100 with questions.

Yen Chen
Executive Briefing Team Coordinator
Office of Nuclear Security and Incident Response
US Nuclear Regulatory Commission
LIA07.HOC@nrc.gov (Operations Center)

(below) From the NRC FOIA documents: an April 4th, 2011 email discussing the 'junk-shot' that will patch "the Leak at Fukushima"

From: Zigler, Gilbert <gzigler@alionscience.com>
To: Virgilio, Martin
Sent: Mon Apr 04 19:03:30 2011
Subject: Stopping the Leak at Fukushima

Marty:

The leak at Fukushima can be easily stopped using lessons learned during GSI-191 head loss testing. A combination of fibers and Min-K will stop any leak. The fibers MUST be prepared correctly so they will not easily settle by gravitational forces. Correctly prepared fibers introduced into the tank where the leak is suspected will eventually migrate to the leak and start bridging the leak. After some time then it is time to introduce Min-K, again correctly prepared to minimize settling by gravitational forces. Once the Min-K reaches the leak, now bridged by the fibers, the Min-K will form an essentially impervious barrier which will block leakage. I have conducted head loss tests where the combination of fiber + Min-K resulted in head losses greater than 15 ft water that had minimum decrease in water level when left overnight.

Simply throwing stuff in the tank hoping for blocking the leak will result in settling at the bottom of the tank without getting to the leak,

Gilbert Zigler
Senior Scientist/Engineer
Alion Science and Technology

55/137

13

(below) From the NRC FOIA documents: an email from April 6th, 2011 in regards to a presentation for the "European Melcore User Group"…one of the key points "…there was a leak from the pool which depleted the water."

----- Original Message -----
From: Jon Birchley <jonathan.birchley@psi.ch>
To: Herranz Puebla, Luis Enrique <luisen.herranz@ciemat.es>
Cc: Christiane.BRUYNOOGHE@ec.europa.eu <Christiane.BRUYNOOGHE@ec.europa.eu>; gunter.weber@grs.de <gunter.weber@grs.de>; derosa@bologna.enea.it <derosa@bologna.enea.it>; horvathlg@nubiki.hu <horvathlg@nubiki.hu>; Sebastian.Weber@grs.de <Sebastian.Weber@grs.de>; marcinkk@aecl.ca <marcinkk@aecl.ca>; Gert.langrock@areva.com <Gert.langrock@areva.com>; friedhelm.funke@areva.com <friedhelm.funke@areva.com>; gerard.ducros@cea.fr <gerard.ducros@cea.fr>; Andreas.schumm@edf.fr <Andreas.schumm@edf.fr>; Paul.BOTTOMLEY@ec.europa.eu <Paul.BOTTOMLEY@ec.europa.eu>; Mathias.LAURIE@ec.europa.eu <Mathias.LAURIE@ec.europa.eu>; krajewski@lrst.rwth-aachen.de <krajewski@lrst.rwth-aachen.de>; Dumitru.ohai@nuclear.ro <Dumitru.ohai@nuclear.ro>; Bernard.clement@irsn.fr <Bernard.clement@irsn.fr>; Sbkim2@kaeri.re.kr <Sbkim2@kaeri.re.kr>; Shirley.dickinson@nnl.co.uk <Shirley.dickinson@nnl.co.uk>; Sonia.morandi@rse-web.it <Sonia.morandi@rse-web.it>; ivec@tu-sofia.bg <ivec@tu-sofia.bg>; SANDRO.PACI@UNIPI.IT <SANDRO.PACI@UNIPI.IT>; Salay, Michael; Ari.auvinen@vtt.fi <Ari.auvinen@vtt.fi>; Manuel.MARTIN-RAMOS@ec.europa.eu <Manuel.MARTIN-RAMOS@ec.europa.eu>; Otero Suarez; Mª Bernadette <bernadette.otero@ciemat.es>; Salih Guentay <salih.guentay@psi.ch>; Jaeckel Bernd <bernd.jaeckel@psi.ch>; fernandez-moguel <Leticia.Fernandez-Moguel@psi.ch>; Prasser Horst-Michael <prasser@lke.mavt.ethz.ch>
Sent: Wed Apr 06 05:15:24 2011
Subject: Re: FASTG

Dear Luis

We have done a little more work on the FU4 SFP, with as good an estimate of the heat load as we can. I attach something that we will be presenting next week at the European Melcor User Group.

AK 135

Dear Luis

We have done a little more work on the FU4 SFP, with as good an estimate of the heat load as we can. I attach something that we will be presenting next week at the European Melcor User Group.

1

AK/35

The key points are

- even with a conservative estimate of the heat load there would not have been enough boiloff to uncover the rods and lead to overheating, and metallic oxidation to cause an H2 explosion by the observed time
- the natural conclusion is that there was a leak from the pool which depleted the water (perhaps as a result of earthquake damage)
- if the explosion was due to H2 produced from metal oxidation, then we would expect significant FP release as well. In particular both Cs and iodine(all isotopes). But the activity from iodine released from the SFP would be very low (Cs/I activity ca. 1000?) So we ask, was there an observed increase in the Cs-137 activity at this time without a comparable increase in I-131 activity?
- if the explosion was not due to H2 produced from metal oxidation, what caused it? Two possible explanations have been floated:

(i) presence of flammable vapour in the building from (diesel fuel?) leaked from machinery or tanks as a result of the earthquake;
(ii) H2 produced by radiolysis of water in the spent fuel.

I'd been interested in any data on activity measurements and also anything to support or rule out hypotheses (i), (ii)

Best regards
Jon

(below) From the NRC FOIA documents: an April 6th, 2011 email…"Over the last few days, the makeup to the Unit 4 SFP has not been sufficient to offset TEPCO's calculated losses from steaming."

From: Taylor, Robert
Sent: Wednesday, April 06, 2011 2:32 AM
To: Jaczko, Gregory
Cc: Borchardt, Bill; Weber, Michael; Virgilio, Martin; Casto, Chuck; Leeds, Eric; RST01 Hoc
Subject: NRC's Daily Assessment of Conditions at Fukushima Daiichi

Dear Chairman,

Attached please find the NRC Japan Team's Daily Assessment of conditions at the Fukushima Daiichi nuclear power plants and spent fuel pools.

There is only one change of note for today. The NRC Japan Team continues to monitor TEPCO's make-up water additions to each for the Daiichi SFPs. Over the last few days, the makeup to the Unit 4 SFP has not been sufficient to offset TEPCO's calculated losses from steaming. This is reflected by a down arrow in the attached for cooling and level of the Unit 4 SFP. We will continue to discuss this issue with NISA and TEPCO.

If you have any questions, please don't hesitate to ask.

Best regards,
Rob Taylor
NRC Japan Team

(below) From the NRC FOIA documents: April 6th, 2011…Unit 4 spent fuel pool cooling is "challenged" and integrity has "failed".

~~Official Use Only~~

NRC's Daily Assessment of Conditions at Fukushima Daiichi Nuclear Power Plant

Unit 1		Today	Yesterday
Vessel	Cooling	Challenged	Challenged
		↔	↔
	Integrity	Intact	Intact
		↔	↔
Containment	Flooding	Inc./Needed	Inc./Needed
		↔	↔
	Integrity	Challenged	Challenged
		↔	↔
Spent Fuel Pool	Cooling/Level	Adequate	Adequate
		↔	↔
	Integrity	Intact	Intact
		↔	↔

Unit 2		Today	Yesterday
Vessel	Cooling	Challenged	Challenged
		↔	↓
	Integrity	Failed	Failed
		↔	↔
Containment	Flooding	Inc./Needed	Inc./Needed
		↔	↔
	Integrity	Failed	Failed
		↔	↔
Spent Fuel Pool	Cooling/Level	Adequate	Adequate
		↔	↔
	Integrity	Intact	Intact
		↔	↔

Unit 3		Today	Yesterday
Vessel	Cooling	Adequate	Adequate
		↔	↔
	Integrity	Failed	Failed
		↔	↔
Containment	Flooding	Challenged	Challenged
		↔	↔
	Integrity	Failed	Failed
		↔	↔
Spent Fuel Pool	Cooling/Level	Challenged	Challenged
		↔	↔
	Integrity	Challenged	Challenged
		↔	↔

Unit 4		Today	Yesterday
Spent Fuel Pool	Cooling/Level	Challenged	Challenged
		↓	↔
	Integrity	Failed	Failed
		↔	↔

		Today	Yesterday
Protective Measures	Exposure Risk	Low	Low
		↔	↔

(below) From the NRC FOIA documents: April 7th, 2011 ”ongoing activity” is “not intended to be shared with other stakeholders without Executive Team approval.” Note that as of April 7th, 2011 officials are still considering the sand and lead ‘slurry’ additive to the Unit 4 spent fuel pool as a possibility.

OFFICIAL USE ONLY

Current List of RST Documents with Ongoing Activity (As of 4/7/2011 2140)

Purpose: This document satisfies task # 4214, “Provide a means to ensure that all documents are accounted for.”

Stakeholder: This document was initiated at the request of the ET.

This document is intended as a status and organization tool for the RST and the ET and is not intended to be shared with other stakeholders without Executive Team approval.

Approval: Reactor Safety Team (RST) Director

Name	Description	Status
RST Assessment Rev.0, Rev1	This was an assessment of the 6 units.	Issued
SFP Assessment	Recommendations are based upon structural, fuel criticality, and thermo-hydraulic analyses, as well as filling guidelines.	NR collecting comments on current version edits being made and continues on lower priority than Stability Paper.
1 Pager Considerations on Reactor Pressure Vessel (RPV) Injection Rate		Sent to INPO (4/6/11) to pass on to TEPCO
1 Pager Considerations on Primary Containment Fill Possibilities		Sent to INPO (4/6/11) to pass on to TEPCO
Stability Assessment	Short term and long term stability: Short term--Risk of energetic/large release	NR has made comments and RST is reviewing and updating the document as high priority.

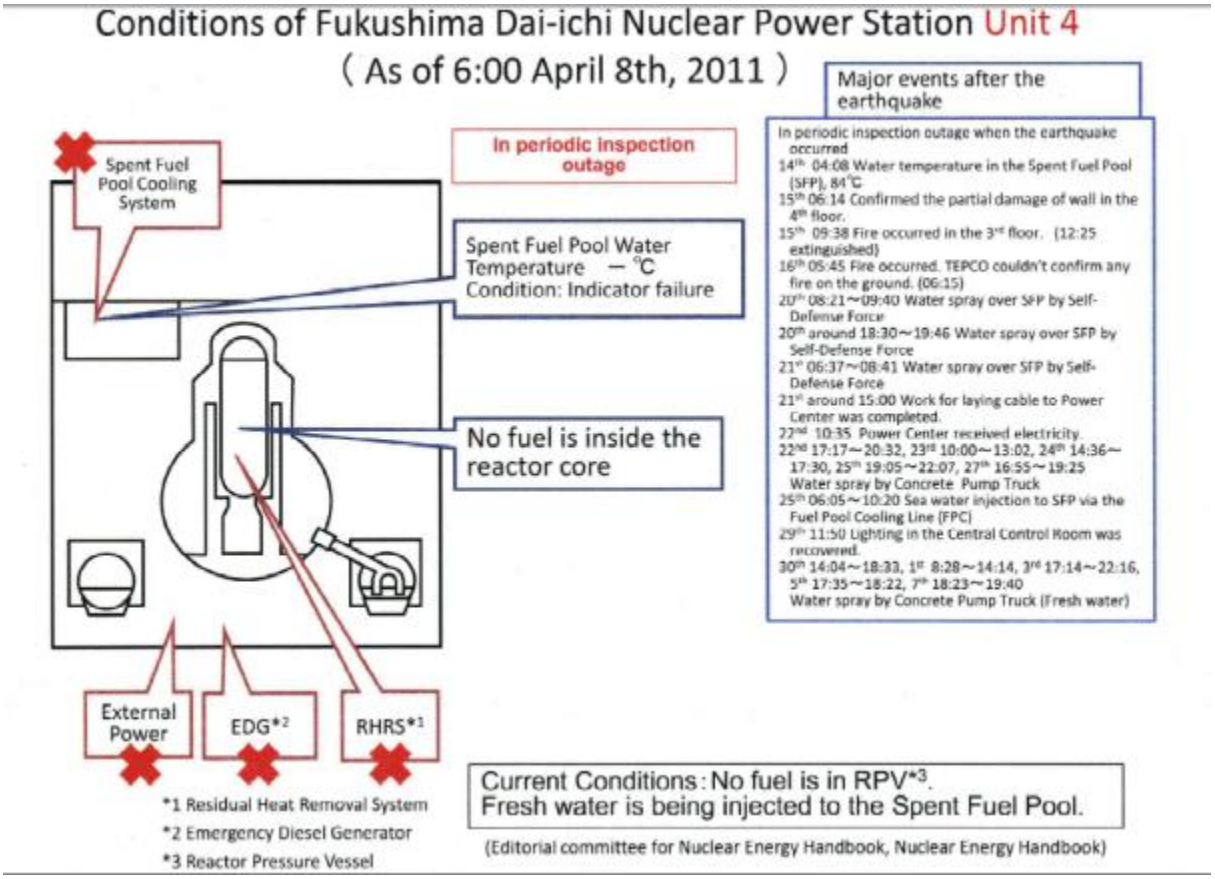
Goop	An assessment was made to determine the ramifications for Kuricoat use in the SFPs. Fukushima Daiichi personnel are planning to spray a resin	Assessment sent to Japan Site Team on 4/6/11

~~OFFICIAL USE ONLY~~

~~OFFICIAL USE ONLY~~

	mixture to fix loose radioactive materials in the plants.	
H2/O2 Paper w/ GE	Assessment of the potential for explosive conditions in containment for Unit 1 during vent and fill.	GEH provided response to inquiries on 4/7/2100, 02:33
Briefing Sheet on Spent Fuel Pool Slurry	This document was initiated at the request of the NRC Site Team to support a briefing by Chuck Casto of the American Ambassador. It is intended to outline the technical issues associated with addition of a "slurry" (i.e., sand or other materials) to the spent fuel pool for Fukushima Daiichi Unit 4 and provide views based on available information.	Sent to Japan Team 4/7/11 Japan Team may have additional related questions; still working.

(below) From the NRC FOIA documents: April 8th status update of Unit 4.



(below) From the NRC FOIA documents: an April 12th email from Per Peterson from Berkeley.edu that disputes TEPCO's temperature reading of the Unit 4 spent fuel pool.

Lee, Richard

From: Per F. Peterson [peterson@nuc.berkeley.edu]
Sent: Tuesday, April 12, 2011 12:32 PM
To: Lyons, Peter; Kelly, John E (NE)
Cc: DL-NITsolutions
Subject: RE: FW: Tuesday morning conference call (JST)
Attachments: Japanese slides IAEA side event 4 April.pdf; Plant Photos.PDF

Pete,

Besides the drone picture, the other line of evidence I've heard cited by the Japanese is the temperature indication they were reading from their spent fuel pool instrument, which recorded temperatures below 100°C. But the photo of Unit 4 on March 16 (one day after the explosion) that Steve Fetter sent (attached) clearly shows steam coming from the Unit 4 spent fuel pool. This is only possible if the pool was boiling, and thus the interpretation of the temperature measurements indicating the presence of subcooled water is clearly incorrect.

(below) From the NRC FOIA documents: another email from Per Peterson from Berkeley.edu disputing TEPCO's temperature levels of the unit 4 spent fuel pool and stating that "The evidence is beginning to accumulate that the water level on March 12 was already low…"

From: Per F. Peterson [mailto:peterson@nuc.berkeley.edu]
Sent: Wednesday, April 13, 2011 5:11 PM
To: Fetter, Steve
Cc: DL-NITsolutions
Subject: Re: Unit 4 pool--why is the water level so low?

Steve,

High dose rates above the surface of the water pool, with this much water inventory, would be consistent with cesium aerosols being deposited on surfaces above the pool that would have been released when fuel uncovered, overheated, and oxidized to release hydrogen. A more unambiguous assessment could be obtained if the remote equipment could be used to take some swipes from the surfaces of debris above the pool to check for cesium contamination.

The temperature instrumentation in the Unit 4 pool is at a high elevation and would read the air temperature if a significant fraction of the pool water inventory had been lost. Since there was steam coming from the pool on March 16, the 82°C temperature measurement on March 16 was clearly the air temperature, not the water temperature.

The evidence is beginning to accumulate that the water level on March 12 was already low, and thus the 32°C measurement could have been an air temperature measurement then. If the temperature sensor was covered on March 12, then there should have been a slow heating up to around 100°C before the evaporation rate would have become rapid enough to uncover the sensor. I'm not sure how frequently they were taking temperature measurements between March 12 and 16, but it would be helpful to see the data if its available.

We're working on the design of a scaled sloshing experiment to put on our shake table in our Civil Engineering department (see attached sketch). It would be very helpful to get a plan-view drawing of the refueling deck. Also, if anyone has a digital record of the ground motion observed at Fukushima, that would be very helpful; otherwise we'll work with some records from near-by locations.

-Per

1

LLLL/293

(below) From the NRC FOIA documents: excellent questions that dispute more of TEPCO's claims about the Unit 4 spent fuel pool.

According to the news report:

The Tokyo Electric Power Company, or TEPCO, says the water temperature in the spent fuel storage pool at the No. 4 reactor in the crippled Fukushima nuclear plant has risen to about 90 degrees CelsiusŠ.TEPCO took the temperature on Tuesday using an extending arm on a special vehicleŠTo cool the fuel, TEPCO sprayed 195 tons of water for 6 hours on Wednesday morningŠThe company thinks the pool's water level was about 5 meters lower than normal, but 2 meters above the fuel rodsŠTEPCO believes the water level is likely to rise by about one meter after the water spraying on WednesdayŠTEPCO says high levels of radiation at 84 millisieverts per hour were detected above the water surface, where radiation is rarely detected.

First, a dose rate of 84 mSv/h (8.4 rem/h) does not appear to be consistent with a water level of 2 m above the top of the fuel rods. The calculations that were presented two days ago indicated dose rates of 0.02 rem/h for a water level of 6 m, which is less than 2 m above the top of the fuel. Based on the slides, a dose rate of 8.4 rem/h is more consistent with a water level of 5.1 m, which is only 0.5 m above the top of the fuel. How is TEPCO estimating the water level? Is it using dose rate as an indicator? If TEPCO is correct about the water level, could the higher dose rate be due to radioactive material (even pieces of spent fuel dispersed by the explosion) on the service floor? If so, that could make it difficult to use dose rate as a measure of water level.

Second, temperature measurements as of 12 April indicated a temperature of 37 C. The rate of temperature increase can indicate water level. I estimate a maximum rate of 33 C/day for a full pool (12 m), so a rise of 53 C in one day would indicate a water level of about 7.5 m.

Third, I do not understand why the water level is so low in the unit 4 pool. There are daily reports of TEPCO adding water to the pool. Is TEPCO unable to get the water in the pool? Is the pool leaking? The concrete truck reportedly pumps 50 t/h, so it should take 18 hours to fill the pool starting from the top of the fuel and less than 2 hr/d to keep it full. (Assuming a heat rate of 2.3 MW, about 88 tons/day of water must be added to compensate for evaporation; it would take about 10 days for the top of the fuel to become exposed, starting with a full pool.)

(below) From the NRC FOIA documents: an April 15th email in regards to the TEPCO claim that the spent fuel is undamaged and that "This is a more positive view than yesterday's statement that damage occurred to some fuel rods."

From: Zimmerman, Roy
Sent: Friday, April 15, 2011 10:18 AM
To: Monninger, John; Virgilio, Martin
Cc: Merzke, Daniel; Wiggins, Jim; Holahan, Patricia; Evans, Michele; Weber, Michael
Subject: OUO- Japan

Just got off the phone call briefing with Chuck Casto and the Chairman. Chuck indicated that based on the TEPCO isotopic analysis of the Unit 4 SFP, TEPCO currently believes the spent fuel is undamaged. This is a more positive view than yesterday's statement that damage occurred to some fuel rods. Don't know whether they will release that view publically. The site team does not believe the isotopic analysis is accurate because it shows levels of iodine and cesium which are more representative of the water they recently added to the pool than the pool itself. The RST adds that the levels of iodine and cesium are below what we would expect to find in US spent fuel pools. We will revise our SITREP and one-pager to indicate there is some question on the level of damage, if any, to the fuel. Chuck suggested they take another sample, but based on the complexity involved, TEPCO is not currently planning another sample.

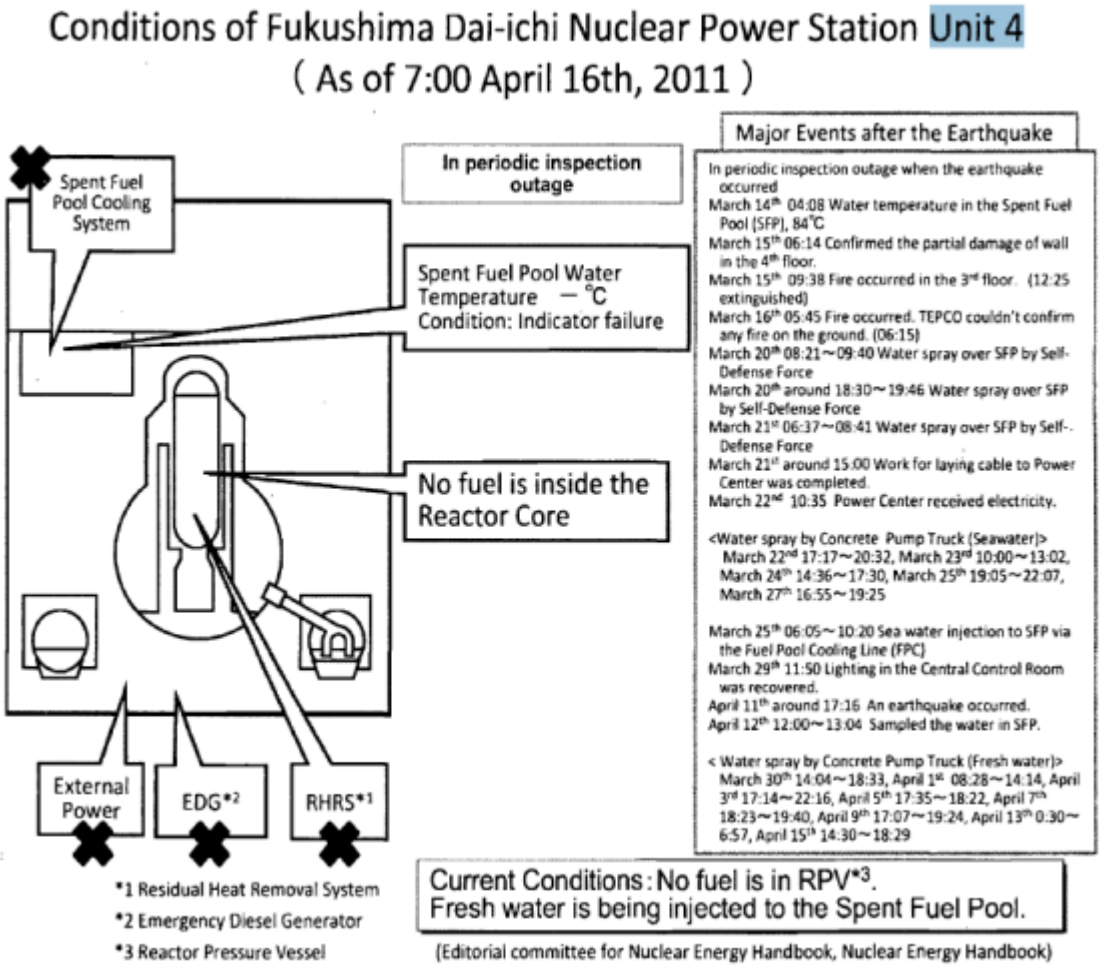
There are various theories about the cause of the explosion that occurred previously in the building, including acetylene tanks prepped for the outage, hydrogen explosion lower in the bldg, mg set lube oil fire/explosion. The site team tends to discount all but the hydrogen explosion.

Regarding the Interim comprehensive assessment of Fukushima event (Chuck requests we no longer refer to it as "global assessment" because confuses Japanese who think international input when hear global.) There is a mtg with the responsible line organization (Bill Ruland and Fred Brown) this afternoon at 1:30pm to discuss the document. Fred indicates it needs a fair amount of work and is at least a week away from being finished.

Regarding the composite assessment, NSIR has the lead and it is being worked by Trish Milligan We are contacting Trish and will get back to you.

SoS briefing slides: Received from Chuck and provided to various folk, including you and I

(below) From the NRC FOIA documents: April 16th status update of Unit 4.



(below) From the NRC FOIA documents: a Monday April 18th, 2011 email in regards to TEPCO's "Roadmap towards Restoration"…note comment number 4.

From: Orders, William
Sent: Monday, April 18, 2011 9:33 AM
To: OST01 HOC; Castleman, Patrick; Franovich, Mike; Hipschman, Thomas; Snodderly, Michael
Cc: Hoc, PMT12; RST01 Hoc; LIA08 Hoc; Tracy, Glenn; Zimmerman, Roy
Subject: Comments of TEPCO "Roadmap towards Restoration"

More questions than comments:

1) How do they plan to cover the entire building? They appear to have both temporary and "full-fledged" measures in mind. Also, is this how they intend to implement "countermeasure 47" which anticipates inhibiting the scattering of rad materials?

2) They make several references to "sufficiently reduce radiation dose" in the evacuation areas—but sufficient to do what? They never say. If it is too allow for the return of the populace, then what standards will they use? This obviously gets into the PAGs discussion.

3) "Countermeasure 6" discusses using cement to seal leaks in the primary containment. I'm not clear on where they think these leaks are and how they would be sealed in this way. They say the leaks were caused by "high temperature." Don't understand that either.

2

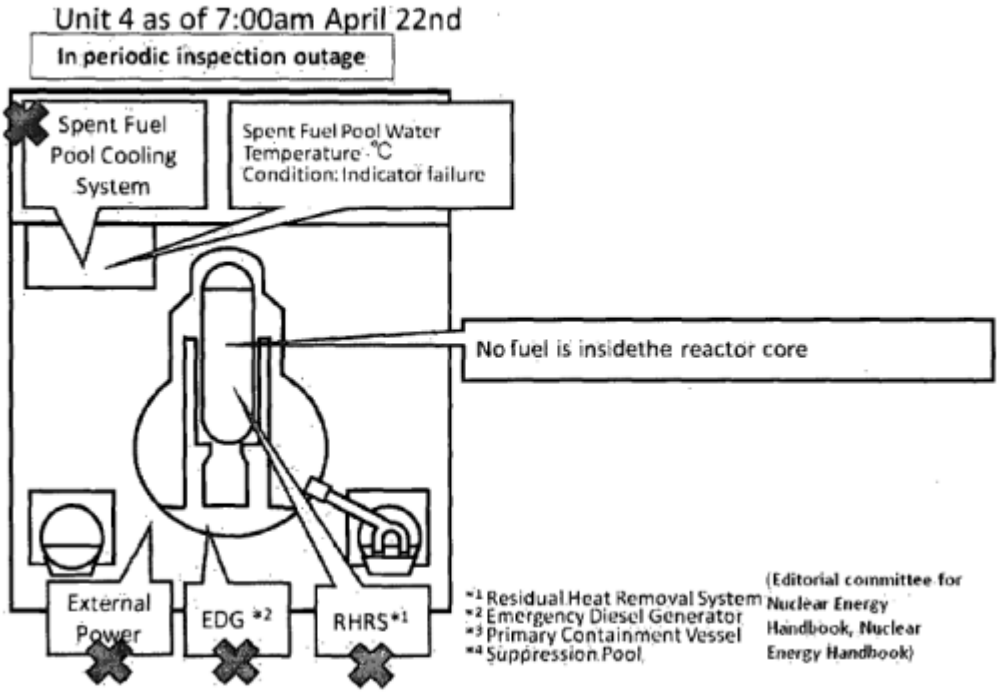
4) Note the comment made with countermeasure 19 that "most fuels in unit 4 have been confirmed intact." If true, that's rather big news.

5) Overall comments: It looks to be the outline of a plan, but there are no guidelines or standards or specific goals against which it could be measured. I think that's a problem. Also, it lacks any indication of integrating the investigation of what happened at the plant (e.g., where did all the H2 come from? What caused the explosion at unit 4? How is the rad water getting around and where is it coming from?). I understand that they may be separating this from the present roadmap for communications purposes, but I hope they have an overall plan somewhere. They simply can't start pumping "glutinous cement" around without understanding how the accident progressed.

Thanks

Bill

(below) From the NRC FOIA documents: April 22nd status on Unit 4.



(below) From the NRC FOIA documents: April 28th…TEPCO, possibly the world's worst flip-floppers, now admit publicly that a potential leak in the spent fuel pool of Unit 4 may exist.

- Unit 1 RPV injection increased from 5.9 m^3/hr to 10 m^3/hr. Looking for a change in Rx vessel bottom head temperature as an indication of water level. No data at this time.
- As a result of their mass balance calculations, TEPCO indicated publicly that a potential leak in spent fuel pool Unit 4 may exist.

(below) An excerpt from the Robert Alvarez Study titled "Spent Nuclear Fuel Pools in the U.S.: Reducing the Deadly Risks of Storage". What you need to know about spent fuel pool fires…

"In the summer of 2002, the Institute for Policy Studies helped organize a working group including experts from academia, the nuclear industry, former government officials, and non-profit research groups to perform in in-depth study of the vulnerabilities of spent power reactor fuel pools to terrorist attacks. By January 2003, our study was completed and accepted for publication in the peer-review journal *Science and Global Security* We warned that U.S. spent fuel pools were vulnerable to acts of terror. The drainage of a pool might cause a catastrophic radiation fire, which could render an area uninhabitable much greater than that created by the Chernobyl accident.

In addition to terrorist acts, there are several events could cause a loss of pool water, including leakage, evaporation, siphoning, pumping, aircraft impact, earthquake, the accidental or deliberate drop of a fuel transport cask, reactor failure, or an explosion inside or Spent Nuclear Fuel Pools in the U.S.: Reducing the Deadly Effects of Storage outside the pool building. Industry officials maintain that personnel would have sufficient time to provide an alternative cooling system before the spent fuel caught fire. But if the water level dropped to just a few feet above the spent fuel, the radiation doses in the pool building would be lethal — as was demonstrated by the loss of water in at least two spent fuel pools at the Fukushima Dai-Ichi nuclear power station. The NRC and nuclear industry consultants disputed the paper, which prompted Congress to ask the National Academy of Sciences to sort out this controversy. In 2004, the Academy reported that U.S. pools were vulnerable to terrorist attack and to catastrophic fires. According the Academy:

"A loss-of-pool-coolant event resulting from damage or collapse of the pool could have severe consequences…It is not prudent to dismiss nuclear plants, including spent fuel storage facilities as undesirable targets for terrorists…under some conditions, a terrorist attack that partially or completely drained a spent fuel pool could lead to a propagating zirconium cladding fire and release large quantities of radioactive materials to the environment…Such fires would create thermal plumes that could potentially transport radioactive aerosols hundreds of miles downwind under appropriate atmospheric conditions."

The NRC's response to this was to attempt to block the release of the Academy's report."

(below) From the NRC 's NUREG-2157…"the NRC confirmed that the overall risks associated with these types of accidents remain low because the spent fuel pool loss-of-coolant event probability is low (NRC 2001)" and "…no new information has emerged that would cause the NRC to question the results of this study."

that assessed various accident sequences including spent fuel pool failure due to wind-driven missiles, aircraft crashes, heavy-load drop, seal failure, inadvertent draining, loss-of-cooling, and seismic events (NRC 1989).

The NRC has also assessed the probability that these various events could occur. For example, in its earliest study, the NRC determined that the probability of the drainage of the spent fuel pool was much less than a loss-of-cooling event for the reactor because accidental drainage of the spent fuel pool requires multiple simultaneous failures (NRC 1975). Further, in 1989 the NRC quantified the probabilities of various accident initiating events and assessed the health and economic consequences of a spent fuel pool accident (NRC 1989).

Finally, as discussed in more detail below, the NRC confirmed that the overall risks associated with these types of accidents remain low because the spent fuel pool loss-of-cooling event probability is low (NRC 2001). As discussed in more detail below, since the NRC completed this study in 2001, the NRC has continued to implement regulations and orders that further reduce the likelihood of a spent fuel pool fire. These additional reductions in the likelihood of a spent fuel pool fire mean that the risks are lower now than those NRC reported in its 2001 study. Further, no new information has emerged that would cause the NRC to question the results of this study.

(below) From the NRC's NUREG-2157: causes of a spent fuel pool fire…

A spent fuel pool accident could develop into a spent fuel pool fire in a number of ways. As the NRC first determined in 1975, spent fuel pool accidents can arise from either the loss of spent fuel pool cooling, drainage of the spent fuel pool, or the dropping of heavy items into the spent fuel pool (NRC 1975). Since that time, the NRC has refined its analysis and has looked at various ways that these events could occur. For example, in 1989 the NRC conducted a study

(below) From the NRC FOIA documents: Gary Holahan, Deputy Director for the Office of New Reactors , makes a stunning admission in response to President Obama's directive of the NRC to conduct a comprehensive review the domestic fleet of NPPs : "…we likely will need to re-visit the issue of non-seismically qualified SFPs [in the US]…of which I recall there are many."

From: Holahan, Gary
Sent: Friday, March 18, 2011 7:53 AM
To: Virgilio, Martin
Subject: RE: comprehensive review

Marty,

I think this is right on target. In addition, for the long-term look, we likely will need to re-visit the issue of non-seismically qualified SFPs … of which I recall there are many. I alerted Eric to the non-seismic SFP fact yesterday.

Gary

From: Virgilio, Martin
Sent: Friday, March 18, 2011 2:29 AM
To: Borchardt, Bill
Cc: Weber, Michael; Leeds, Eric; Grobe, Jack; Boger, Bruce; Sheron, Brian; Wiggins, Jim; Dorman, Dan; Zimmerman, Roy; Miller, Charles; Haney, Catherine; Johnson, Michael; Johnson, Michael; Holahan, Gary
Subject: comprehensive review

Bill

I see from the press clips that the President has directed us to conduct a comprehensive review of the safety of the domestic fleet. I did not receive any turnover on that action.

I suggest we consider an approach that would focus on the risk around severe accidents, with a special emphasis on the adequacy of the severe accident management guidelines and 50.54hh2 (B5b) hardware, procedures and training.

An early alignment meeting with the lead office to ensure we agree on the approach will be beneficial.

Marty

(below) From the NRC FOIA documents: from a March 21st email on Fukushima Unit 4 "…the melt would be retained in the spent fuel pool."

From: Uhle, Jennifer
Sent: Monday, March 21, 2011 5:43 AM
To: ET05 Hoc
Cc: Uhle, Jennifer
Attachments: The NRC has performed detailed MELCOR analyses to evaluate the progression of a complete loss of inventory scenario in the Unit 4 spent fuel pool.docx

The NRC has performed detailed MELCOR analyses to evaluate the progression of a complete loss of inventory scenario in the Unit 4 spent fuel pool. The results indicate that since the inventory had been removed from the core over 100 days ago, the decay heat levels in the pool are sufficiently low that concrete ablation will not occur. Therefore, the melt would be retained in the spent fuel pool.

(below) From the NRC's NUREG-2157: decay times of less than 2 years (fuel rods that have cooled less than 2 years and are still hot) "time-of-release" (time to release radiation) could be less than 10 hours. If the fuel rods have cooled longer than 2 years it could take longer than 10 hours…

evacuation estimate is less than the NRC's best estimate of actual evacuation of 99.5 percent, of the populace from the 16-km (10-mi) emergency planning zone, which was used by the NRC in its "2012 NRC State-of-the-Art Reactor Consequence Analyses Report for Surry" (NRC 1990, 2012). However, in NUREG–1738 the NRC used a value of 95 percent in sensitivity studies to address concerns that the fraction of the public that does not evacuate could be higher. "Late evacuation" is a reasonable assumption for decay times of less than about 2 years, for which the time-to-release could be less than 10 hours. However, the time-to-release (following the initiating event) will be longer than 10 hours after the spent fuel has cooled at least 2 years, and early evacuation, in which evacuation is completed before the release begins, would be increasingly more likely as the decay time increases. Early evacuation results in lower public doses because more people will evacuate before release occurs. Finally, the main contributors to the likelihood of uncovering the spent fuel are seismic events and cask drop. These events are no more or less likely to occur in any particular time interval during continued storage. Therefore, the probability of these initiating events occurring within the first 30 days after shutdown, is an order of magnitude less, as compared to the per year probability during the 60-year short-term storage timeframe.

(below) From the NRC FOIA documents: at the September 18th, 2013 'Japan Lessons Learned Project Directorate Public Meeting' in Rockville, Maryland NRC's Deputy Director for Reactor Safety Programs, Jennifer Uhle, speaks to the American public about the spent fuel pools at Fukushima NPP…

MS. UHLE: Thanks, Lance. Welcome, everybody. Good morning. We're looking forward to answering any questions you may have at the end of our presentation and certainly interested in hearing your comments.

Just to give a bit of a background, the agency has done numerous studies on spent fuel pools safety since really the 1980s.

Now, post-Fukushima, there was enhanced public concern about spent fuel pool safety. And the agency took a number of actions to address those concerns.

Now, the Fukushima events did not result in any loss of inventory or caused any kind of heat-up in any of the spent fuel pools affected. Nonetheless, we still wanted to study this to determine if any regulatory action was warranted.

Chapter 5

Potassium Iodine (KI)

Let's talk about Potassium Iodine (KI). Our nuclear plants don't stock it and we are told by NRC officials it's not that big of a deal to have in the event of a nuclear accident. Nothing could be further from the truth. Let's see how important KI is to have in an accident like Fukushima:

(below) From the NRC website: the revised rule requires that States consider including KI as a protective measure. Considering to NOT stock KI is not a violation. Confused yet?

"The Nuclear Regulatory Commission has revised a section of its emergency preparedness regulations. The revised rule requires that States* with a population within the 10-mile emergency planning zone (EPZ) of commercial nuclear power plants consider including potassium iodide as a protective measure for the general public to supplement sheltering and evacuation in the unlikely event of a severe nuclear power plant accident.

The final rule amends 10 CFR 50.47(b)(10). The NRC published the rule change in the Federal Register (Volume 66, Number 13, page 5427) on January 19, 2001. The change became effective April 19, 2001.

Along with this rule change, the NRC is providing funding for a supply of potassium iodide for a State that chooses to incorporate potassium iodide for the general public into their emergency plans. After funding the initial supply of potassium iodide, the Commission decided to fund the replenishment on a one-time basis.

Potassium iodide is a salt, similar to table salt. Its chemical symbol is KI. It is routinely added to table salt to make it "iodized." Potassium iodide, if taken within the appropriate time and at the appropriate dosage, blocks the thyroid gland's uptake of radioactive iodine and thus reduces the risk of thyroid cancers and other diseases that might otherwise be caused by thyroid uptake of radioactive iodine that could be dispersed in a severe reactor accident.

The NRC and the Federal Emergency Management Agency (FEMA) are the two Federal agencies responsible for evaluating emergency preparedness at and around nuclear power plants.

The NRC is responsible for assessing the adequacy of onsite emergency plans developed by the utility, while FEMA is responsible for assessing the adequacy of offsite emergency planning. The NRC relies on FEMA's findings in determining that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

The Food and Drug Administration (FDA) is the definitive medical authority in the United States on the use of potassium iodide.

Eligibility for Obtaining Potassium Iodide

This rule applies to States and Tribal governments with nuclear power plants within their borders, with populations within the 10-mile EPZ, and local governments designated by States to request potassium iodide funding.

The Commission believes the final rule, together with the Commission's decision to provide funding for the purchase of a State's supply of potassium iodide, strikes a proper balance between encouraging (but not requiring) the offsite authorities to take advantage of the benefits of potassium iodide and acknowledging the offsite authorities' role in such matters. By requiring consideration of the use of potassium iodide, the Commission recognizes the important role of States and local governments in matters of emergency planning.

(below) Former NRC Chairman Jaczko on KI: it is the responsibility of the state and local governments. Representative Markey's response: "I just don't think they [the states] have the expertise…"

MR. JACZKO: Well, the particular protective actions that would be issued for any nuclear power plant incident are ultimately the responsibilities of the state and local governments. They have that primary on-the-ground responsibility to decide how to deal with an accident. So –

REP. MARKEY: But the plants are licensed by the Nuclear Regulatory Commission, not by the states. You're the agency of expertise in terms of the spread of nuclear materials, not state officials. Do you believe that it is advisable to look at a 20-mile radius for distribution of potassium iodide?

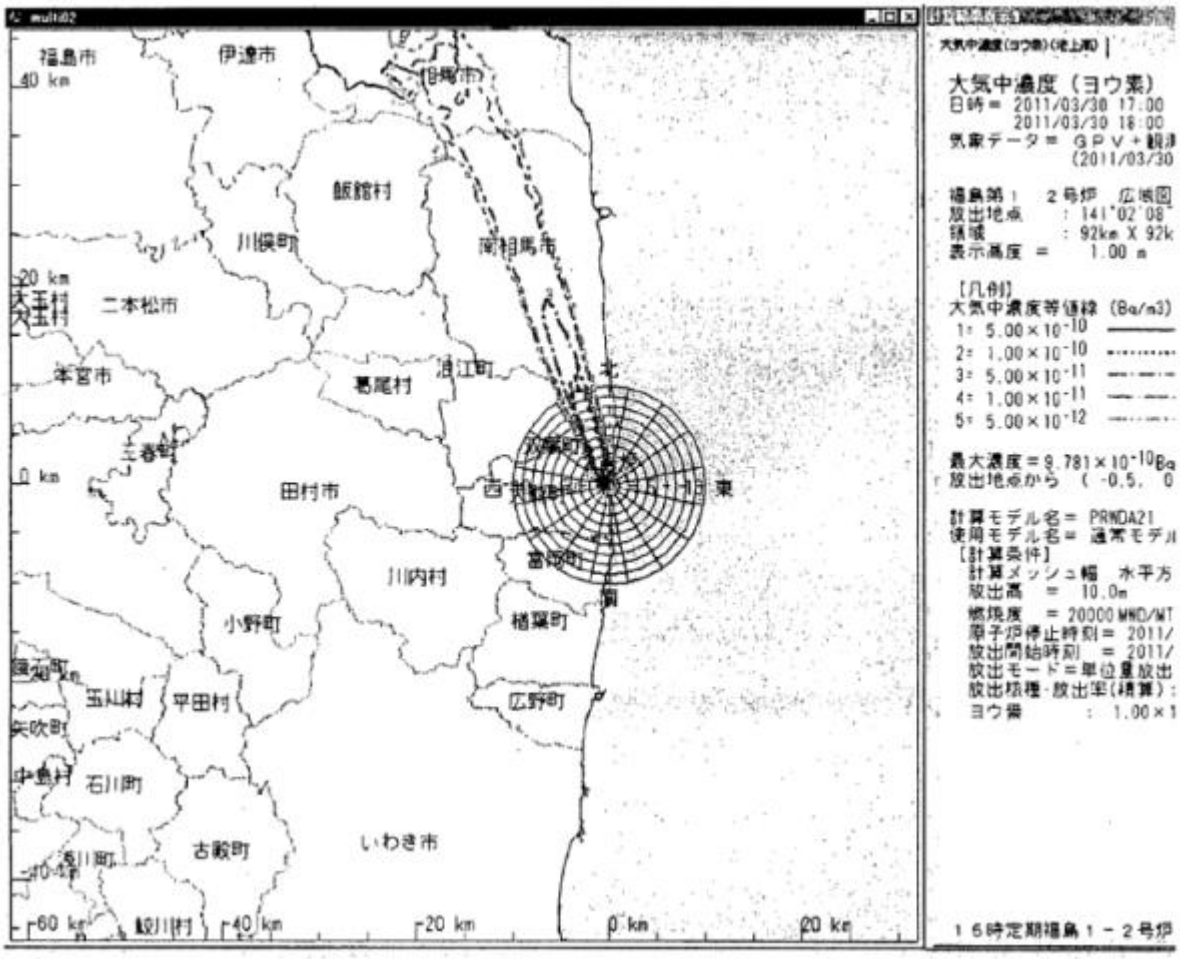
MR. JACZKO: The current policy of the commission is that potassium iodide would be one of the protective action that could be considered within what we call our emergency –

REP. MARKEY: The Bush guideline was that for 10 (miles) to 20 miles, people should just stop running or ducking under their bed. Do you think that's – there is no other medicine. So is there – is there a recommendation from you that they should look at potassium iodide for the 10- to 20-mile radius?

MR. JACZKO: Again, I would, really in many ways, defer to state and local governments as they believe that that's appropriate. I think that there certainly are many protective actions that could be taken – (inaudible, cross talk).

REP. MARKEY: I just don't think that they have the expertise looking at the probabilistic risk assessment of the likelihood of an accident in terms of having KI there.

(below) FROM THE NRC FOIA documents: this is a measured (not modeled) plume map showing a cloud over 60 kilometers long from the 30th of March, 2011. Is the NRC being rational with it's 10 mile recommendation for stocking KI? (*to my knowledge, maps such as this have not been shared with US States*.)



(below) From the NRC FOIA documents: US States are denied the SitRep (situation report). How can US States make an informed decision about the use of KI when critical information is withheld from them by the NRC and other agencies?

LT Overview and Priorities

- Mark Schaffer (at IAEA) has requested permission to share the NRC SitRep with the Chinese government, OIP is working). OIP was advised this document should not be shared. Concerns with any plan to share the SitRep with the Chinese government are: 1) U.S. States have been denied access to this document, and 2) If we share the document with the Chinese government, this precedent could obligate us to honor requests from other international stakeholders as well. As we learned with the NY Times article, we need to safeguard against leaks of OUO information.
- Next Industry Consortium (supplies) call is scheduled for Tuesday, 4/26/11 at 2000 (EDT) – U.S. Embassy Japan will send the Request Matrix out for updating.
- Working with Japan Site Team to determine approximate number of US Citizens who live within the 12 and 50 mile radius of the Daiichi Nuclear Power Plant.
- Working with EPA to assist in a request from the US –Japan Economic Strategy Institute in Tokyo to help them obtain acceptable shipping containers for radioactive materials.

~~OFFICIAL USE ONLY~~

(below) From EPA.gov.

In the case of an airborne release the principal relevant protective actions are evacuation or sheltering. These may be supplemented by additional actions such as washing and changing clothing or by using stable iodine to partially block uptake of radioiodine by the thyroid.

(below) From the NRC FOIA documents: please note the section underlined in red.

9. Should people in Japan take KI?

Public Answer: The Japanese people should listen to the public authorities in Japan regarding protective actions. KI – potassium iodide – is one of the protective measures that might be taken in a radiological emergency in this country. We do not know if this measure is necessary or appropriate in the Japanese situation.

Additional, technical non-public information.
There are a range of protective measures that we use … the most effective is evacuation. Government officials are responsible for determining the best means to protect their public. KI is another means for protection but evacuation and sheltering are the primary means that is used.

(below) From the NRC FOIA documents: again, please note the underlined and boxed sections in red.

CDC (Vic Capell)

- Emergency Operations Center was activated 03/11/11.
- Two staff members have been deployed to Japan.
- 140 CDC employees are staffing the operations center.
- CDC continues to work with Federal and International partners as well as non-governmental organizations.
- Focus has been on public health guidance for US citizens in Japan, including the following activities:
  - Public health interpretation of radiation data;
  - Public health guidance for travelers
  - Development of public health key messages; and
  - Dissemination of public health information to public, including.

CDC continues to inform the public that:

- There is no threat to public health in spite of radiation detection in air, water and milk; and
- There is no need to take KI.

(below) From the NRC FOIA documents: the other side of the story…KI is a 'must have' during a meltdown.

From: Jaczko, Gregory
Sent: Sunday, March 20, 2011 10:43 PM
To: HOO Hoc; Johnson, Michael
Subject: Fw: HHS-NRC synchronization -URGENT

Can you please forward to protective measures team and confirm receipt to me

From: Lurie, Nicole (HHS/ASPR/IO) <Nicole.Lurie@hhs.gov>
To: Jaczko, Gregory
Sent: Sun Mar 20 22:07:53 2011
Subject: RE: HHS-NRC synchronization -URGENT

Greg-You probably know that PACOM has decided to distribute KI to military and dependents. WHO can I talk with at NRC to learn about how NRC messages this in the US, what they do re screening for Iodine allergy, and to review CDC and PACOM messages Need contact asap thx n

From: McDonough, Denis R. [mailto (b)(6)
Sent: Sunday, March 20, 2011 9:59 PM
To: 'Jaczko, Gregory'; Lurie, Nicole (HHS/ASPR/IO)
Subject: HHS-NRC synchronization

Greg and Nicki –

I wanted to put the two of you in touch to make sure we are all on the same page re: KI provision in Japan.

(below) From the NRC FOIA documents: discussion of a world-wide '…run on potassium iodide…"

Q -- any sort of -- on that? On Japan, there is a pharmaceutical -- this run on potassium iodide that's taking place. One of the pharmaceutical companies here in the United States that makes it, the oral solution, says that the national stockpile of this actually begins expiring in April of 2011. Has there been any decision by the administration to look into that and make sure all of that is up to date, order more of it, if necessary, especially now that suddenly there's obviously a worldwide run on this right now?

MR. CARNEY: Well, let me refer to HHS for specifics about the program and the stockpiling of that. I would take this opportunity to remind you and the American people that this is an accident and a

583

(below) From the NRC FOIA documents: the Japanese provide a list of needful things…one million doses of KI is on that list.

INPO/DOE has accepted action to figure out how to remove spent fuel from the site. The Japanese provided a list of the things they would accept, including the million doses of KI, bottled water, rad. monitoring equipment, robotics and remote control equipment. DOD and DOE lead. There will be an actual list with parties identified developed 25 March.

(below) From the NRC FOIA documents: 1 million KI pills from ANBEX confirmed.

DOE preparing another AMS flight.....don't know the exact date

20mr /hr at the main gate according to METI (ministry of industry of trade)

PMT identified need to update the source term for modeling. A Melcor transpacific model needs to be worked, shows about 4.5rem iodine to children. Interagency agreed on a model last night. We have requested NARAC to make changes showing 70% core damage vice the 33% damage assumed previously. We are trying to ensure that the overconservativism errors in the 4.5 Rem does not get issued.

Staff will lead a logistical team in Japan to help US agencies and industry with support.

Inpo confirmed they have one million KI pills from ANBEX.

PMT contiiuing to develop reentry plans for short term reentry for retrievel of personal effects.

(below) From the NRC FOIA documents: evidence of KI being shipped to Japan.

~~OFFICIAL USE ONLY~~

March 31, 2011 2200 EDT

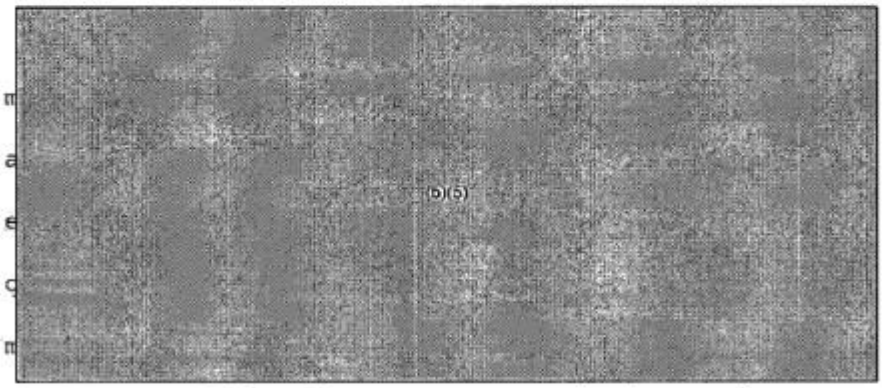
report seems to indicate immediate evacuation was appropriate. PMT staff contacted the IAEA (IEC) and were told that no additional information would be forthcoming. PMT plans to make follow-up calls with the IAEA.

HHS indicated that KI would be shipped out to Japan on April 1st (March 31st USAID call.)

A Japanese newspaper has reported that simulations were done more than 30 years ago at Oak Ridge National Laboratory that reasonably matched conditions at the Fukushima nuclear plant based on a loss of power at the Browns Ferry Nuclear Plant.

(below) From the NRC FOIA documents: Chuck Casto: "There's plenty of KI…"

MR. CASTO: I just got out of a staff meeting. As far as KI in the country, they just got a shipment in. There's plenty of KI. I don't know, I think they had like 2.5 million doses or something like that. They have enough for 380,000 people. They are looking at two distribution centers at the embassy and in the New Santa Hotel. They would staff up for that. Let me gather my thoughts here.



the Reactor Safety Team, or our analysis people, are plugged into that.

(below) From the NRC FOIA documents: mass distribution of KI in Japan.

As far as KI, today was the first day of KI. And I didn't get numbers on how many people came for KI. They had tables set up around the Embassy, and people could come in -- Americans could come in and pick up KI. I'll try to find out what the numbers were.

MARTY: Chuck, this was for distribution and not administration?

MR. CASTO: Right. For distribution.

There are also -- that's a little bit of a rough process. I mean, people have to come to the Embassy. I think they had two distribution points in Tokyo. And that's a rough process. So they're trying to look at when the Americans who gave Swine flu vaccination, they integrated into the Japanese distribution system. So they're looking at shouldn't we do that same model.

(below) From the NRC FOIA documents: "Do you have any spare KI…?"

-----Original Message-----
From: McKinley, Raymond
Sent: Thursday, March 17, 2011 9:25 AM
To: Wilson, Peter; Hinson, Felicia
Subject: RE: Info: Possible request wrt KI

Yes, but we need to keep a minimum of 50 packs to accommodate two 25 person Site Teams for 14 days. We do not have a minimum standard, but I think that should be our minimum stock for planning purposes. We will send what we have above our 50 pack minimum.

Ray

-----Original Message-----
From: Wilson, Peter
Sent: Thursday, March 17, 2011 6:28 AM
To: McKinley, Raymond; Hinson, Felicia
Subject: FW: Info: Possible request wrt KI
Importance: High

Ray and Felicia,

Do we have any spare KI that we can send to Region IV?

Thanks,

Pete

-----Original Message-----
From: Dean, Bill
Sent: Wednesday, March 16, 2011 10:37 PM
To: Henderson, Pamela
Cc: Lew, David; Wilson, Peter; Weerakkody, Sunil
Subject: FW: Info: Possible request wrt KI

what does our stash look like and can we help region IV?

(below) From the NRC FOIA documents: Chuck Casto forgets his KI stash…

Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art; Croteau, Rick; Munday, Joel; Christensen, Harold; Jones, William
Subject: RE: Info: Possible request wrt KI

Thanks Elmo – we had provided a "stash" of KI for Chuck to carry along with him, but he inadvertently left it in his office. I'll ask our guys (Steve – your action) to interface with yours and share as much as we can.

Vic
From: Collins, Elmo
Sent: Wednesday, March 16, 2011 2:33 PM
To: Satorius, Mark; Dean, Bill; McCree, Victor; Wiggins, Jim
Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art
Subject: Info: Possible request wrt KI

All

Chuck Casto had a layover here in Texas on his way to Japan. In the hurriedness of getting on the plane, he found that he might not have been equipped as he needed to be, especially wrt KI. So, Region IV gave all our KI (53 packets) to Chuck for use in Japan, along with dosimeters and pocket dosimeters. So, Region IV finds itself without an immediate stash of KI for use if we had to send a site team.

Needless to say, given the high demand for KI, it is difficult to purchase on the open market.

Your staff will likely be contacted to see if we can beg, borrow, or steal enough packets of KI in order to equip a site team.

Thank you for your cooperation and generosity.

Elmo

(below) From the NRC FOIA documents: pick up your KI at the health center before heading for Japan…

From: LIA03 Hoc
Sent: Monday, March 21, 2011 2:45 PM
To: LIA03 Hoc; Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Ali, Syed; Sheikh, Abdul; Way, Ralph; Ramsey, Jack
Cc: LIA02 Hoc
Subject: RE: Country clearance info

If you have not received KI yet you can pick it up at the Health Center.

Thanks.
Nancy

(below) From the NRC FOIA documents: KI and a dose meter…don't leave for Japan without it.

Howell, Art

From:	Collins, Elmo
Sent:	Friday, March 25, 2011 12:43 PM
To:	Howell, Linda
Cc:	Howell, Art
Subject:	Japan

I'll need to pick up some KI and make sure I have my dosimetry as needed - what dose meter would be good for me to take?
Thanks
Elmo

(below) From the NRC FOIA documents: NRC team members were given KI before they left.

- **NRC Health Unit request:** Dr. Cadoux (and Jeanne Dempsey) has contacted LIA02/LIA03 via Jen Schwartzman to discuss the situation with KI. The NRC team members were given KI before they left. At this time the guidance is to not take the KI while on duty in Tokyo. However, due to the still-fluid nature of the environmental hazards posed by radioactive isotopes, there still exists a possibility that KI could be required at some point. Jen has responded to Jeanne that should it become necessary to have the NRC team take the KI, the LIA02/LIA03 international liaisons would be responsible for receiving the advice from ADM/Dr. Cadoux and to get the information to the team immediately.

Chapter 6

Non-seismically Qualified Spent Fuel Pools

(below) From the NRC FOIA documents: evidence of many non-seismically qualified Spent Fuel Pools in the US…

From: Holahan, Gary
Sent: Friday, March 18, 2011 7:53 AM
To: Virgilio, Martin
Subject: RE: comprehensive review

Marty,

I think this is right on target. In addition, for the long-term look, we likely will need to re-visit the issue of non-seismically qualified SFPs … of which I recall there are many. I alerted Eric to the non-seismic SFP fact yesterday.

Gary

From: Virgilio, Martin
Sent: Friday, March 18, 2011 2:29 AM
To: Borchardt, Bill
Cc: Weber, Michael; Leeds, Eric; Grobe, Jack; Boger, Bruce; Sheron, Brian; Wiggins, Jim; Dorman, Dan; Zimmerman, Roy; Miller, Charles; Haney, Catherine; Johnson, Michael; Johnson, Michael; Holahan, Gary
Subject: comprehensive review

Bill

I see from the press clips that the President has directed us to conduct a comprehensive review of the safety of the domestic fleet. I did not receive any turnover on that action.

I suggest we consider an approach that would focus on the risk around severe accidents, with a special emphasis on the adequacy of the severe accident management guidelines and 50.54hh2 (B5b) hardware, procedures and training.

An early alignment meeting with the lead office to ensure we agree on the approach will be beneficial.

Marty

(below) From the NRC FOIA documents: further evidence of non-seismically qualified Spent Fuel Pools in the US…

From: Holahan, Gary
Sent: Thursday, March 17, 2011 6:06 PM
To: Leeds, Eric; Grobe, Jack; Boger, Bruce
Cc: Johnson, Michael
Subject: Seismic Qualification of SFPs

Eric +,

This is a heads up from a Congressional briefing that Mike Johnson, Jennifer Uhle, OCA and I participated in.

One of the questioners asked if all Spent Fuel Pools were designed to the same seismic standards as the reactors. I answered that that was true of some but not all SFPs. I'm quite sure that my statement is true since NRR did a study of this topic long ago. Some SFP are simply not seismically qualified. They have mitigation measures … but are not seismically qualified. I recall Steve Jones and George Hubbard being the principal staff … the report might be a NUREG but I'm not sure.

I suggest getting the background info … before the Qs start coming in.

Hope this helps,

Gary

Chapter 7

NPPs on the East Coast and West Coast are not prepared for Earthquakes and Tsunamis

(below) From the NRC FOIA documents: tsunami coincident with a seismic event not considered as possibility for US NPPs…

From: Sheron, Brian
Sent: Monday, March 14, 2011 3:05 PM
To: Coyne, Kevin
Cc: Uhle, Jennifer; Coe, Doug; Stutzke, Martin; Sancaktar, Selim
Subject: RE: Seismic and Tsunami Hazard in PRA

And so the first question is, "Should we make licensees consider a Tsunami coincident with a seismic event that triggers the Tsunami?"

The second question is, How should we consider after-shocks in seismic hazard analyses?

(below) From the NRC FOIA documents: evidence US Nuclear Power Plants are not prepared for a coincident earthquake/tsunami and evidence that the NRC doesn't know everything about the seismicity of the Continental Eastern United States (CEUS).

From: Sheron, Brian
Sent: Monday, March 14, 2011 3:27 PM
To: Uhle, Jennifer; Coyne, Kevin; Case, Michael
Cc: Coe, Doug; Stutzke, Martin; Sancaktar, Selim
Subject: RE: Seismic and Tsunami Hazard in PRA

The question is, did the Japanese also consider an 8.9 magnitude earthquake and resulting tsunami "way too low a probability for consideration"?

Look at GI-199. It shows we didn't know everything about the seismicity of CEUS. And isn't there a prediction that a the West coast is likely to get hit with some huge earthquake in the next 30 years or so? Yet we relicense their plants.....

(below) From the NRC FOIA documents (part 1 of a 2 part series): an email where NRC employees discuss former Secretary of Energy Steven Chu's botched interview on CNN. Mr. Chu was asked if Diablo Canyon Nuclear Power Plant could withstand a 9.0 earthquake. His response indicated it would not. This is a perfect example of why the NRC places such a high level of importance on talking points, questions and answers and the ever popular press release.

From: Loyd, Susan
To: McIntyre, David; Harrington, Holly
Subject: Fw: Chu on cnn
Date: Sunday, March 20, 2011 9:56:20 AM

Sent from an NRC Blackberry
Susan Loyd
(b)(6)

----- Original Message -----
From: Loyd, Susan
To: Brenner, Eliot; Batkin, Joshua
Sent: Sun Mar 20 09:54:56 2011
Subject: Chu on cnn

Chu got in a bit of trouble whrn asked directly if US plants could withstand a 9.0 earhquake. He talked aboit acceleration and shaking. Was directly asked about what diablo canyon could handle. He got tied up in saying aboit 6.2

Sent from an NRC Blackberry
Susan Loyd
(b)(6)

(below) From the NRC FOIA documents (part 2 of a 2 part series): On Steven Chu's bungled interview…Public Affairs Officer David McIntyre emails Eliot Brenner, the Director of the NRC's Office of Public Affairs (OPA), and suggests that the Secretary of Energy should have told a lie during the CNN interview.

From: McIntyre, David
To: Brenner, Eliot
Cc: Harrington, Holly
Subject: RE: in the OPS CTR
Date: Sunday, March 20, 2011 10:01:18 AM

He should just say "Yes, it can." Worry about being wrong when it doesn't.

Sorry if I sound cynical.

From: Brenner, Eliot
Sent: Sunday, March 20, 2011 9:55 AM
To: McIntyre, David
Cc: Loyd, Susan; Harrington, Holly
Subject: Re: in the OPS CTR

Susan pls share any notes re CHU with david and holly and me. Tnx.
Eliot Brenner
Director, Office of Public Affairs
US Nuclear Regulatory Commission
Protecting People and the Environment
301 415 8200
C: (b)(6)
Sent from my Blackberry

(below) From the NRC FOIA documents: the tsunami was about 46 feet in height.

From: Sheron, Brian
Sent: Thursday, March 24, 2011 8:27 AM
To: Kammerer, Annie
Cc: Case, Michael; Richards, Stuart; Hogan, Rosemary; Uhle, Jennifer
Subject: Question

I am seeing a spectrum of tsunami wave heights that reportedly hit the Fukushima plant. I saw in one of your briefing packages that was a USGS calculation that showed the peak wave height at about 30 feet. I saw some slides from TEPCO yesterday that said the tsunami wave height at the plant was "more than 10 meters". In today's "Nucleonics Week" on page 11 it says "Tepco discovered by checking the walls of Fukushima 1 ....and the nearby Fukushima 2 .....March 21 that the tsunamis had reached higher than 14 meters (about 46 feet) above sea level...." It then said the design basis for Fukushima 1 &2 was 5.7 and 5.2 meters respectively.

Without any accurate measurements, are we limited to educated guesses and expert judgment?

I think one question we will be asked is how well can we predict a tsunami wave height? I seem to recall you said the USGS calculations (wave height versus time at various locations) were probably pretty good because they had a well validated model. However, it would now appear they significantly under-predicted the wave height.

Am I missing something?

Chapter 8

TEPCO has been intentionally discharging radioactive water from the beginning and the NRC has known all along

There is evidence that TEPCO has been intentionally discharging radioactive water into the Pacific since March and April of 2011 and this evidence comes from the NRC FOIA documents. NRC has known this all along.

(below) From the NRC FOIA documents: evidence that TEPCO intentionally discharged about 13,390 tons of 'low-level' radioactive water into the Pacific on April 10th, 2011.

From: PROTOCOLOFFICE-EM [mailto:protocoloffice-em@mofa.go.jp]
Sent: Sunday, April 10, 2011 7:03 PM
To: PROTOCOLOFFICE-EM
Subject: URGENT: Notice (10 April 2011)

URGENT (18:30) Sunday,10 April 2011

To All Missions (Embassies, Consular posts and International Organizations in Japan)

TEPCO has confirmed that discharge of low-level radioactive water in the waste processing facility of Fukushima Dai-ichi Nuclear Power Plant into the sea was finished at 17:40 today. Total amount of low-level radioactive water discharged from the plant is about 10,390 tons and total radioactivity released through the discharge is about 150 billion bq.

TEPCO is going to issue a press release on this matter soon.

Details will follow in due course.

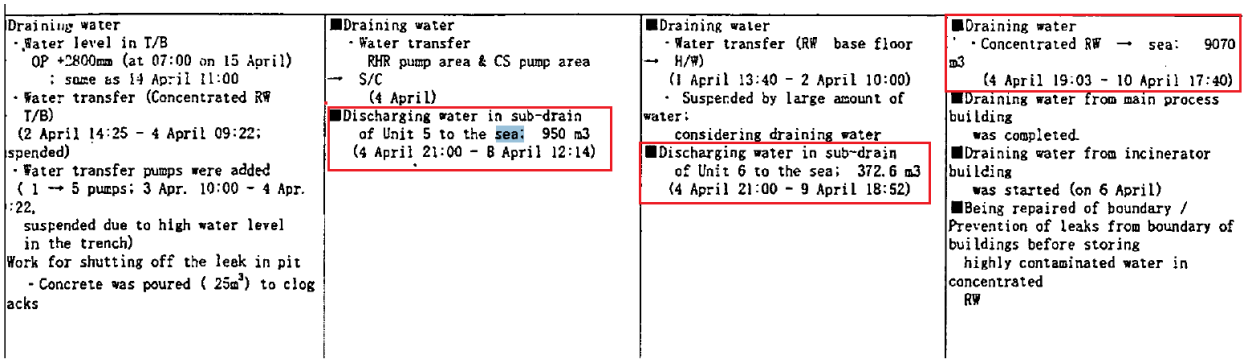
Contact: International Nuclear Energy Cooperation Division, Tel 03-5501-8227

(below) From the NRC FOIA documents: further evidence of intentional discharge of contaminated water…

Marine Monitoring
TEPCO is conducting a program for seawater (surface sampling) at a number of near-shore and off-shore monitoring locations. Up until April 3, a general decreasing trend was observed at the sampling points TEPCO 1 to TEPCO 4. After the discharge of contaminated water on April 4, a temporary increase has been reported. As of April 12, no new data for TEPCO 1 - 10 sampling points have been reported.

MEXT Off-shore Monitoring Program
As reported in previous briefings, MEXT initiated the off-shore monitoring program on March 23 and subsequently points 9 and 10 were added to the off-shore sampling scheme. On April 4, MEXT added two sampling points to the north and west of sampling point 1. These are referred to as points A and B. As of April 12, no new data for all MEXT sampling points have been reported.

(below) From the NRC FOIA documents: multiple discharges to the sea…one is 'concentrated RW'



Draining water
・Water level in T/B
OP +2800mm (at 07:00 on 15 April)
: same as 14 April 11:00
・Water transfer (Concentrated RW T/B)
(2 April 14:25 - 4 April 09:22; spended)
・Water transfer pumps were added
(1 → 5 pumps; 3 Apr. 10:00 - 4 Apr. :22,
suspended due to high water level in the trench)
Work for shutting off the leak in pit
・Concrete was poured (25m³) to clog acks

■Draining water
・Water transfer
RHR pump area & CS pump area
→ S/C
(4 April)
■Discharging water in sub-drain of Unit 5 to the sea: 950 m3
(4 April 21:00 - 8 April 12:14)

■Draining water
・Water transfer (RW base floor → H/W)
(1 April 13:40 - 2 April 10:00)
・ Suspended by large amount of water;
considering draining water
■Discharging water in sub-drain of Unit 6 to the sea; 372.6 m3
(4 April 21:00 - 9 April 18:52)

■Draining water
・Concentrated RW → sea: 9070 m3
(4 April 19:03 - 10 April 17:40)
■Draining water from main process building
was completed.
■Draining water from incinerator building
was started (on 6 April)
■Being repaired of boundary / Prevention of leaks from boundary of buildings before storing
highly contaminated water in concentrated
RW

(below) From the NRC FOIA documents: TEPCO report from April 8th, 2011…more evidence of intentional discharge into the Pacific.

FUKUSHIMA DAIICHI

The priorities are as follows:

- Ensuring fresh water injection and cooling capabilities to the reactors and spent fuel pools. Goal is to reduce and maintain temperature in the reactors and spent fuel pools below 100 degrees centigrade.
- Draining water from the turbine buildings to reduce the radiation levels so that work can continue
- Containing the spread of radioactive materials.

Highlights for today include the following:

- Trails of white vapor are intermittently being seen coming out of the units 1, 2, 3, and 4 reactor buildings.
- Disposal of radioactive water and radiation levels of water in the turbine building basements as well as debris around the plant continue to delay work to restore cooling functions.
- N2 purging of Unit 1 continues.
- The discharge of radioactive water from the radwaste facility to the sea continues and will be completed this evening. Drainage of the unit's 5 and 6 underground ground water pits will be completed on Saturday.
- The discharge of radioactive water from the radwaste facility to the sea continues and will be completed this evening. Following completion of pumping, workers will check the radwaste facility for cracks that might have been caused by the earthquake.
- The release of slightly contaminated water from units 5 and 6 ground water pits to the sea will be completed on Saturday.

Unit Status

- In Unit 1, non-borated fresh water injection into the main feedwater line continues at 6 cubic meters/hr. Reactor pressure indicators A and B

(below) From the NRC FOIA documents (part 1 of a 2 part series): an email to Former Secretary of Energy Steven Chu about the need for sampling levels of radioactivity in the Pacific Ocean near Fukushima. Concern over 'political sensitivities' is mentioned (remember that Plume-Gate occurred during Obama's run for a 2nd term and that 99% of all sectors of media remained silent on the cover-up revealed in the NRC FOIA documents)

From: Steven Chu (b)(6)
Sent: Thursday, April 28, 2011 8:55 AM
To: SCHU
Subject: Fwd: Japan

---------- Forwarded message ----------
From: **Vicki Chandler** <Vicki.Chandler@moore.org>
Date: Thu, Apr 28, 2011 at 7:35 AM
Subject: Re: Japan
To: (b)(6)

Dear Dr. Chu,

I'm following up on Tij's email. Our foundation has been approached by Ken Buesseler at WHOI regarding a time sensitive need to obtain early estimates of the radiochemistry and radioecology within a 200 km area in the oceans near the Fukushima Daiichi nuclear power plant. My conversations with OSTP, NSF and NOAA substantiated the need, but no ability in the agencies to support a timely research cruise to collect those data. Obviously there are political sensitivies too. Is there someone in your agency I could talk to as it would be very helpful to have another expert opinion about the need for this and their thoughts on challenges.

I am appreciative of any advice you can provide me.

Regards,

Vicki Chandler
Chief Program Officer Science
Gordon and Betty Moore Foundation

(below) From the NRC FOIA documents (part 2 of a 2 part series): on the heels of the Bechtel pump deal (see below), where the American taxpayer was bilked for 9.6 billion dollars, former Secretary of Energy Steven Chu shows concern over 'who will pay' for sampling of the Pacific Ocean for levels of radioactivity.

From: SCHU [mailto:SCHU@hq.doe.gov]
Sent: Thursday, April 28, 2011 11:28 AM
To: Vicki.Chandler@moore.org; Holdren, John P.; Hurlbut, Brandon; Adams, Ian; Donald, Kirkl
Cc: Tji (tijcal@berkeley.edu); Adams, Ian; Aoki, Steven; Binkley, Steve; Budnitz, Bob; Sheron, Brian; Brinkman, Bill; DAgostino, Thomas; Garwin, Dick (EOP); Garwin, Dick (IBM); Finck, Phillip; Grossenbacher, John (INL); Hurlbut, Brandon; John Holdren; Kelly, John E (NE); Koonin, Steven; Lyons, Peter; McFarlane, Harold; Owens, Missy; Peterson, Per; Poneman, Daniel; Steve Fetter; Szilard, Ronaldo
Subject: FW: Japan

Vicki,

The Japanese have been taking ocean samples off the coast. Our nuclear group can give you access to the data we. You should ask relevant Japanese officials for their data, which may be more extensive.

I have copied John Holdren, Head of OSTP, and Admiral Donald, who is a 4-start in nuclear navy (and part of the DOE) as well/

1

xxx/221

I will look around in other parts of the DOE as well. NOAA has most of the govt. research surface ships, so I am not hopeful. Finally. There is the matter of who will pay for this.

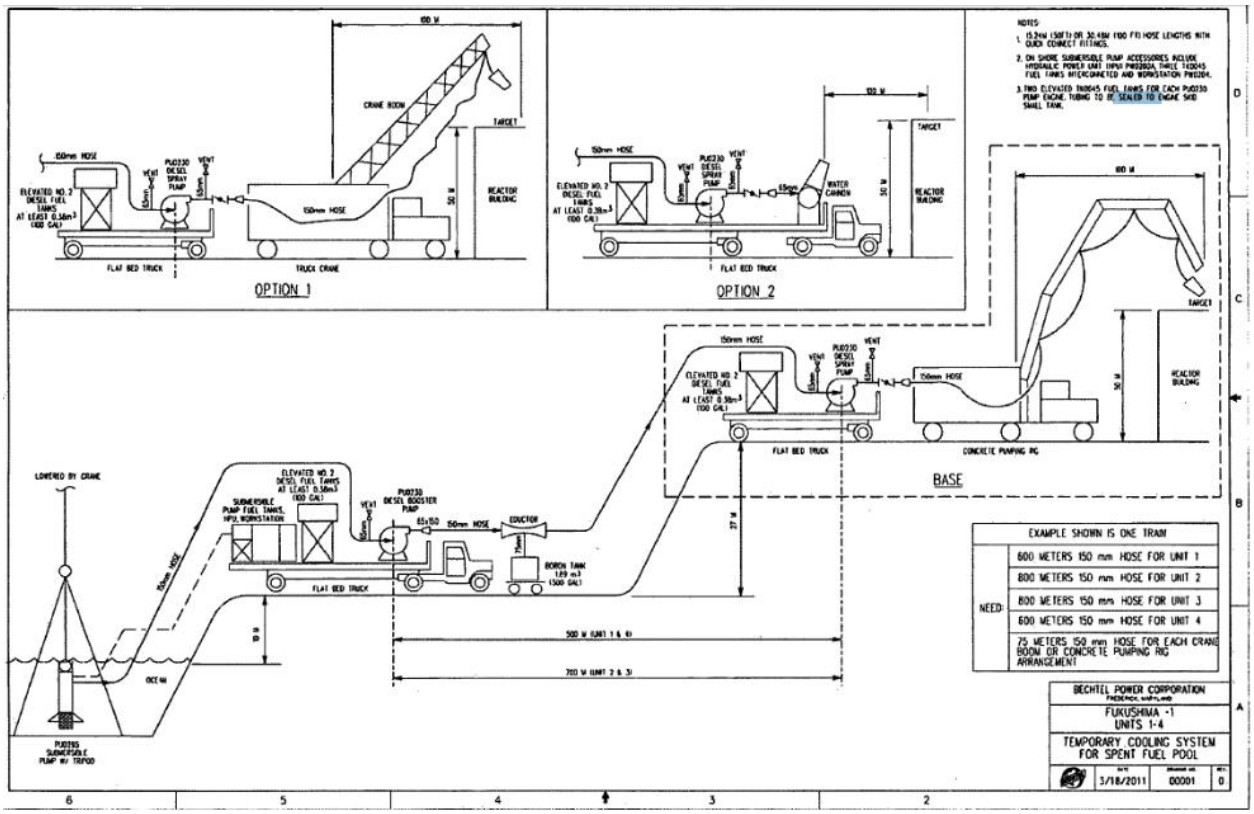
Steve Chu

Steven Chu
Department of Energy

Chapter 9

The Saga of the Bechtel Pumps

(below) From the NRC FOIA documents: the folly of man.



(below) From the NRC FOIA documents: the cost of the Bechtel pumps starts down low…then starts to grow!

From: LIA02 Hoc
Sent: Saturday, March 19, 2011 7:18 PM
To: Smith, Brooke; Foggie, Kirk
Cc: Shaffer, Mark; Doane, Margaret; Mamish, Nader
Subject: 6PM Teleconference Synopsis

Hi Brooke and Kirk,

Thought you might like a synopsis of the 6pm teleconference regarding the Bechtel pumps that are staged in Perth, Australia.

Issue: Cost initially discussed was $750,000. Current cost approximately $9.6B. Apparent miscommunication between Bechtel and NRC regarding cost. USAID originally green lighted the delivery based upon the initial cost of $750,000 then halted action based upon new estimated cost of 9.6B. On the call, USAID informed everyone that this was NOT coming out of their funding that it would be coming from DOD. Per Kathleen Martin at USAID is that DOD paycom has authorized up to 10B for delivery of the requested pumps. Therefore, officials were attempting to confirm DOD funding and provide flight authorization for the first pump which is partially loaded in Perth, Australia. The thought now is to authorize the delivery of the first pump, which is staged and partially loaded on a plane in Perth and put the remaining pumps in stand-by pending need determination from the Japanese. Per NRC at HOC Japan stated they would accept the pumps and put them into secondary or tertiary use at the site. GEH also agreed to assemble and test the pumps at their location in Japan before they are dispatched to Fukushima Dai-ichi. Chuck Casto and John Monninger were both on the conference call. I am sure they can provide you with additional details if you require them.

Best,

Jill

(below) From the NRC FOIA documents: payment on the Bechtel pumps confirmed.

- **21:30 Interagency Call.** No call tomorrow night (3/20), next one will be 3/21 at 21:30 EST. Based upon information from the Task Force conference call, Chuck Casto had just returned from a meeting with TEPCO and TEPCO was very interested in getting the robots and helicopter from Lockhead Martin. They requested that the specs for these items be forwarded to them as soon as possible. Based upon information from DOS earlier in the call DDTC was working to expedite the licensing for these items in the event they were requested and the passports for Lockhead Martin personnel to accompany the helicopter. Update on the Bechtel trains in Perth for Japan – DOD Paycom *has confirmed payment and flight is being prepared.* The flight is estimated to arrive late or overnight Japan time on Sunday. One train of pumps and valves is being provided on this flight with a decision on supplying the remaining trains to be determined later based upon need by Japan.

(below) From the NRC FOIA documents: the Bechtel pumps will NOT be used…

BLUF: AUS pumps no longer needed.

-----Original Message-----
From: Schear, James A SES OSD POLICY
Sent: Saturday, March 19, 2011 11:53 AM
To: Clark, Ngoc CIV OSD POLICY; Logan, Erin M CIV OSD POLICY
Cc: Hulley, Paul, SES, OSD-POLICY; POL HADR; Schiffer, Michael SES OSD POLICY; POL Japan
Subject: Re: Japan Status Update

Thx!
Jim Schear, via PDA
BB (b)(6)

----- Original Message -----
From: Clark, Ngoc CIV OSD POLICY
Sent: Saturday, March 19, 2011 11:44 AM
To: Logan, Erin M CIV OSD POLICY; Schear, James A SES OSD POLICY
Cc: Hulley, Paul, SES, OSD-POLICY; POL HADR
Subject: RE: Japan Status Update

Erin, and all,

Apologies fo the multiple emails, but this is a fast-moving action. NRC staff just alerted USAID that the AUS pumps are no longer needed. This is based on NRC triangulating information with their field and Wash DC staff and the GoJ. NRC indicated that the required materials could be found in Japan and the AUS pumps were not needed. Additionally, NRC had a better understanding of the GoJ's action plan and was more comfortable with the information received and steps GoJ was planning to take. NRC telephoned USAID Asst Admin Nancy Lindborg this morning to request that the AUS pumps plan be put on hold. In the event that the situation changes over the next 24 hours and the pumps are required, they could be readied in a matter of hours. The AUS C-17 is reportedly still standing by to transport.

As background, I believe there was much misunderstanding yesterday as to the costs and number of pumps and how many would be required due to the different sources of info (NRC in Wash and Japan, relaying the info to RMT colleagues, to OSD). Additionally, Bechtel had initially offered to provide associated equipment and staff to work the pumps, but this was later not the case.

V/r,

Ngoc

Chapter 10

The President's Source Term

In the NRC FOIA documents pertaining to Fukushima there is evidence of modeling done using the 'President's source term' which, for all intents and purposes, was a worst-case-scenario. Did President Obama, then running for reelection in 2012, act on a worst-case-scenario? While he gave no public warnings or advisories, President Obama, his family and then DOE Chairman Steven Chu did make a hasty departure for South America and managed to avoid the arrival of the initial plume and fallout from Fukushima.

(Below) From the NRC FOIA documents: NARAC does not like 'the president's source term'. (note: the details of the president's source term are described in the screencapture following this one)

JIM WIGGINS: Okay. Speaking of deposition and things like that, a couple, news.

We got, we reached agreement with NARAC on what -- let me also say the president's source term, the one that, you know, you had agreed to --

CHAIRMAN JACZKO: Yes.

JIM WIGGINS: And it's, it's been a bit challenging to get runs from NARAC, but we understand the running those now.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: And, you know, it took some cajoling with them. They had some issues with how the

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

source term was, was stated.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: But, again, I've seen (inaudible). They've agreed to run it.

CHAIRMAN JACZKO: Okay. Good. And remind me again what that is at this point. There's been so many back-and-forths on this.

(Below) From the NRC FOIA documents: President Obama's source term is essentially a worst-case-scenario: 3 reactors and all 4 spent fuel pools.

JIM WIGGINS: Yeah. I, you know, I still won't let anybody use the word "worst case" in the room here --

CHAIRMAN JACZKO: Yeah.

JIM WIGGINS: -- because there's about five worst cases.

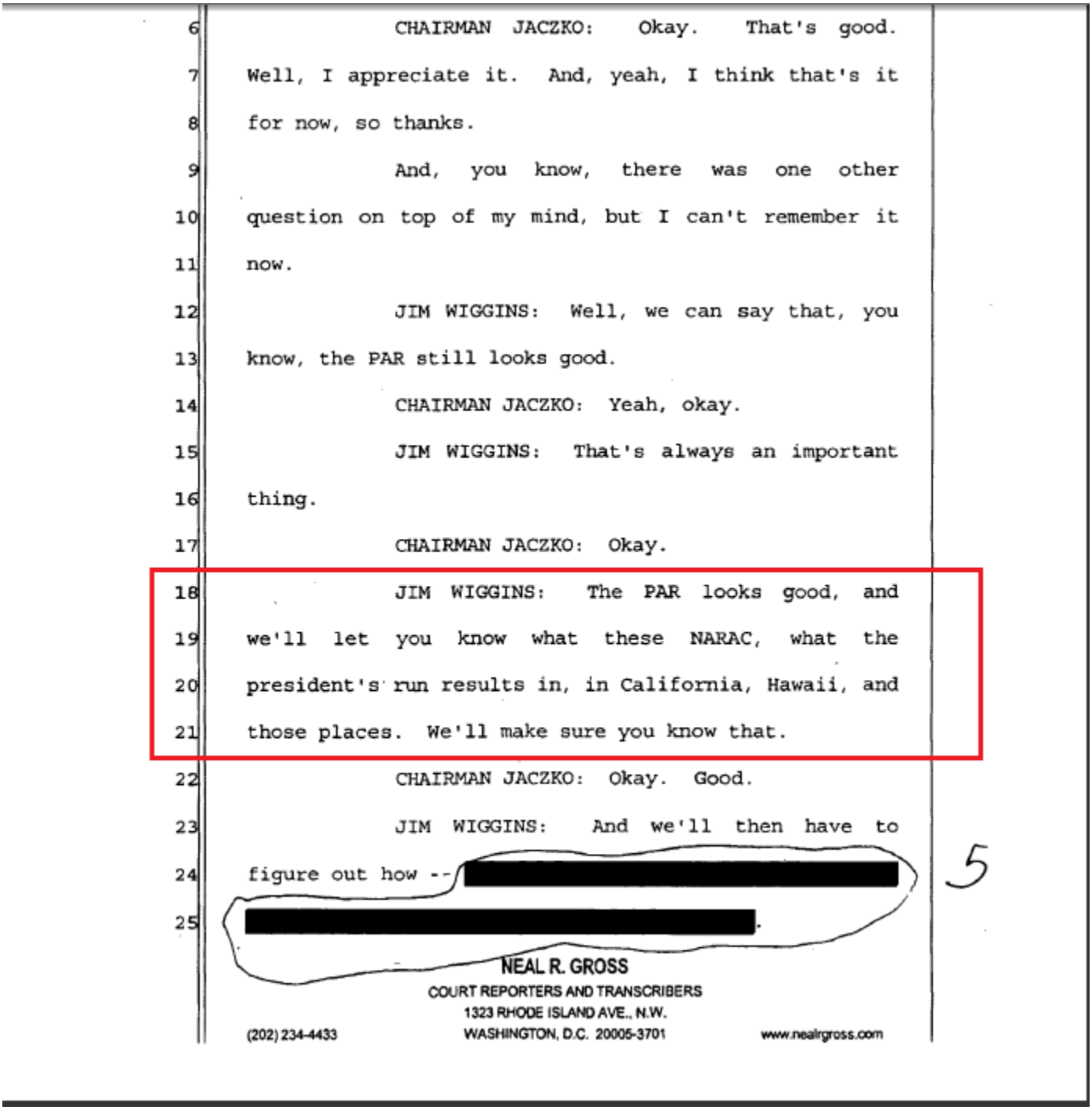
CHAIRMAN JACZKO: Right.

JIM WIGGINS: What, what's the, the president's case?

MALE PARTICIPANT: It's, it's bounding. It includes the, the fuel in the three reactors, the fuel in four spent fuel pools. It does not include the common spent fuel pool around Unit 4 nor reactors 5 and 6 or any spent fuel pools there. And it's assumed, a release based over a four- to five-day day period --

CHAIRMAN JACZKO: Okay.

(Below) From the NRC FOIA documents: then NRC Chairman Jaczko to be informed of the 'president's run results in, in California, Hawaii and those places.'



CHAIRMAN JACZKO: Okay. That's good. Well, I appreciate it. And, yeah, I think that's it for now, so thanks.

And, you know, there was one other question on top of my mind, but I can't remember it now.

JIM WIGGINS: Well, we can say that, you know, the PAR still looks good.

CHAIRMAN JACZKO: Yeah, okay.

JIM WIGGINS: That's always an important thing.

CHAIRMAN JACZKO: Okay.

JIM WIGGINS: The PAR looks good, and we'll let you know what these NARAC, what the president's run results in, in California, Hawaii, and those places. We'll make sure you know that.

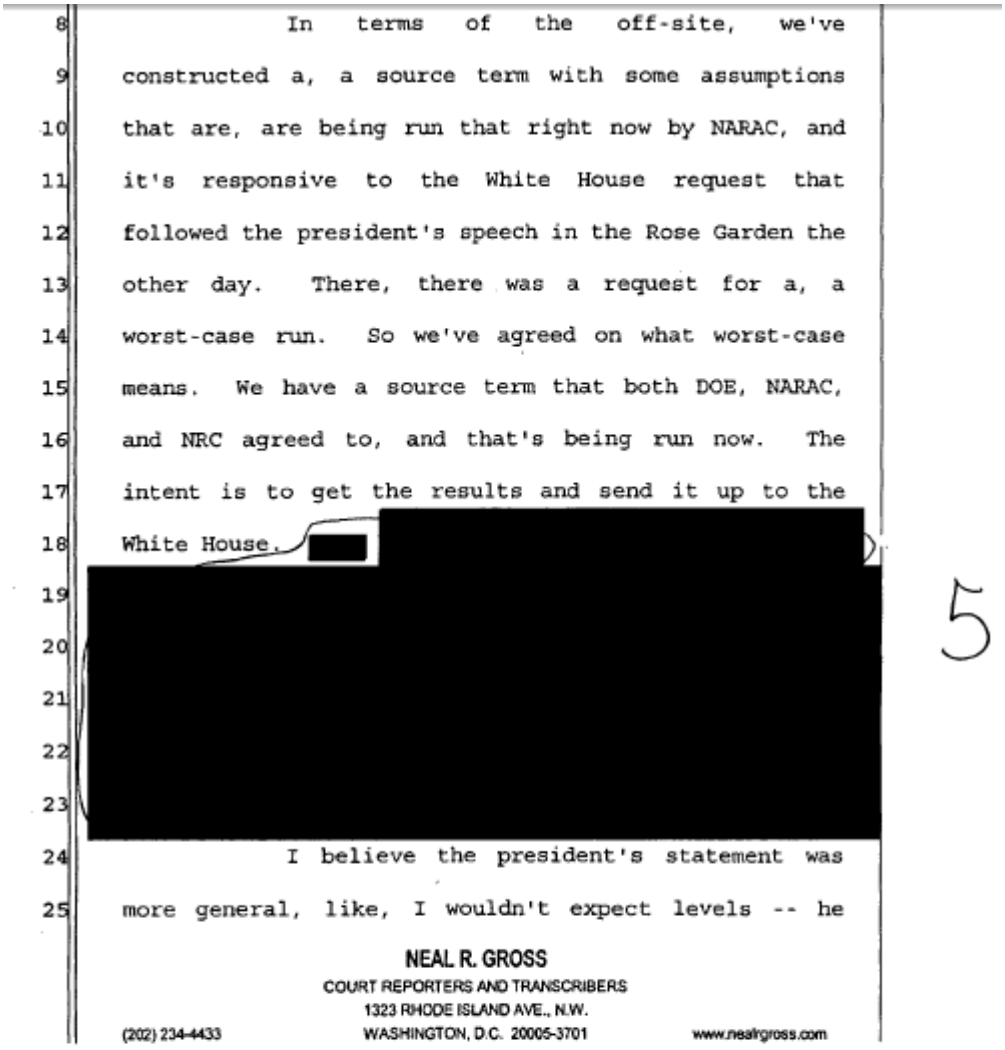
CHAIRMAN JACZKO: Okay. Good.

JIM WIGGINS: And we'll then have to figure out how -- [redacted].

5

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

(below) From the NRC FOIA documents: NRC official Jim Wiggins discusses a White House request to run a model that will make President Obama's Rose Garden speech true…AFTER the speech has already been given. Remember that President Obama left for South America with family not long after his Rose Garden advisory…



In terms of the off-site, we've constructed a, a source term with some assumptions that are, are being run that right now by NARAC, and it's responsive to the White House request that followed the president's speech in the Rose Garden the other day. There, there was a request for a, a worst-case run. So we've agreed on what worst-case means. We have a source term that both DOE, NARAC, and NRC agreed to, and that's being run now. The intent is to get the results and send it up to the White House. [redacted]

5

I believe the president's statement was more general, like, I wouldn't expect levels -- he

didn't say you would get nothing. He said that you wouldn't get levels that would be harmful, more along that area. So I, I think that this should come out okay in that regard.

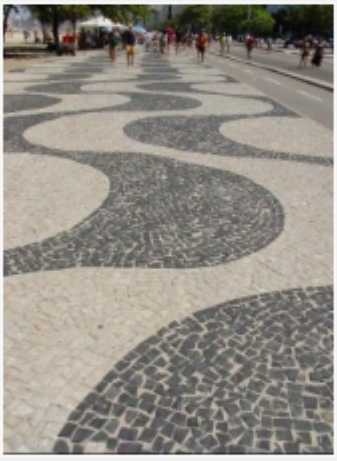
(Below) NOT FROM THE NRC FOIA documents: President Obama, his family, then DOE Chairman Steven Chu and others avoid the worst of the plume and fallout…

Kenneth Rapoza, Contributor
Covering Brazil, Russia, India & China.
+ Follow (359)

INVESTING | 3/14/2011 @ 7:16PM | 316,791 views

Obama Heads to Rio Sunday; Maximum Security Awaits

133 comments, 16 called-out + Comment Now + Follow Comments



The famous sidewalk along Copacabana Beach in Rio de Janeiro. President Obama heads to Brazil on Saturday and will speak in public in Rio on Sunday.

President Barack Obama will take his first official trip to Brazil this weekend where he will speak in the popular Cinelandia Square in downtown Rio de Janeiro. Access, of course, will be tightly restricted and security measures so secretive that not even the Embassy or US Consulate in Rio know exactly how it's all going to go down. Obama's speech will be free and open to the public and take place around 15:00 local time (14:00 EST). Access to the square will begin at 11:30, and is sure to draw a crowd. Obama is popular in Brazil. One politician seeking office in Rio actually changed his name to Barack Obama in 2008 to solicit votes. He didn't win.

The Obama family will also take in the sights in Rio. A trip to Corcovado mountain, where the Christ the Redeemer statue stands (France gave us Lady Liberty, gave Brazil Jesus) is supposedly on the itinerary. What trip to Rio would be complete without it? If they do make it to the top of the mountain, they will do so with an entourage of secret service and Brazil's Elite Squad, known as BOPE.

Chapter 11

Plumes and Navy Ships

I suggest to you that if Navy ships were moved in an effort to avoid radioactive plumes, they were not moved on the scale and to the degree they should have been. At the end of the day one simple fact remains: just as a warning of the radioactive plume and fallout to those living on the West Coast of the USA would have been a wake up call about the reality of nuclear power, moving Navy ships en masse would also have been an indication that the situation at Fukushima (and the situation with nuclear power in general) was much more grave than authorities had been leading the American public to believe.

(below) From the NRC FOIA documents: don't run the worst-case scenario if you're getting angst about moving Naval ships…

have not had a chance to find out from my folks what the latest was in that phone call.

CHARLIE MILLER: If, if you're getting angst about moving naval ships and things like that, the worst-case scenario isn't necessarily the one you want to run.

MARTY VIRGILIO: Right, Charlie. This is what we're all thinking, that there's, you know, you run at least two cases.

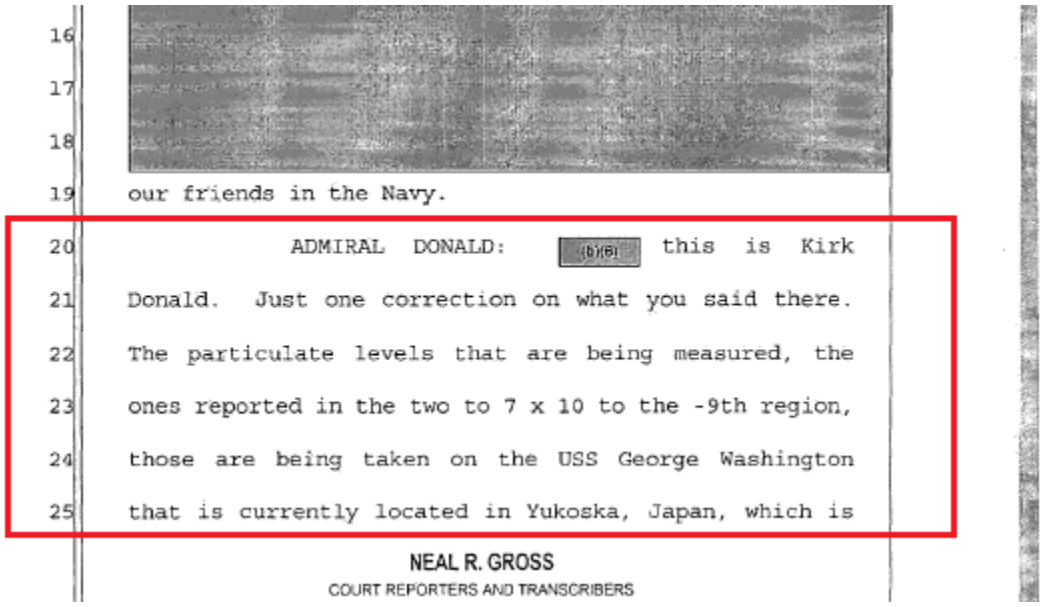
CHARLIE MILLER: Yeah.

MARTY VIRGILIO: Where, where are you today with Units 3 and 4 spent fuel pools.

CHARLIE MILLER: Right.

MARTY VIRGILIO: And what if that goes bad? And then the other worst-case, then that would rap in the reactors as well, notwithstanding the fact that those reactors appear stable at this point in time.

(below) From the NRC FOIA documents: Admiral Donald and Admiral Willard discuss radiation measurements taken aboard the USS George Washington (continued on next page)



our friends in the Navy.

ADMIRAL DONALD: (b)(6) this is Kirk Donald. Just one correction on what you said there. The particulate levels that are being measured, the ones reported in the two to 7 x 10 to the -9th region, those are being taken on the USS George Washington that is currently located in Yukoska, Japan, which is

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS

about 175 miles from the site.

MR. BURROWS: Actually, Admiral -- this is Chuck Burrows. What we saw was the plume on its way. We are still measuring 2 x 10 to the -9th at this location 90 miles from the reactor plant, as well as now measuring 10 to the -9th down in the Yukoska area.

The plume is an extensive plume. I mean, I have readings at both locations that are above 10 to the -9th microcuries per milliliter as far out as Yukoska and as far in as this 90-mile point.

ADMIRAL DONALD: Okay. So I was half right. There are readings at 90 miles at 2 x 10 to the -9th but there are also readings at 170 miles at 2 x 10 to the -9th.

MR. BURROWS: Correct.

MALE PARTICIPANT: Is the weather phenomenon localized to near the bay surge or the weather phenomenon consistent along the entire area of the plume?

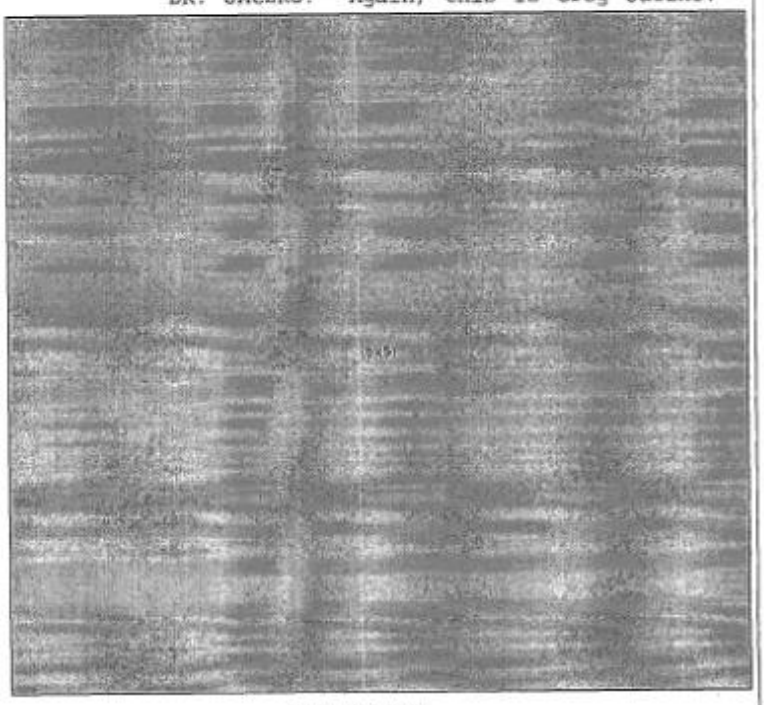
ADMIRAL WILLARD: This is Admiral Willard from PACOM. If I may input, we've been looking at the wind forecast and the wind data. The plume right now as we have seen in the forecast graphics have

previously extended almost due south along the coastline to impact Yukoska and they are swinging further to the west further inland and over metropolitan Tokyo and to the bases that are further inland and further north and west from Yukoska.

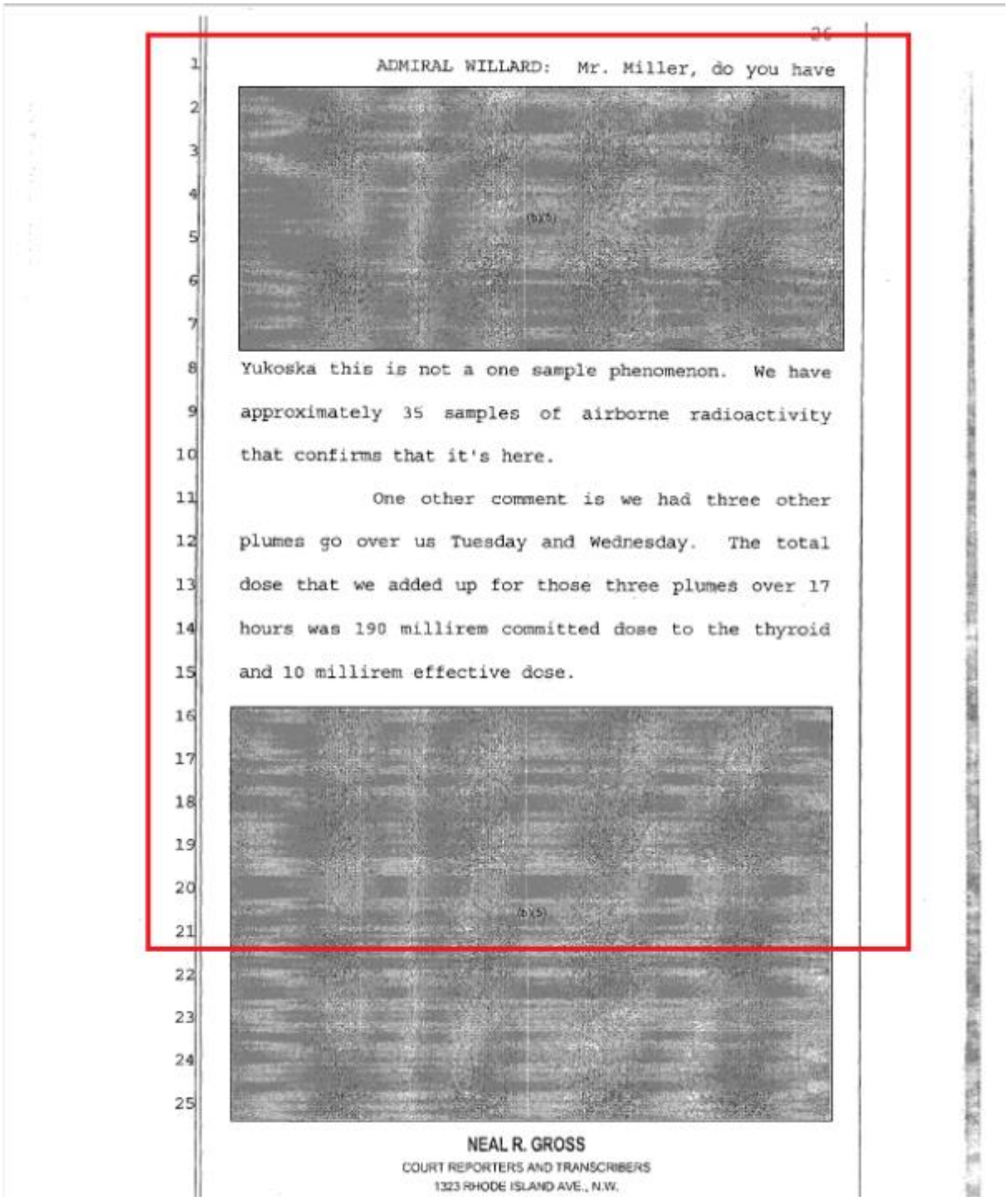
We are basically seeing the plume concentration swing. It's already swung down to the coastline and it's already begun to swing inland. We expect it to remain roughly in that area for the next 24 hours.

MALE PARTICIPANT: Okay.

DR. JACZKO: Again, this is Greg Jaczko.



(below) From the NRC FOIA documents: Admiral Willard: "…35 samples of airborne radioactivity…" and "…we had three other plumes go over us Tuesday and Wednesday."



26

ADMIRAL WILLARD: Mr. Miller, do you have

[redacted]

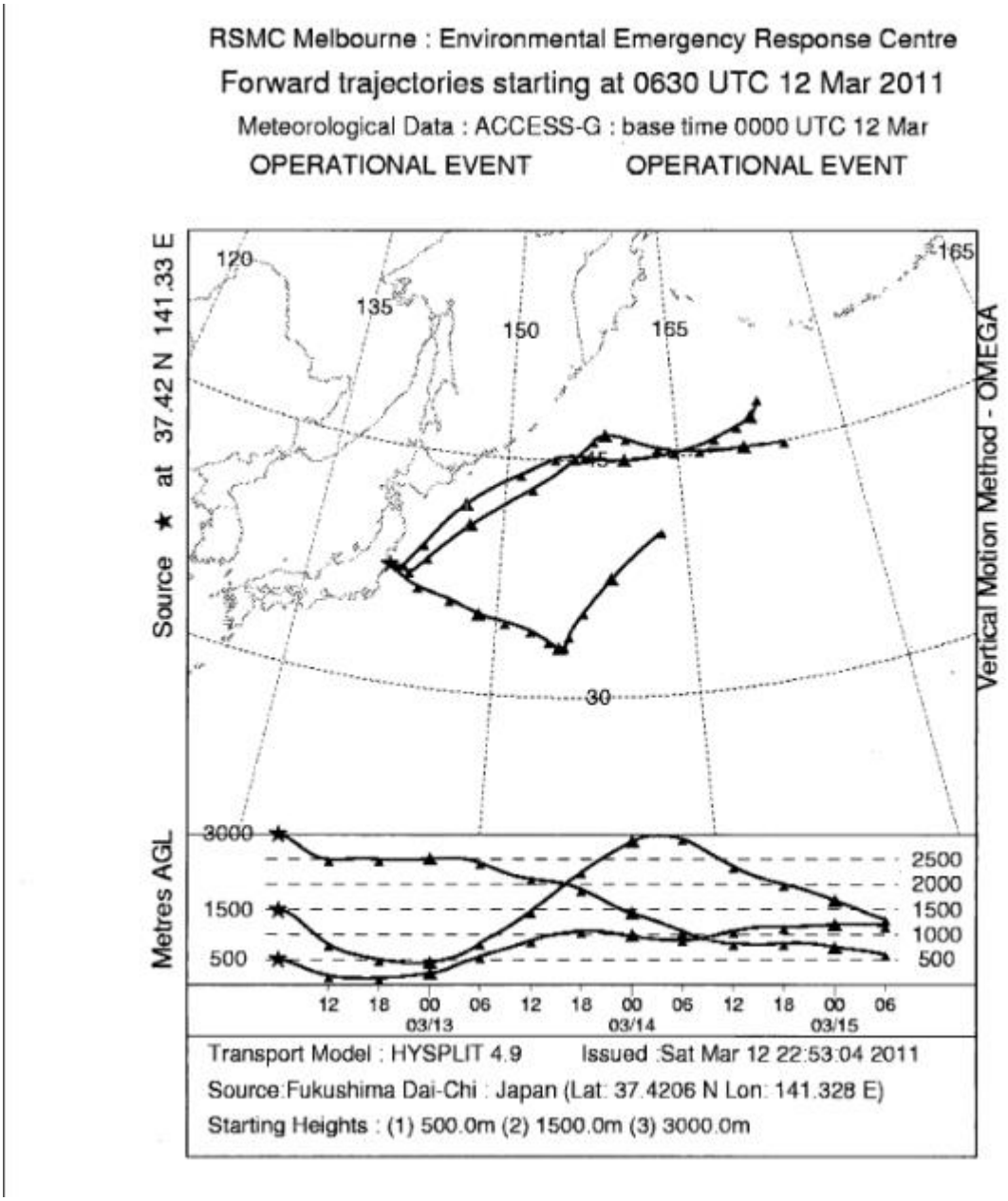
Yukoska this is not a one sample phenomenon. We have approximately 35 samples of airborne radioactivity that confirms that it's here.

One other comment is we had three other plumes go over us Tuesday and Wednesday. The total dose that we added up for those three plumes over 17 hours was 190 millirem committed dose to the thyroid and 10 millirem effective dose.

[redacted]

NEAL R. GROSS
COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.

(below) From the NRC FOIA documents: 'Forward trajectories' starting March 12th, 2011. Please note that while this modeling was available to the NRC, it was not done by the NRC.

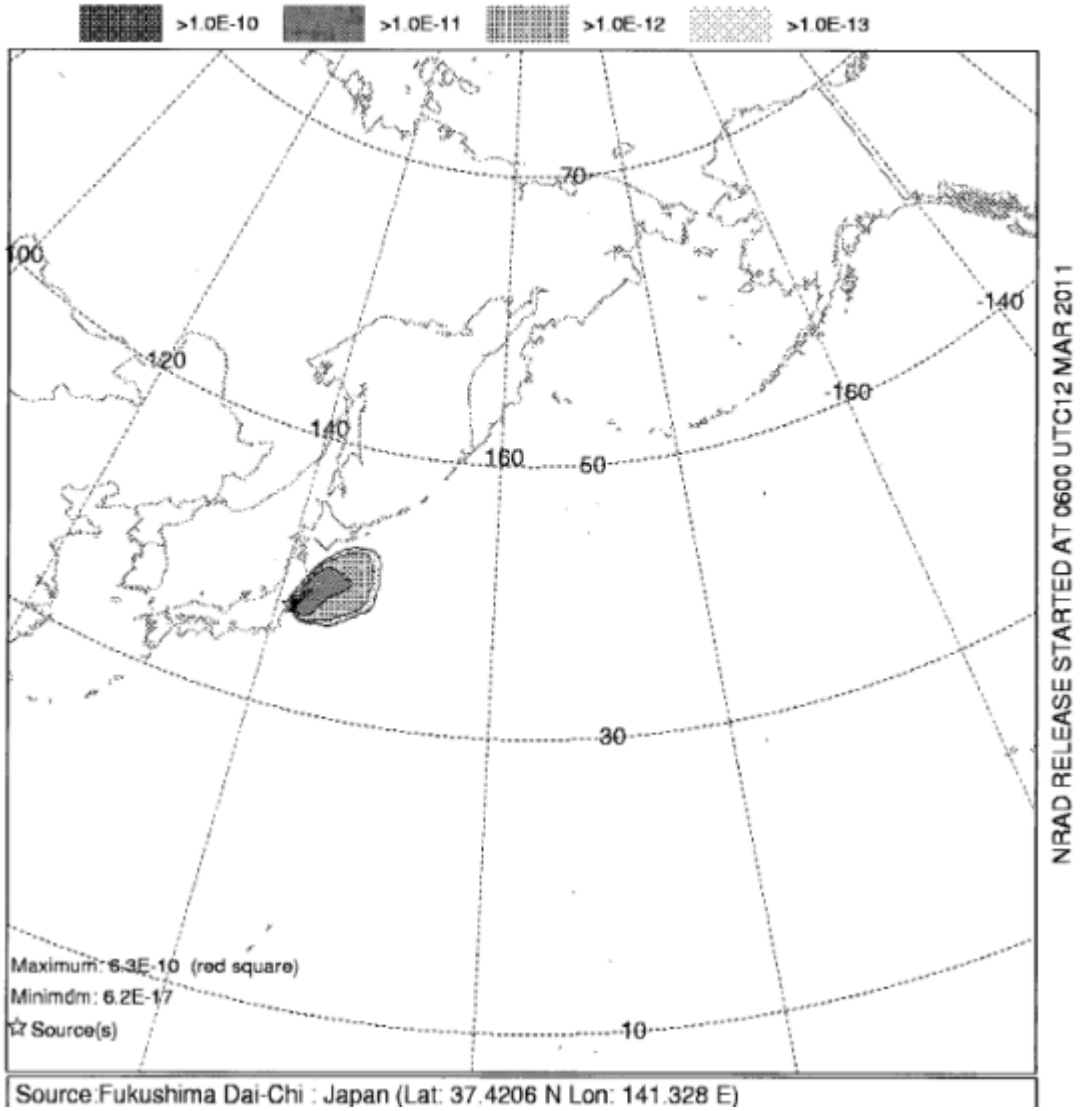


RSMC Melbourne : Environmental Emergency Response Centre

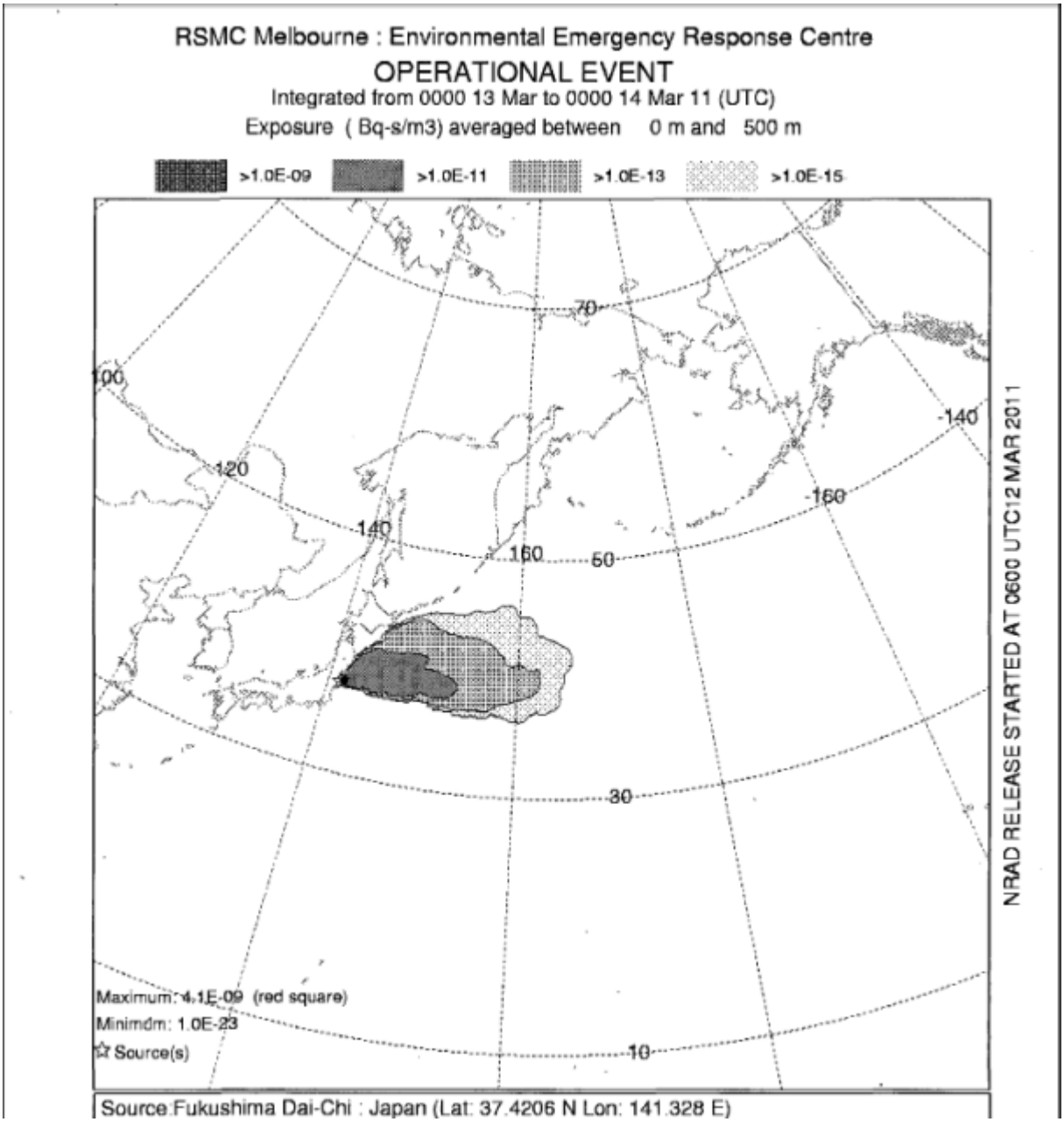
OPERATIONAL EVENT

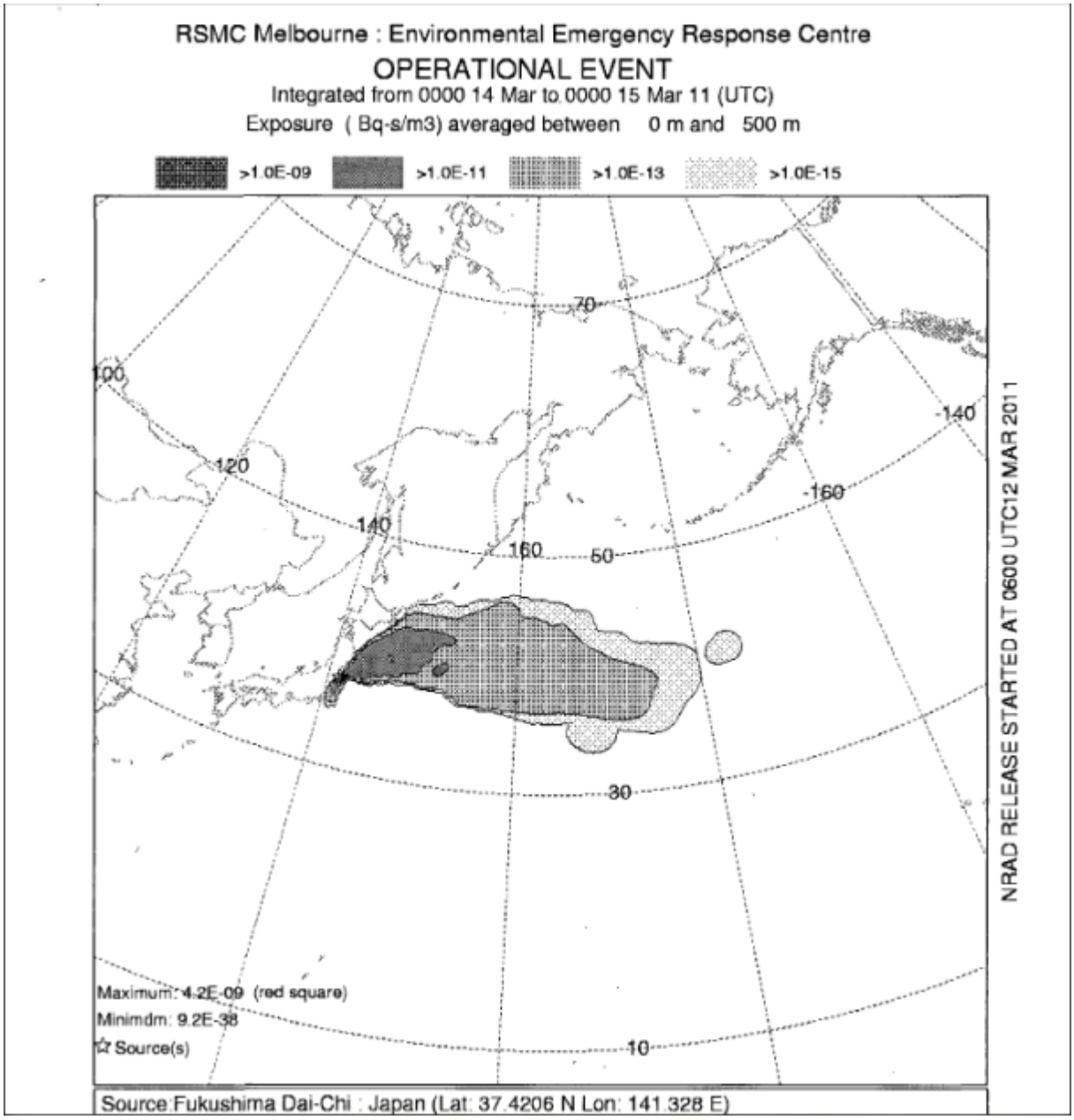
Integrated from 0000 12 Mar to 0000 13 Mar 11 (UTC)

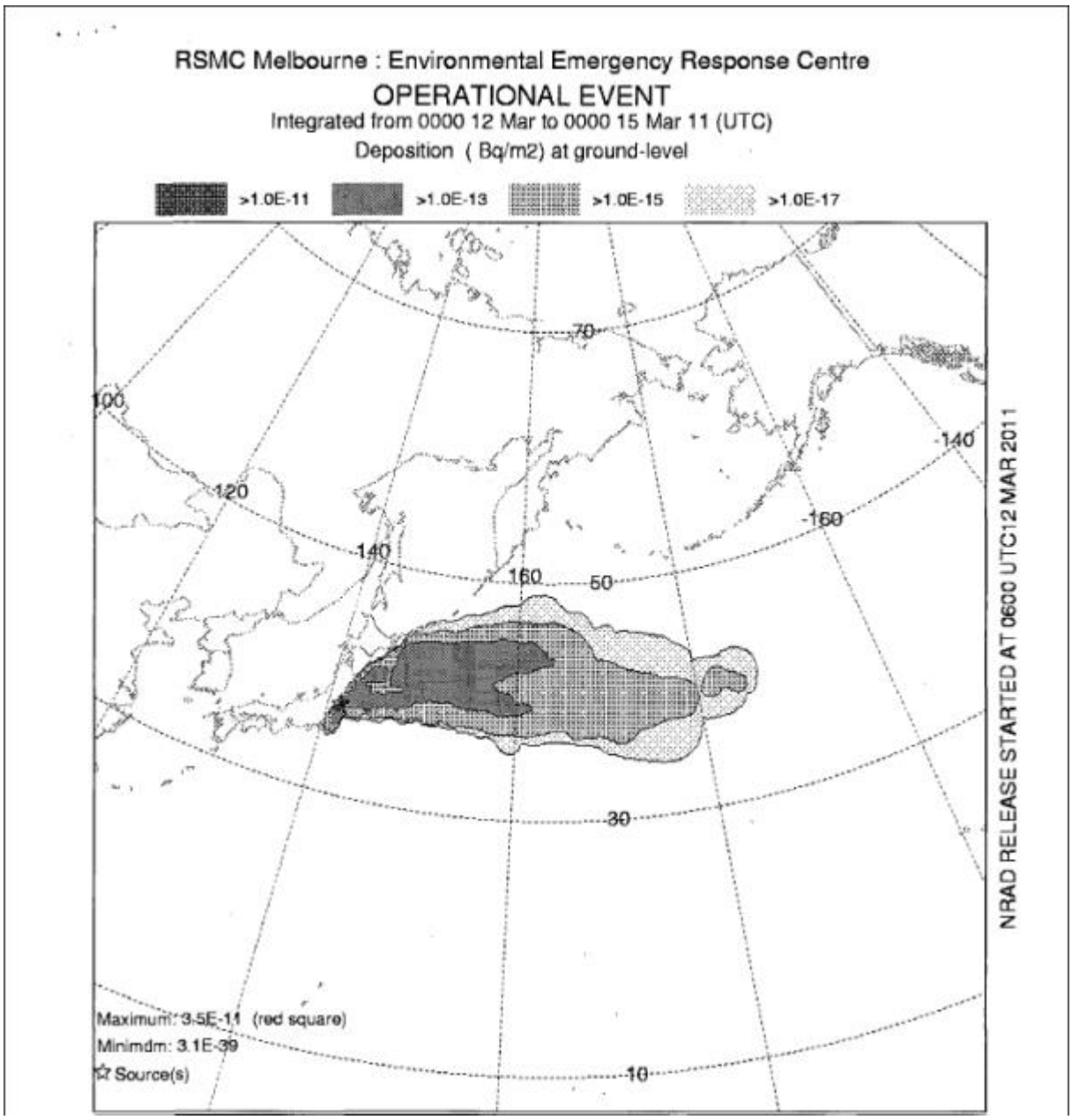
Exposure (Bq-s/m3) averaged between 0 m and 500 m



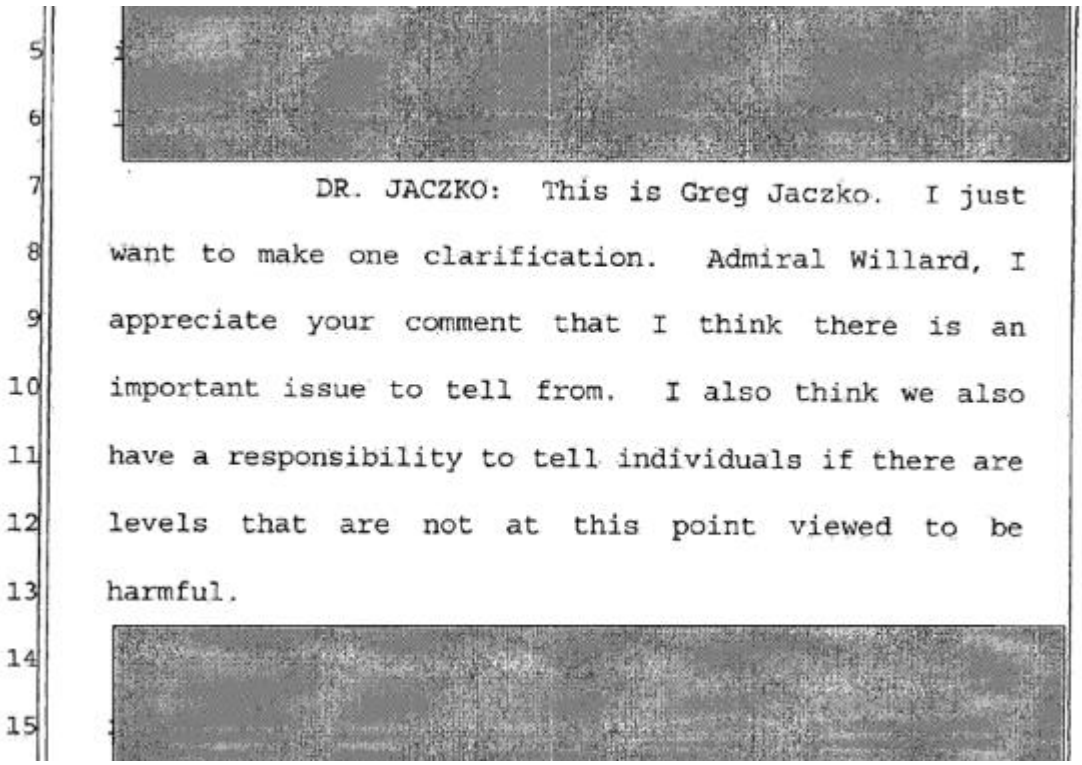
NRAD RELEASE STARTED AT 0600 UTC12 MAR 2011


RSMC Melbourne : Environmental Emergency Response Centre
OPERATIONAL EVENT
Integrated from 0000 13 Mar to 0000 14 Mar 11 (UTC)
Exposure (Bq-s/m3) averaged between 0 m and 500 m
>1.0E-09
>1.0E-11
>1.0E-13
>1.0E-15
70
100
120
140
160
140
160
50
30
10
Maximum: 4.1E-09 (red square)
Minimdm: 1.0E-23
Source(s)
Source:Fukushima Dai-Chi : Japan (Lat: 37.4206 N Lon: 141.328 E)
NRAD RELEASE STARTED AT 0600 UTC12 MAR 2011


RSMC Melbourne : Environmental Emergency Response Centre
OPERATIONAL EVENT
Integrated from 0000 14 Mar to 0000 15 Mar 11 (UTC)
Exposure (Bq-s/m3) averaged between 0 m and 500 m
>1.0E-09
>1.0E-11
>1.0E-13
>1.0E-15
70
100
120
140
160
140
160
50
30
10
Maximum: 4.2E-09 (red square)
Minimdm: 9.2E-38
Source(s)
Source:Fukushima Dai-Chi : Japan (Lat: 37.4206 N Lon: 141.328 E)
NRAD RELEASE STARTED AT 0600 UTC12 MAR 2011

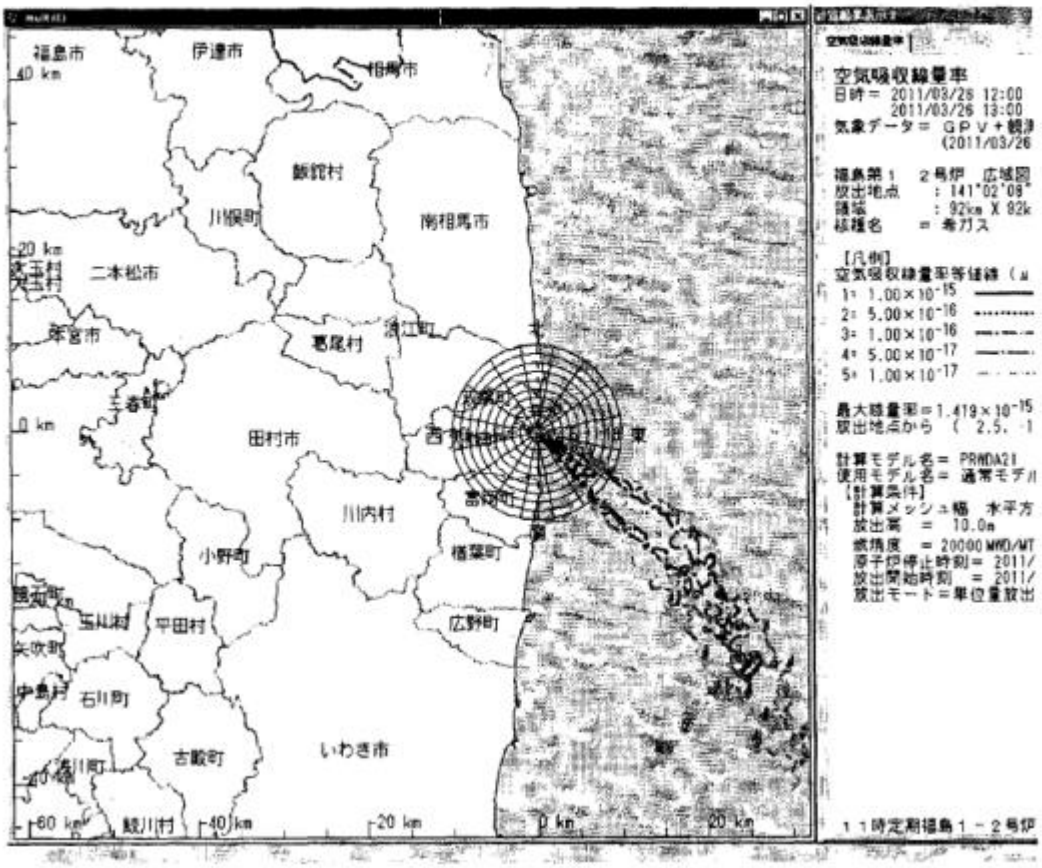

RSMC Melbourne : Environmental Emergency Response Centre
OPERATIONAL EVENT
Integrated from 0000 12 Mar to 0000 15 Mar 11 (UTC)
Deposition (Bq/m2) at ground-level
>1.0E-11
>1.0E-13
>1.0E-15
>1.0E-17
70
100
120
140
160
140
160
50
30
10
Maximum: 3.5E-11 (red square)
Minimum: 3.1E-39
Source(s)
NRAD RELEASE STARTED AT 0600 UTC12 MAR 2011

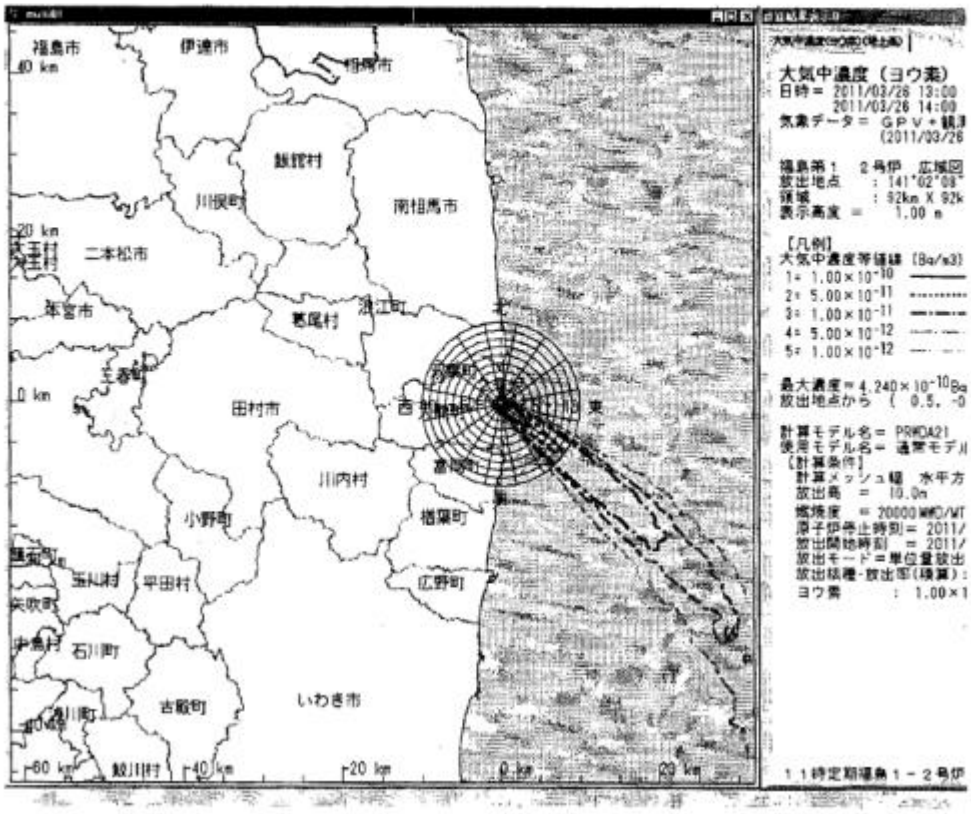
(below) From the NRC FOIA documents: Jaczko covering his ass.



DR. JACZKO: This is Greg Jaczko. I just want to make one clarification. Admiral Willard, I appreciate your comment that I think there is an important issue to tell from. I also think we also have a responsibility to tell individuals if there are levels that are not at this point viewed to be harmful.

(below) From the NRC FOIA documents: TEPCO measured plumes from late March,
2011.




福島市
伊達市
相馬市
飯舘村
川俣町
南相馬市
二本松市
葛尾村
浪江町
田村市
川内村
小野町
楢葉町
広野町
玉川村
平田村
石川町
古殿町
いわき市
鮫川村
大気中濃度（ヨウ素）
日時＝ 2011/03/26 13:00
2011/03/26 14:00
気象データ＝ ＧＰＶ＋観測
(2011/03/26
福島第１　２号炉　広域図
放出地点　：141°02'09"
領域　：92km X 92k
表示高度 ＝　1.00 m
【凡例】
大気中濃度等値線 (Bq/m3)
1＝ 1.00×10-10
2＝ 5.00×10-11
3＝ 1.00×10-11
4＝ 5.00×10-12
5＝ 1.00×10-12
最大濃度＝4.240×10-10Bq
放出地点から　(0.5, -0
計算モデル名＝ PRWDA21
使用モデル名＝ 通常モデル
【計算条件】
計算メッシュ幅　水平方
放出高　＝ 10.0m
燃焼度　＝ 20000MWD/MT
原子炉停止時刻＝ 2011/
放出開始時刻　＝ 2011/
放出モード＝単位量放出
放出核種・放出率(積算)：
ヨウ素　：1.00×1
１１時定期福島１－２号炉

(below) From the NRC FOIA documents: this March 21st email from Jennifer Uhle is proof that Naval reactors knew all about the 'melt on the floor' in the spent fuel pool of Unit 4…"The question Naval reactors is asking is whether the Unit 4 SFP will reach concrete ablation temperatures."

From: Uhle, Jennifer [mailto:Jennifer.Uhle@nrc.gov]
Sent: Monday, March 21, 2011 05:13 AM
To: Gauntt, Randall O
Cc: Tinkler, Charles <Charles.Tinkler@nrc.gov>; Pickering, Susan Y; Schaperow, Jason <Jason.Schaperow@nrc.gov>; Gibson, Kathy <Kathy.Gibson@nrc.gov>; kcw@dycoda.com <kcw@dycoda.com>
Subject: RE: Fuku-4 Fuel Pool - MELCOR Results

The question Naval reactors is asking is whether the Unit 4 SFP will reach concrete ablation temperatures. Jason is talking to them today. I agree about the fact that RES/Sandia is a great team and we at NRC is trying to get the Federal family to use our source terms.

Chapter 12

The March 11th, 2011 'Japan Earthquake and Tsunami Drill'

The March 11th, 2011 'Japan Earthquake and Tsunami Drill', conducted in the U.S. by the NRC and Japanese 'Utility Execs', is perhaps the most disturbing aspect to Plume-Gate. What is the statistical probability of these two events occurring simultaneously?

(Below) From the NRC FOIA documents: evidence that a 'Japan Earthquake and Tsunami Drill' coincided with the real event.

From: Howard, Tabitha
Sent: Friday, March 11, 2011 10:24 PM
To: Morris, Scott; McDermott, Brian; Ross-Lee, MaryJane; Correia, Richard; Grant, Jeffery; Joseph.Himes@nrc.gov; Campbell, Stephen; McMurtray, Anthony; Gott, William; Marshall, Jane; Waig, Gerald; Jolicoeur, John; Bower, Anthony; Zahira.Cruz-Perez@nrc.gov; Reed, Wendy; Schrader, Eric; DiFrancesco, Nicholas; Carlson, Donald; Rubin, Stuart; Arndt, Steven; Jackson, Karen; Stransky, Robert; Khan, Omar; Figueroa, Roberto; Hickman, John; Karas, Rebecca; Kratchman, Jessica; Scarbrough, Thomas; Salus, Amy; Williamson, Linda; Crutchley, Mary Glenn; Manahan, Michelle; Larson, Emily; Howard, Tabitha; Wimbush, Andrea; Meyer, Karen; Levine, Michael; Guzzetta, Ashley; Darrel.Burrell@nrc.gov; Fiske, Jonathan; Anderson, James; Perin, Vanice; Mroz (Sahm), Sara; Chen, Yen-Ju; Pope, Tia; Christine.Merritt@nrc.gov; Stang, Annette; Hurd, Sapna
Subject: Incident Response: Japan Earthquake and Tsunami Drill

Good evening,

If you have participated in the "Japan Earthquake and Tsunami Drill" that began today (Friday March 11, 2011), please be sure to apply your time spent on this activity to the TAC Number listed below:

D92374 – Incident Response: Japan Earthquake and Tsunami Drill

If your time has already been approved please see myself or acting T&L Coordinator Bridget Curran in order to do a corrected card

Thanks, Tabitha

(Below) From the NRC FOIA documents: the Japanese Nuclear Industry was in the U.S. for the 'RIC 2011 NRC Incident Response'.

U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

RIC 2011
NRC Incident Response

Jason Kozal
Office of Nuclear Security and Incident Response
March 10, 2011

(Below) From the NRC FOIA documents: concern about 'rumor control' over the fact that Japanese 'utility execs' are in town for the RIC.

From: Uselding, Lara
To: Burnell, Scott; Screnci, Diane; Sheehan, Neil; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Chandrathil, Prema; Dricks, Victor; Harrington, Holly; McIntyre, David; Couret, Ivonne
Cc: Brenner, Eliot
Subject: RE: Rumor control
Date: Friday, March 11, 2011 12:17:20 PM

Elaine Hiruo knew Japanese industry is in town for RIC but I didn't tell her that they were at our building, maybe they connected dots

From: Burnell, Scott
Sent: Friday, March 11, 2011 11:15 AM
To: Screnci, Diane; Sheehan, Neil; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Chandrathil, Prema; Dricks, Victor; Uselding, Lara; Harrington, Holly; McIntyre, David; Couret, Ivonne
Cc: Brenner, Eliot
Subject: Rumor control

All;

Eliot just took a call from Platts asking about Japanese "utility execs" at HQ responding to the quake. The reporter said another Platts reporter had heard "from the regions" that this was the case. While Eliot told Platts we are allowing Japanese REGULATORS to use our communications facilities as a courtesy, the bottom line is that this topic is off-limits for now. Refer any further questions on this to HQ. Thanks.

Scott

(Below) From the NRC FOIA documents: Friday, March 11th, 2011 9:16 AM 'JNES-NRC bi-lateral co-operation meeting is happening now…' (note: JNES is the Japan Nuclear Energy Safety Organization)

Munson, Clifford

From: Martin, Karnisha
Sent: Friday, March 11, 2011 9:16 AM
To: NRO_DSER_RGS1 Distribution; NRO_DSER_RGS2 Distribution
Subject: FYI: JNES-NRC bi-lateral co-operation meeting is happening now...

Good morning,

JNES-NRC bi-lateral co-operation meeting is happening now at One White Flint 6B04. If you are interested in attending.

Karnisha L. Martin
Contractor Secretary
DSER
phone number- 301-415-6080
fax number- 301-415-5399
karnisha.martin@nrc.gov

(Below) From the NRC FOIA documents: NRC's responsibilities during an 'incident'…

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

NRC Responsibilities

- Assess plant conditions
- Evaluate Protective Action Recommendations
- Support off-site officials
- Keep other agencies informed
- Keep news media informed

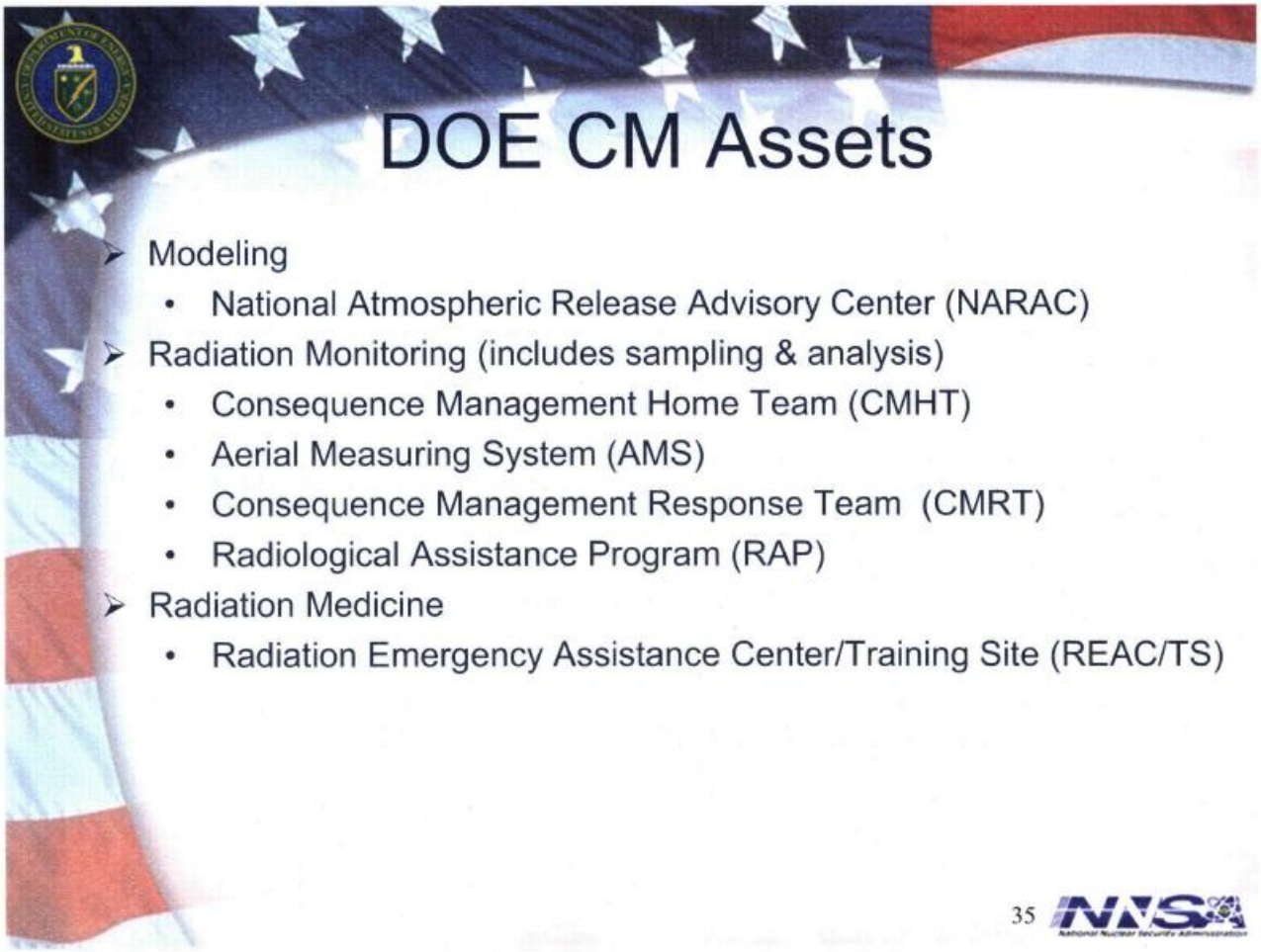
(Below) From the NRC FOIA documents: during an 'incident' the NRC must coordinate with other agencies…

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

Coordination With Other Agencies

- Department of Defense
- Department of Justice
- Environmental Protection Agency
- Federal Emergency Management Agency
- Department of Energy
- Department of Homeland Security
- Federal Aviation Administration
- States / Locals

(Below) From the NRC FOIA documents: DOE asset NARAC (National Atmospheric Release Advisory Center) downplayed and delayed the modeling of radiological releases from Fukushima…



(Below) From the NRC FOIA documents: the 2004 Indonesian Tsunami, caused by another magnitude 9 earthquake, flooded cooling water intakes at India's Kalpakkam Nuclear Power Plant forcing an automatic shutdown.

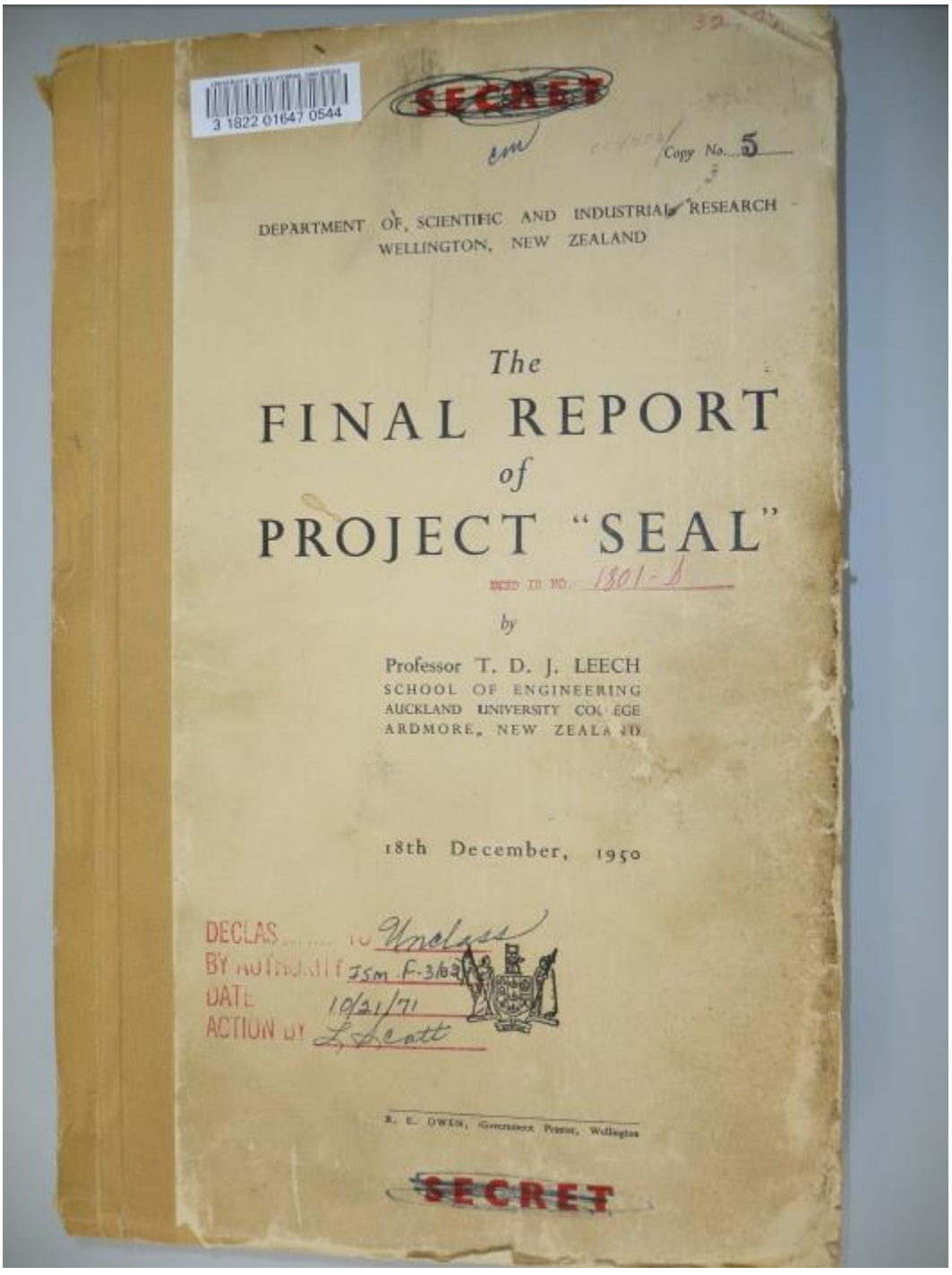
Tsunamis

Large undersea earthquakes often cause tsunamis - pressure waves which travel very rapidly across oceans and become massive waves over ten metres high when they reach shallow water, then washing well inland. The December 2004 tsunamis following a

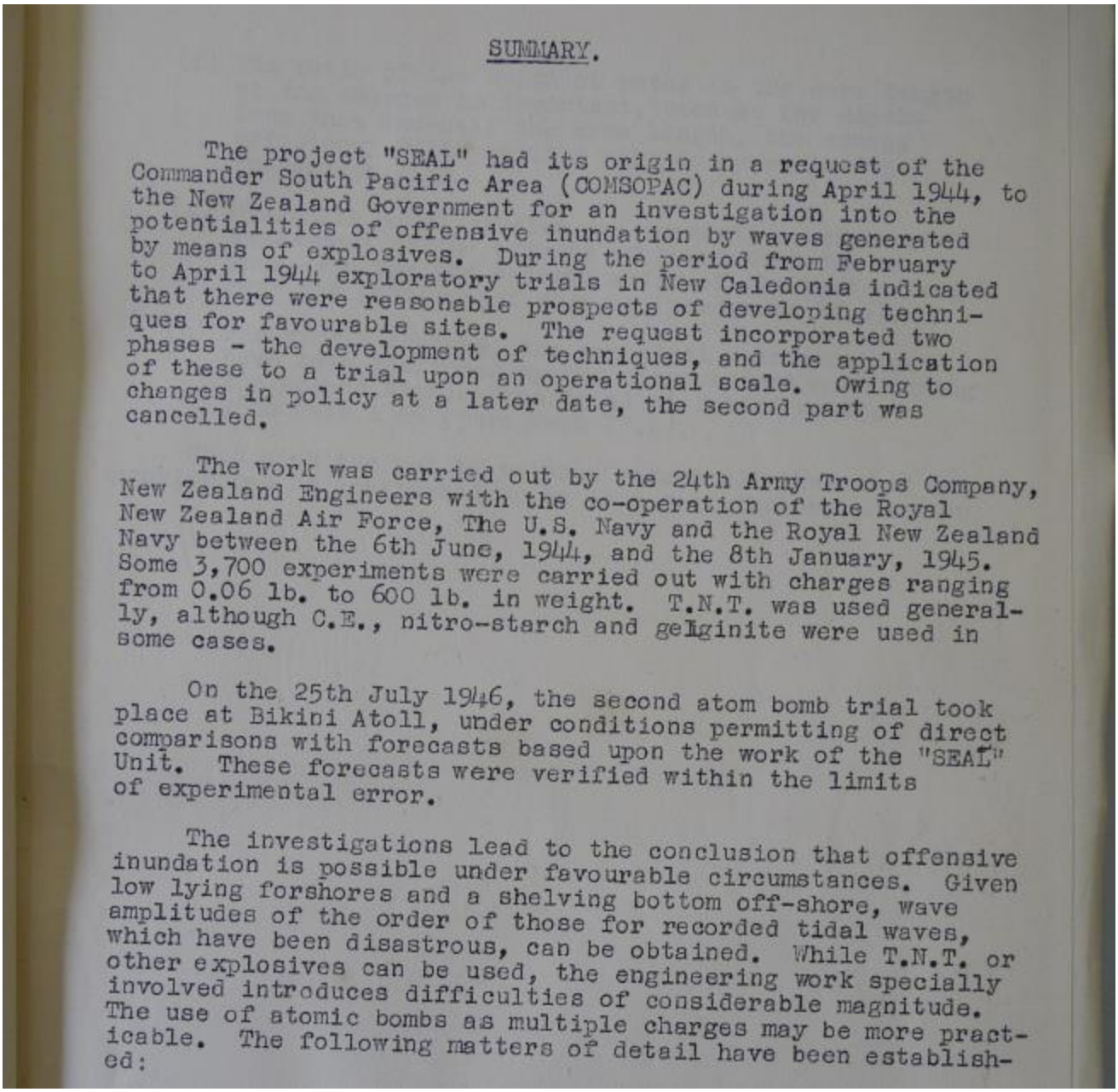
---

magnitude 9 earthquake in Indonesia reached the west coast of India and affected the Kalpakkam nuclear power plant near Madras/Chennai. When very abnormal water levels were detected in the cooling water intake, the plant shut down automatically. It was restarted six days later.

(Below) NOT FROM THE NRC FOIA documents: now declassified, Project Seal was an effort to design and perfect an artificial tsunami bomb.



(Below) NOT from the NRC FOIA documents: more from Project Seal: 1.) '…investigations lead to conclusion that offensive inundation is possible under favorable circumstances.' 2.) '…wave amplitudes of the order of those for recorded tidal waves, which have been disastrous, can be obtained.' 3.) 'The use of atomic bombs as multiple charges may be more practicable.'



SUMMARY.

The project "SEAL" had its origin in a request of the Commander South Pacific Area (COMSOPAC) during April 1944, to the New Zealand Government for an investigation into the potentialities of offensive inundation by waves generated by means of explosives. During the period from February to April 1944 exploratory trials in New Caledonia indicated that there were reasonable prospects of developing techniques for favourable sites. The request incorporated two phases - the development of techniques, and the application of these to a trial upon an operational scale. Owing to changes in policy at a later date, the second part was cancelled.

The work was carried out by the 24th Army Troops Company, New Zealand Engineers with the co-operation of the Royal New Zealand Air Force, The U.S. Navy and the Royal New Zealand Navy between the 6th June, 1944, and the 8th January, 1945. Some 3,700 experiments were carried out with charges ranging from 0.06 lb. to 600 lb. in weight. T.N.T. was used generally, although C.E., nitro-starch and gelignite were used in some cases.

On the 25th July 1946, the second atom bomb trial took place at Bikini Atoll, under conditions permitting of direct comparisons with forecasts based upon the work of the "SEAL" Unit. These forecasts were verified within the limits of experimental error.

The investigations lead to the conclusion that offensive inundation is possible under favourable circumstances. Given low lying forshores and a shelving bottom off-shore, wave amplitudes of the order of those for recorded tidal waves, which have been disastrous, can be obtained. While T.N.T. or other explosives can be used, the engineering work specially involved introduces difficulties of considerable magnitude. The use of atomic bombs as multiple charges may be more practicable. The following matters of detail have been established:

Chapter 13

Plume Maps and Modeling

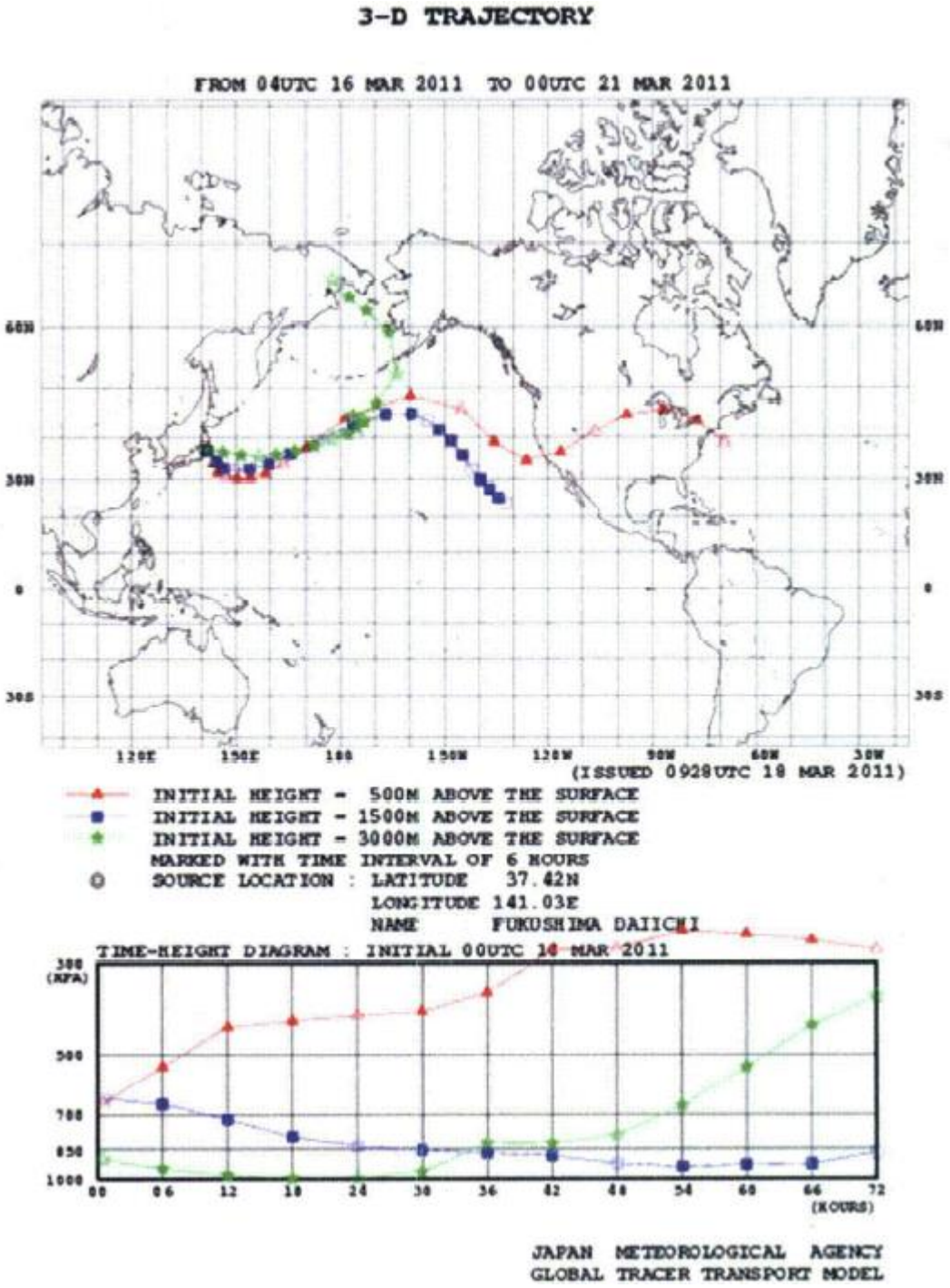
(below) From the NRC FOIA documents: RSMC Beijing modeling is not based on an actual release but on a potential release…

ATMOSPHERIC DISPERSION PRODUCTS FOR 20 APRIL 2011

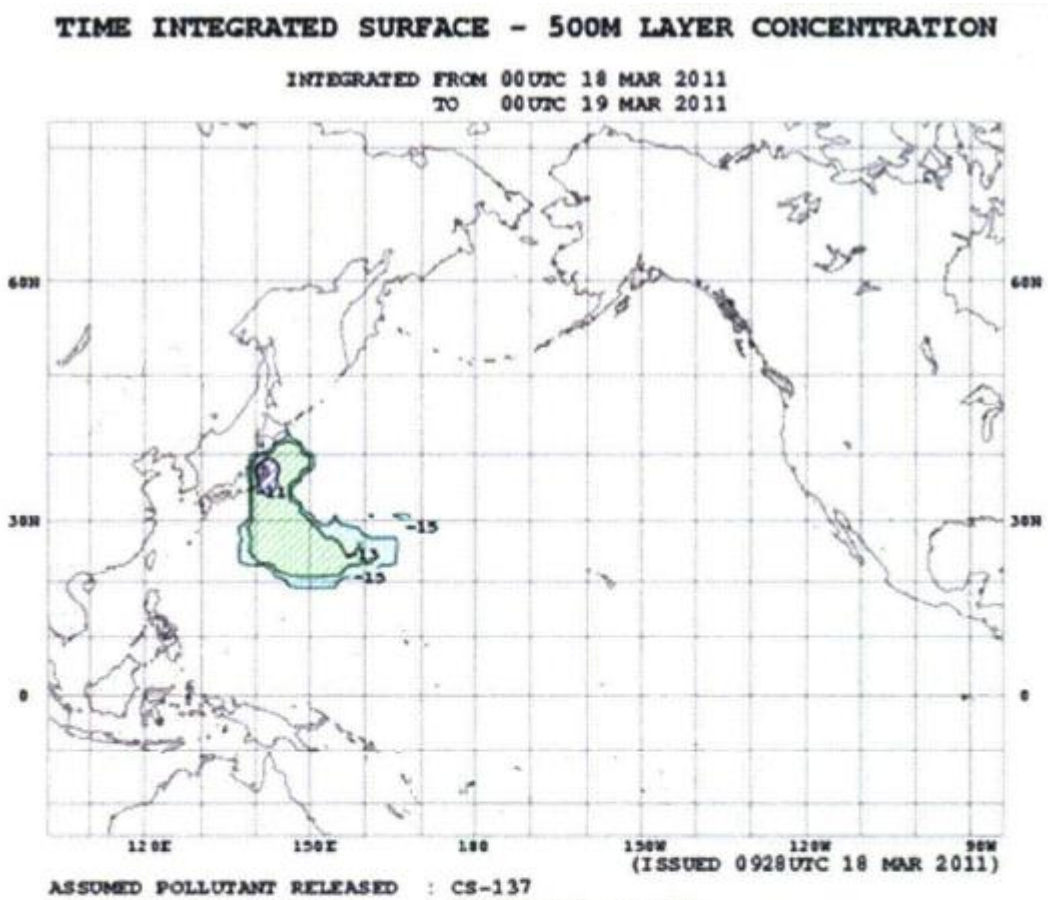
NOTE: The products below where requested not because of an actual release but for information where radioactive material if released would be travelling in the next 72 hours.

RSMC BEIJING

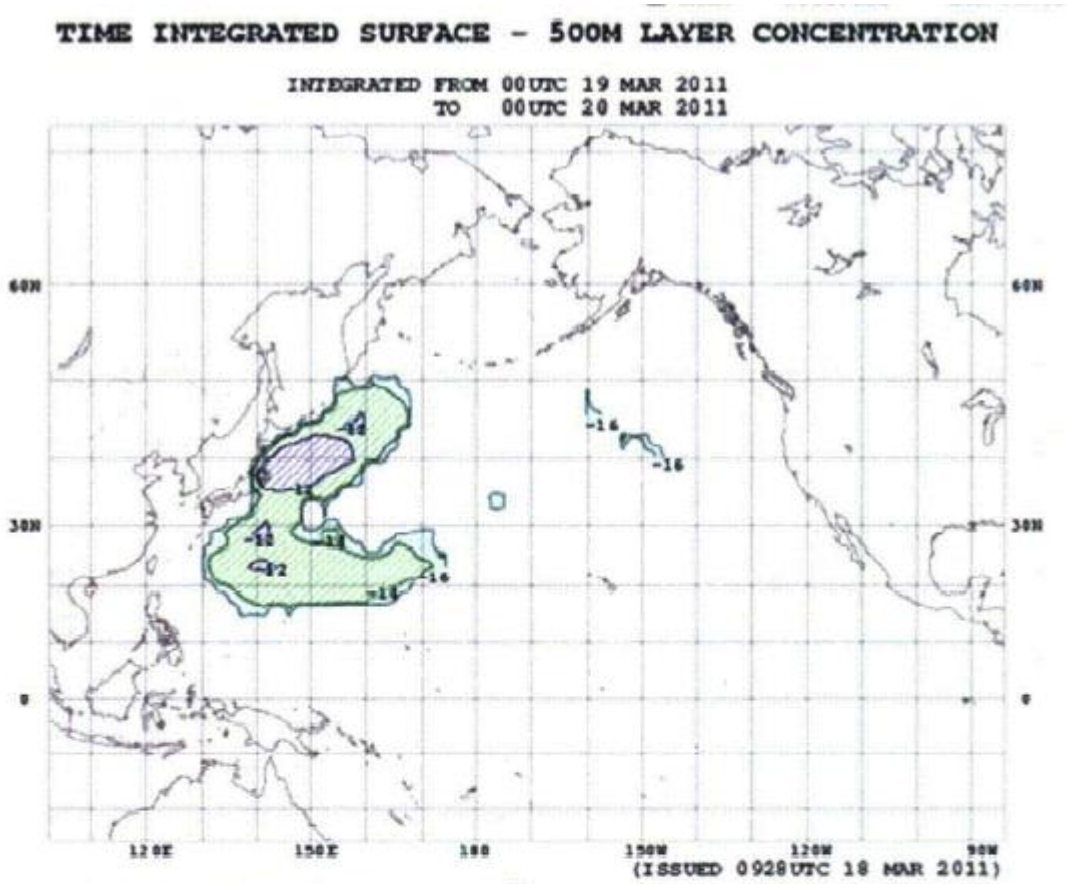
(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 16th-21st, 2011)



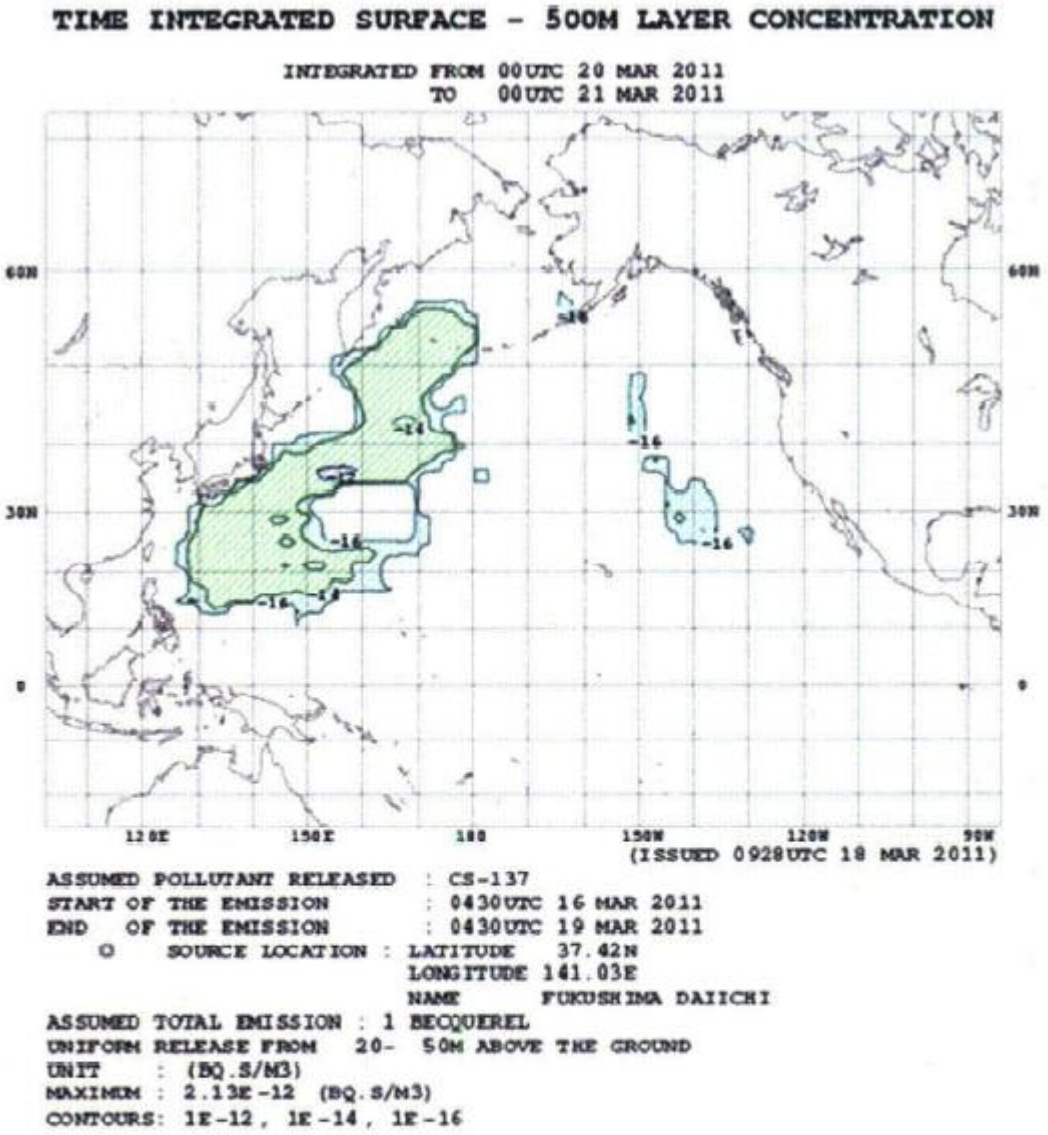
(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 18th-19th, 2011



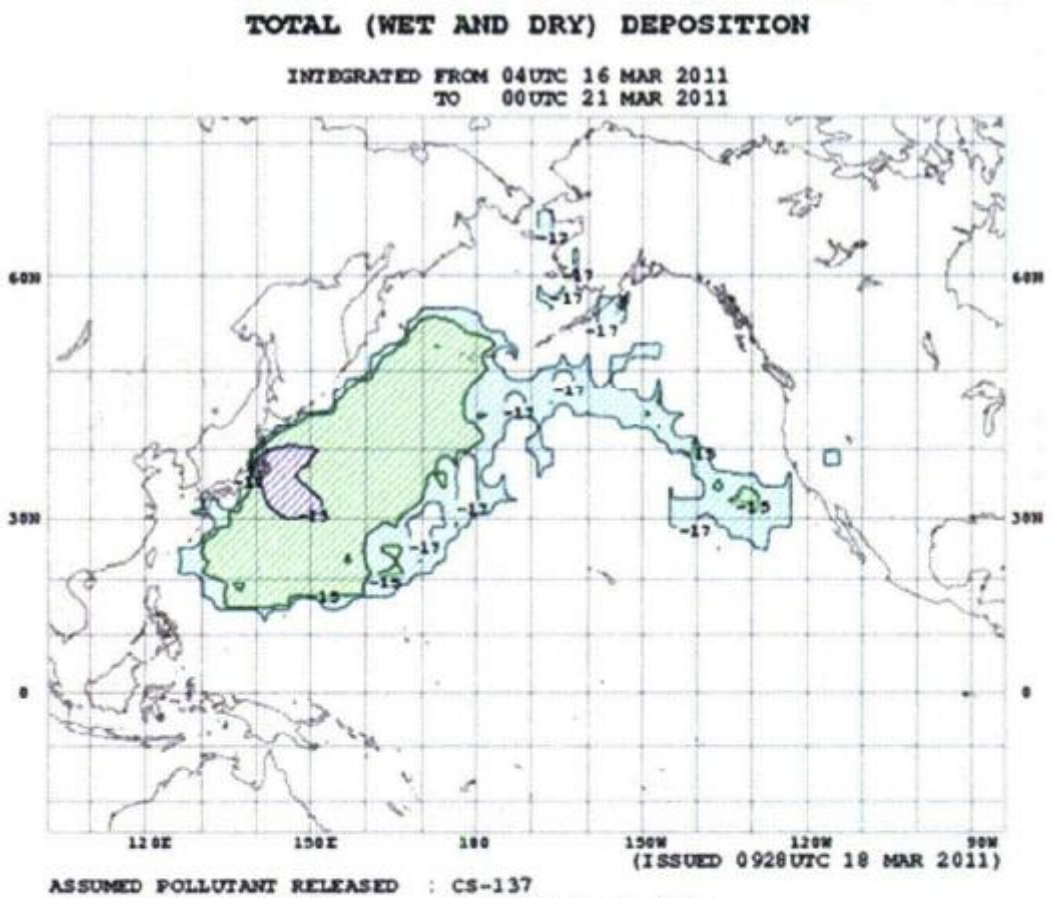
(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 19th-20th, 2011



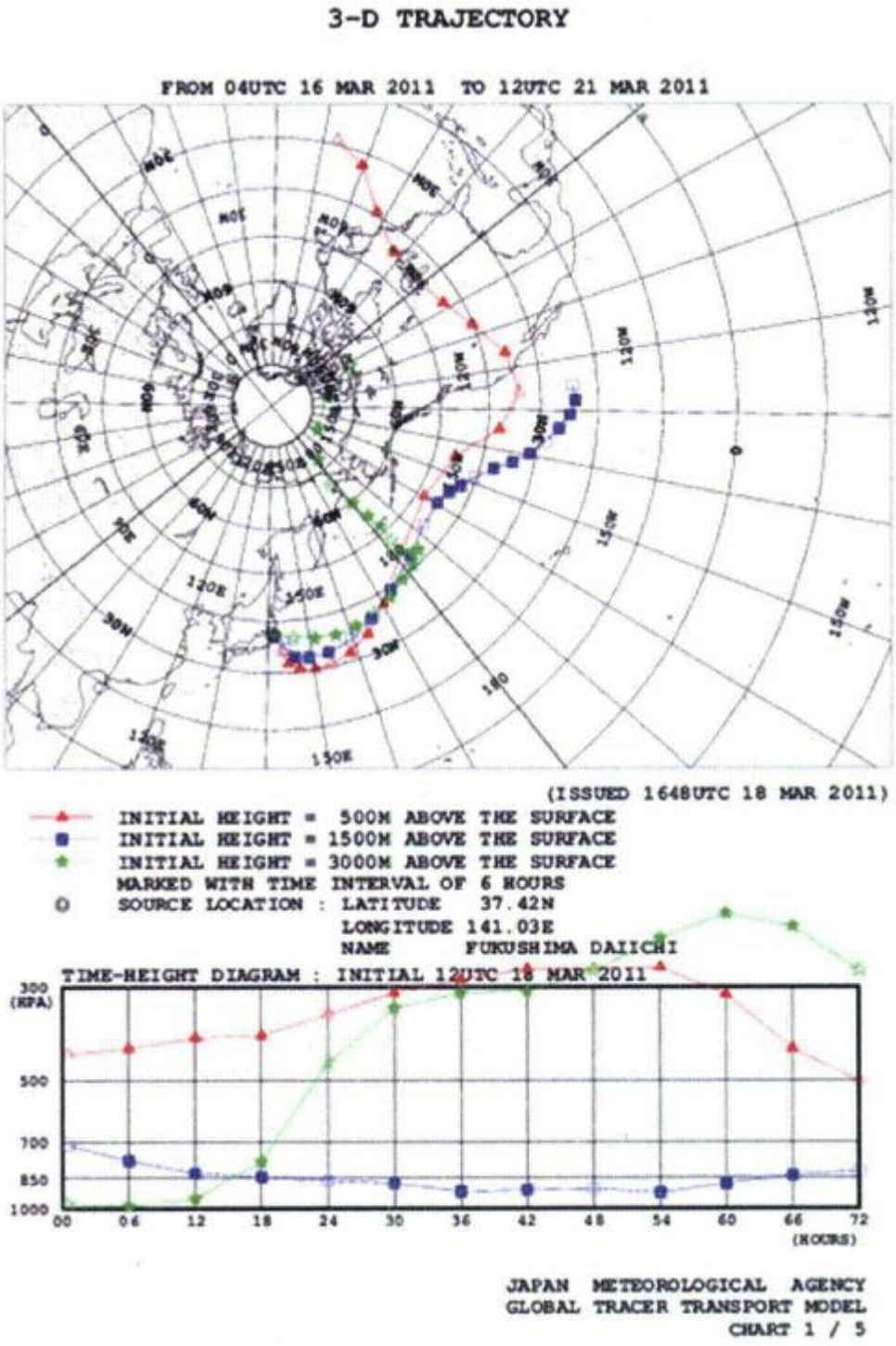
(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 20th-21st, 2011



(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 16th-21st, 2011 total wet and dry depositions



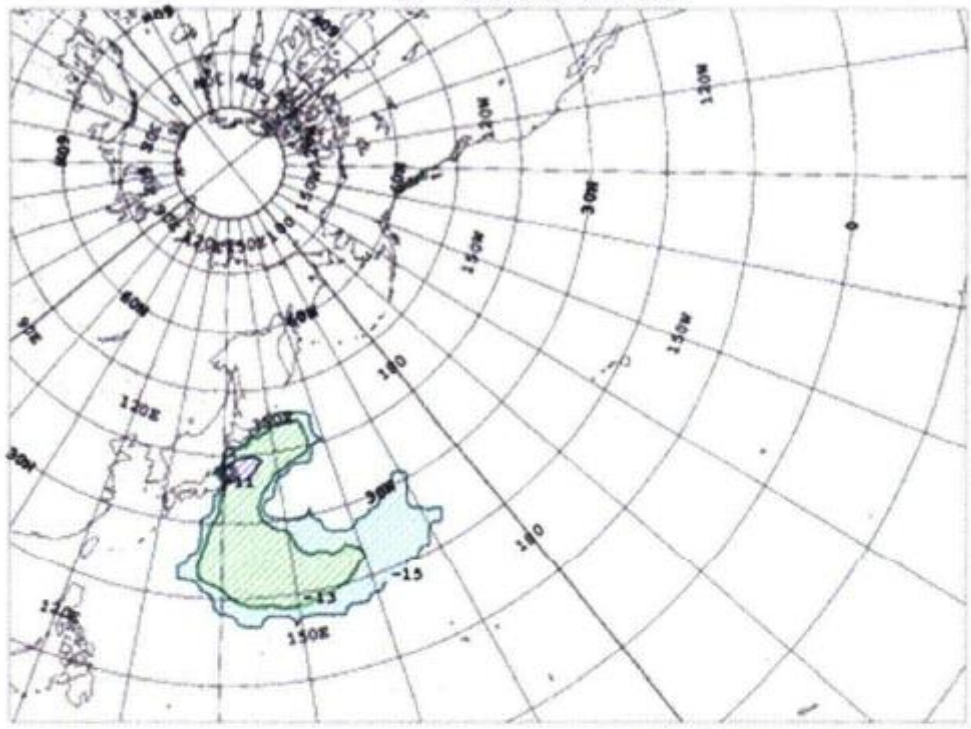
(below) From the NRC FOIA documents: (1 in a series of 4) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 16th-21st, 2011)



(below) From the NRC FOIA documents: (2 in a series of 4) modeling from March 18th-19th, 2011

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 12UTC 18 MAR 2011
TO 12UTC 19 MAR 2011



(ISSUED 1648UTC 18 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0430UTC 16 MAR 2011
END OF THE EMISSION : 0430UTC 19 MAR 2011
O SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 50M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 3.01E-10 (BQ.S/M3)
CONTOURS: 1E-11, 1E-13, 1E-15

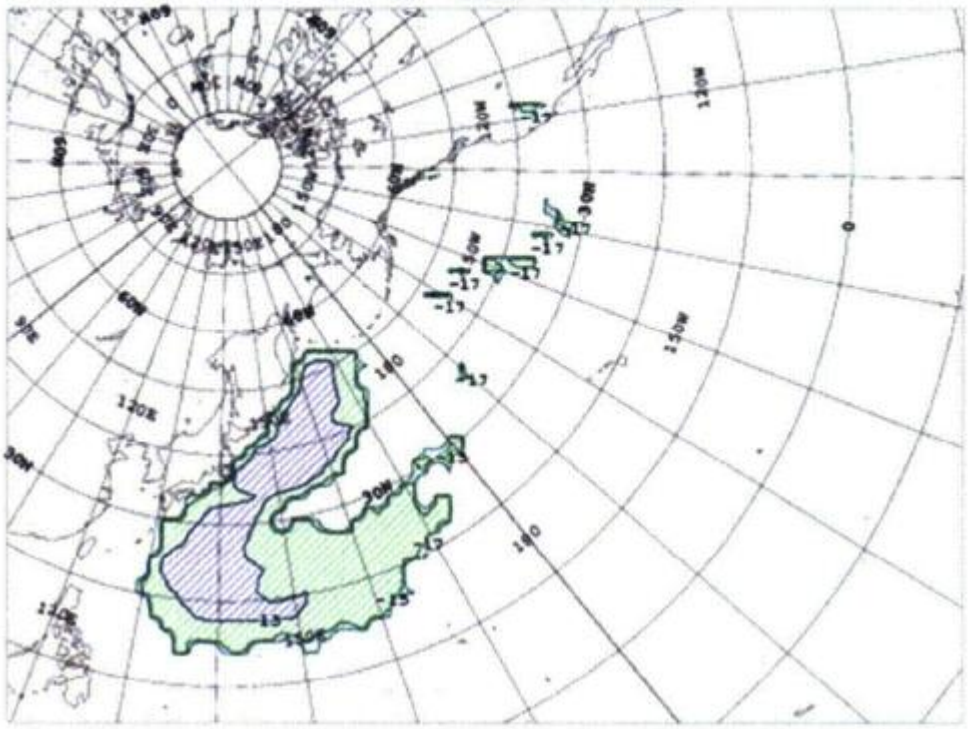
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 2 / 5

(below) From the NRC FOIA documents: (3 in a series of 4) modeling from March 19th-20th, 2011

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 12UTC 19 MAR 2011
TO 12UTC 20 MAR 2011



(ISSUED 1648UTC 18 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0430UTC 16 MAR 2011
END OF THE EMISSION : 0430UTC 19 MAR 2011
O SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 50M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 3.21E-12 (BQ.S/M3)
CONTOURS: 1E-13, 1E-15, 1E-17

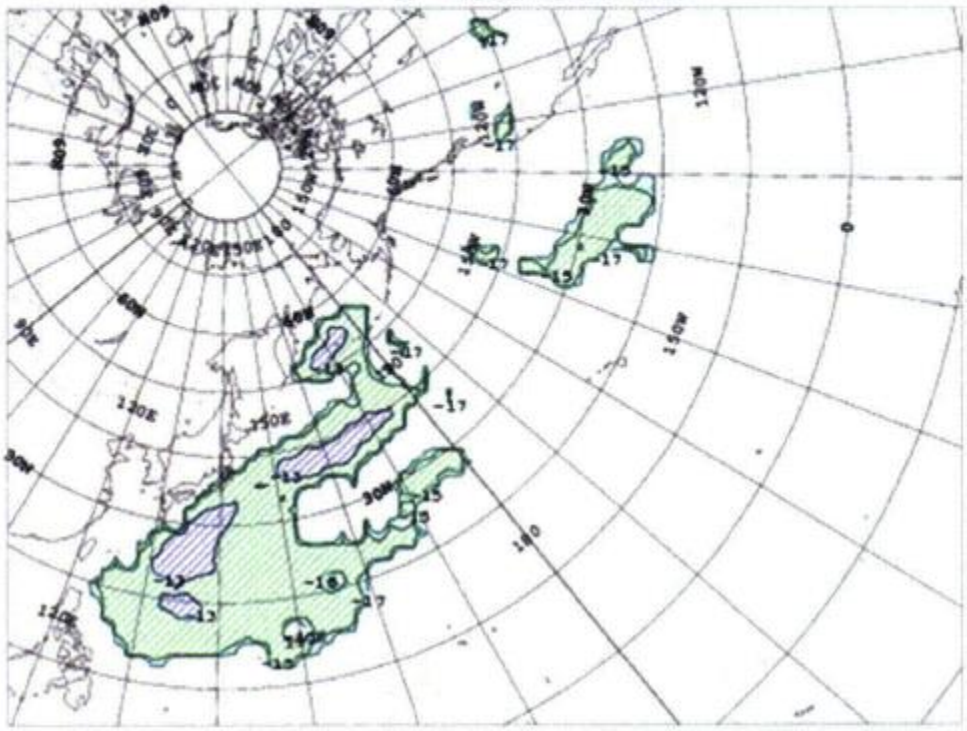
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 3 / 5

(below) From the NRC FOIA documents: (4 in a series of 4) modeling from March 20th-21st, 2011

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 12UTC 20 MAR 2011
TO 12UTC 21 MAR 2011



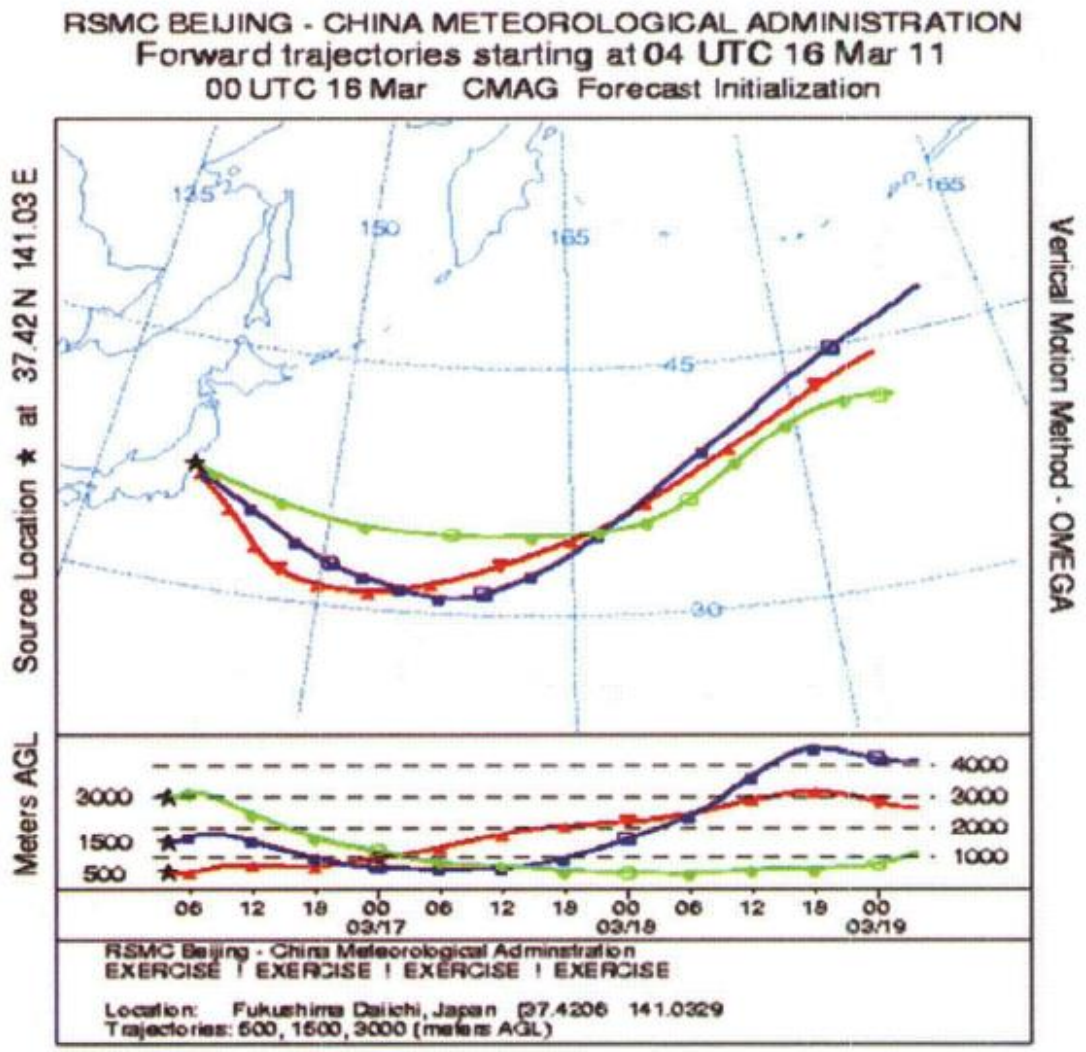
(ISSUED 1648UTC 18 MAR 2011)

ASSUMED POLLUTANT RELEASED : CS-137
START OF THE EMISSION : 0430UTC 16 MAR 2011
END OF THE EMISSION : 0430UTC 19 MAR 2011
O SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 50M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 4.99E-13 (BQ.S/M3)
CONTOURS: 1E-13, 1E-15, 1E-17

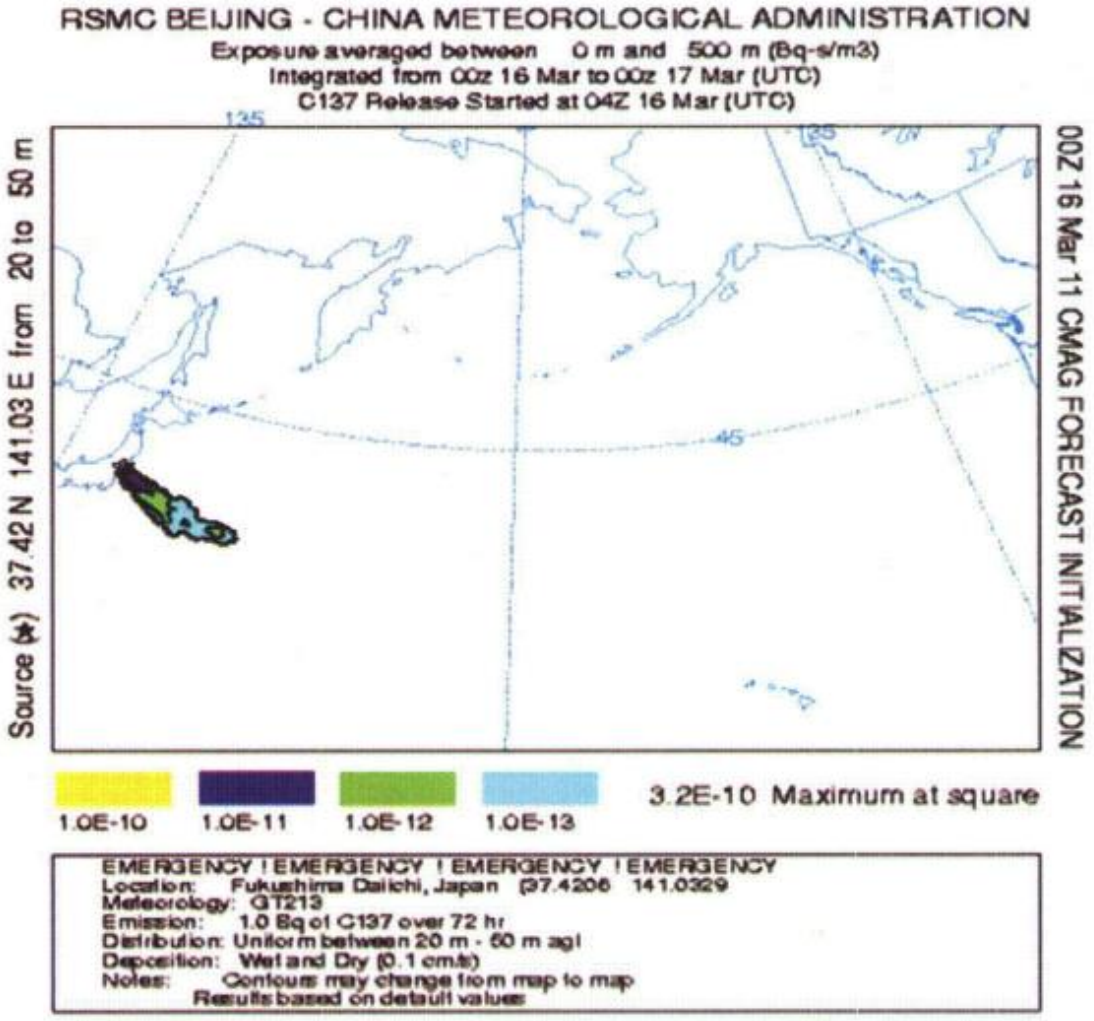
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 4 / 5

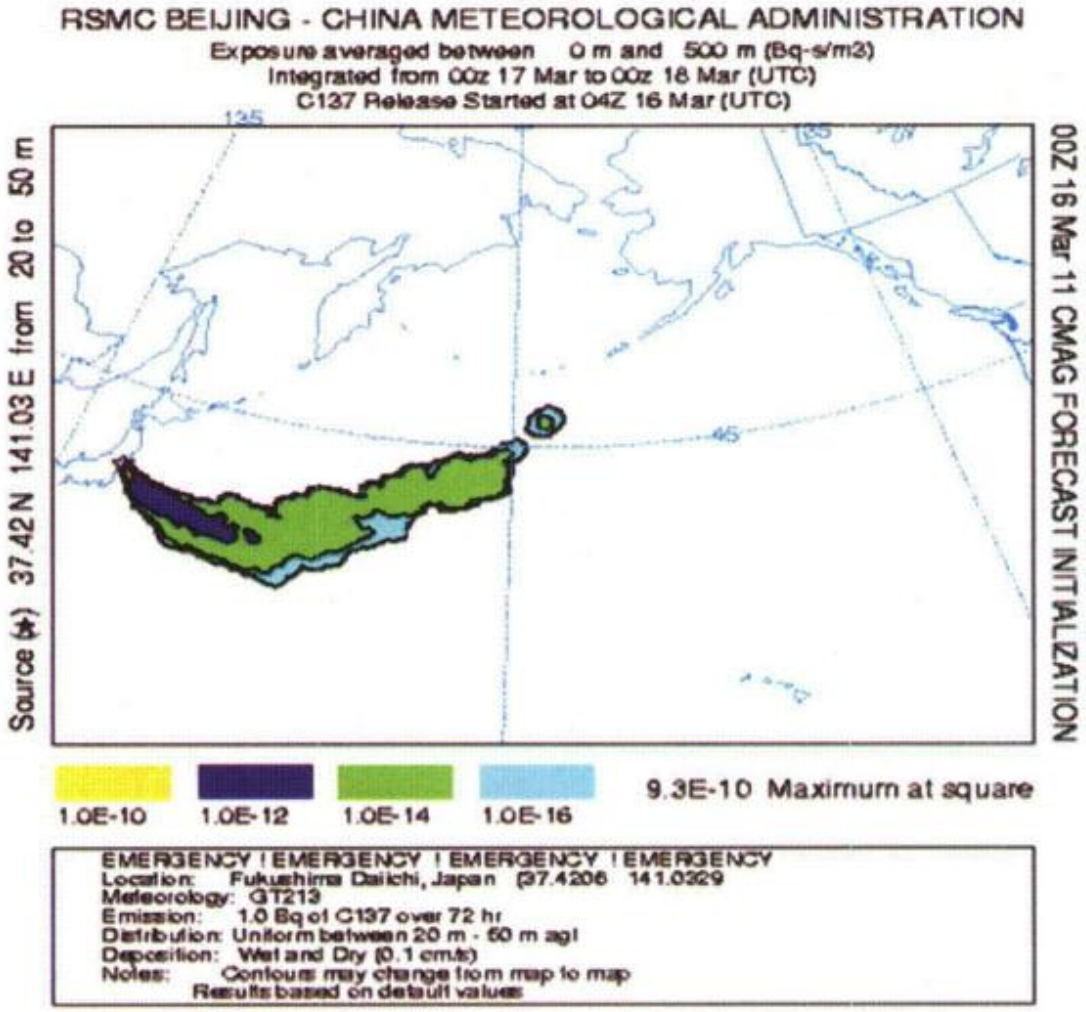
(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 16th-19th, 2011)



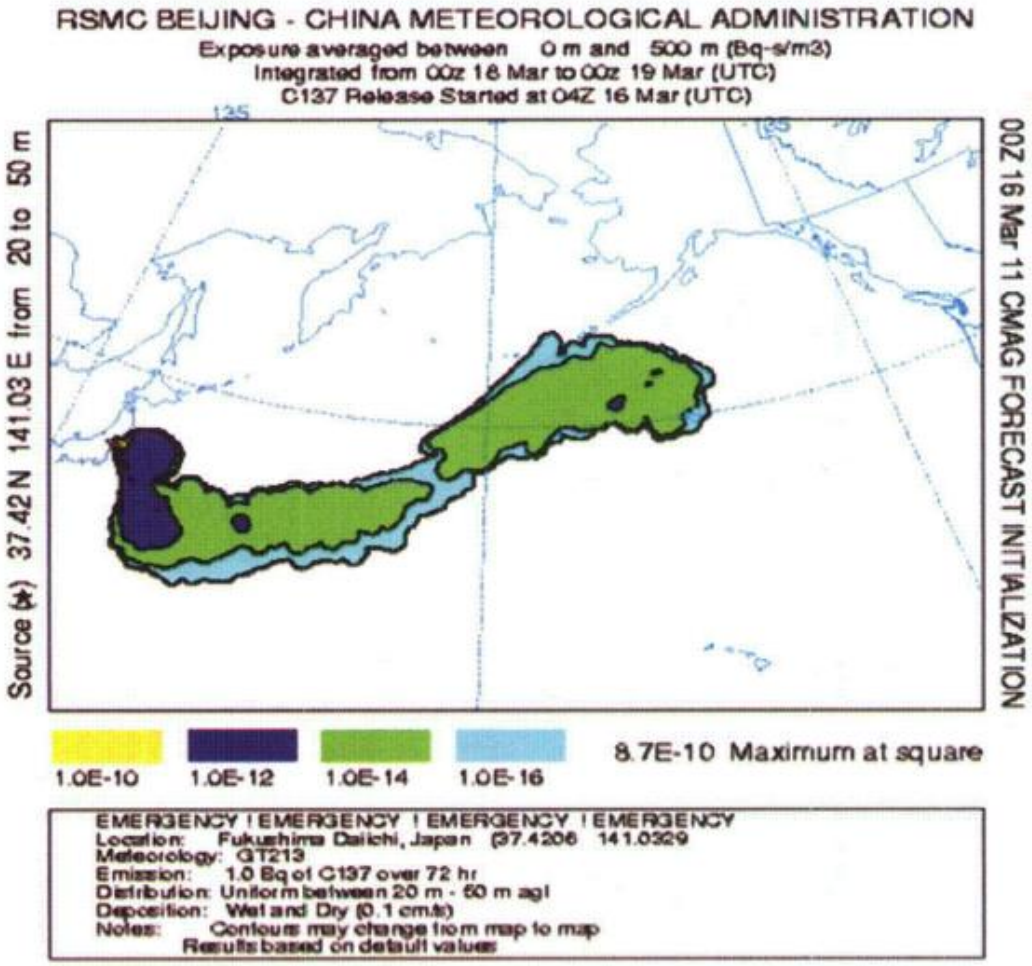
(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 16th-17th, 2011



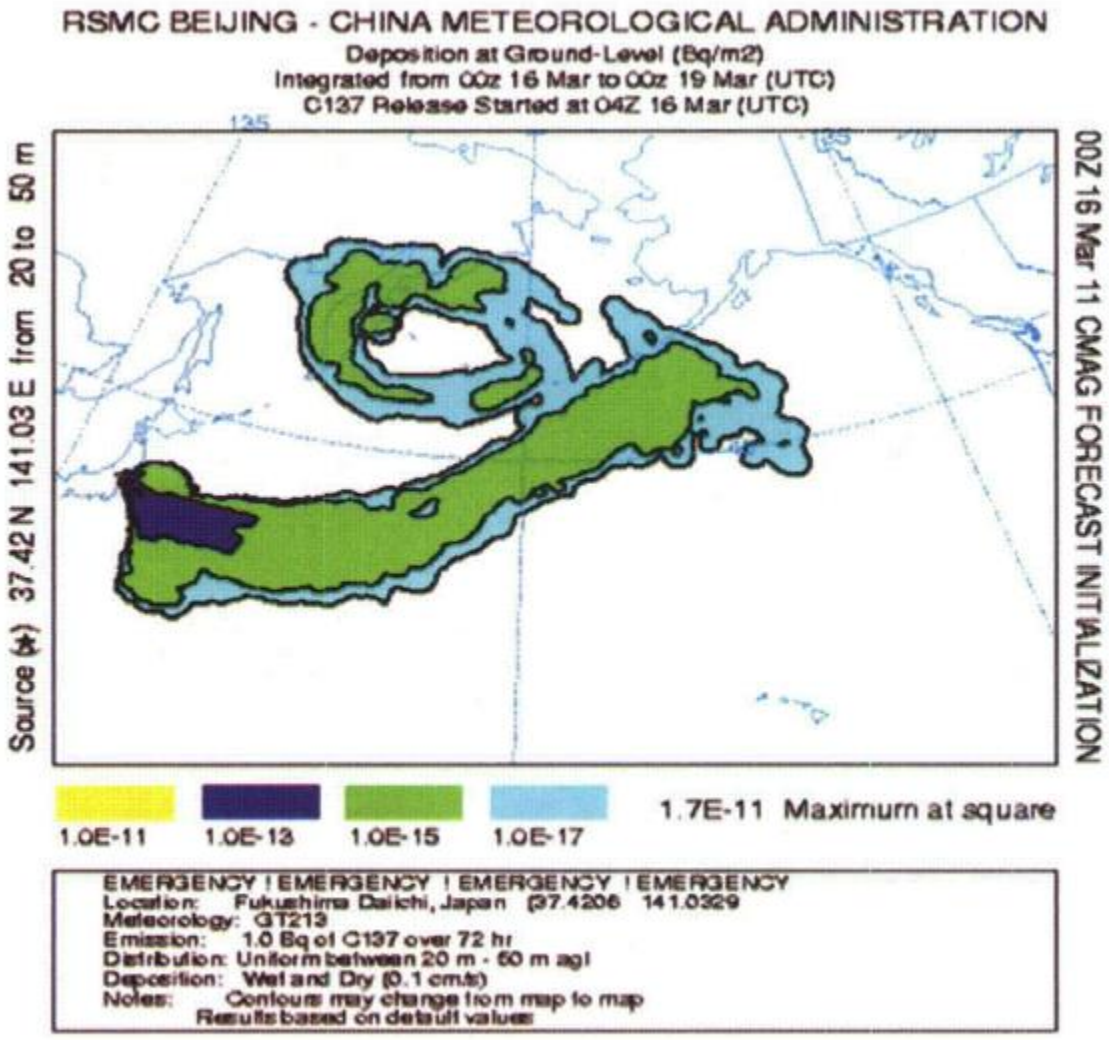
(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 17th-18th, 2011



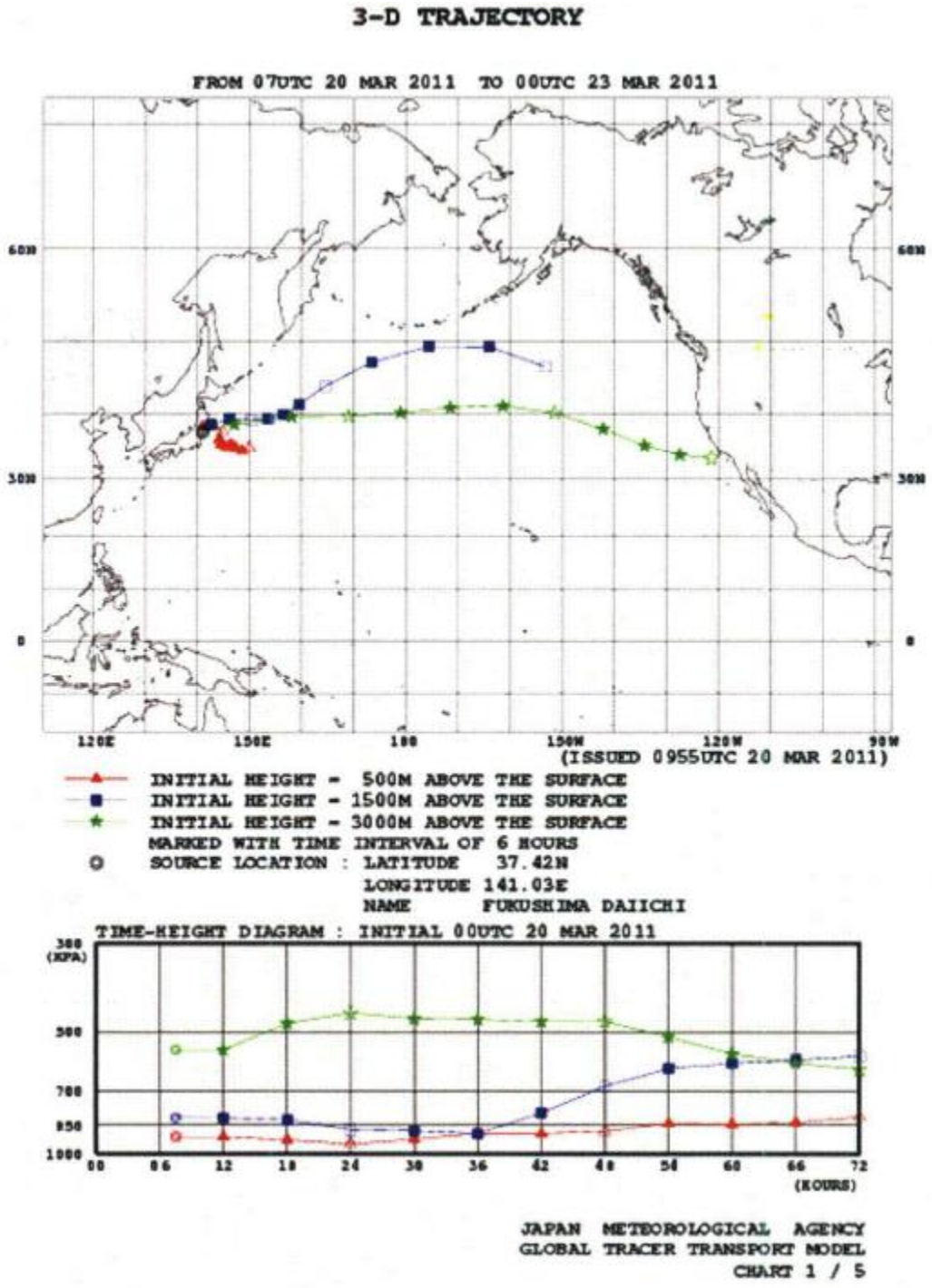
(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 18th-19th, 2011



(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 16th-19th, 2011



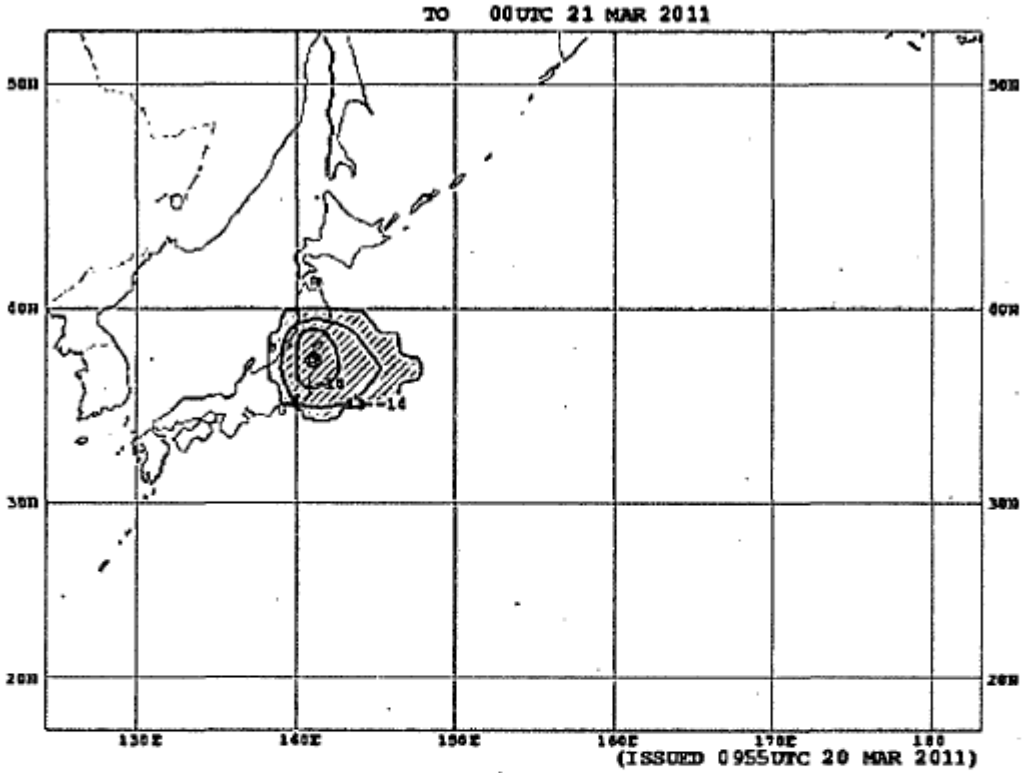
(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011) for I-131



(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 20th-21st, 2011

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 07UTC 20 MAR 2011
TO 00UTC 21 MAR 2011



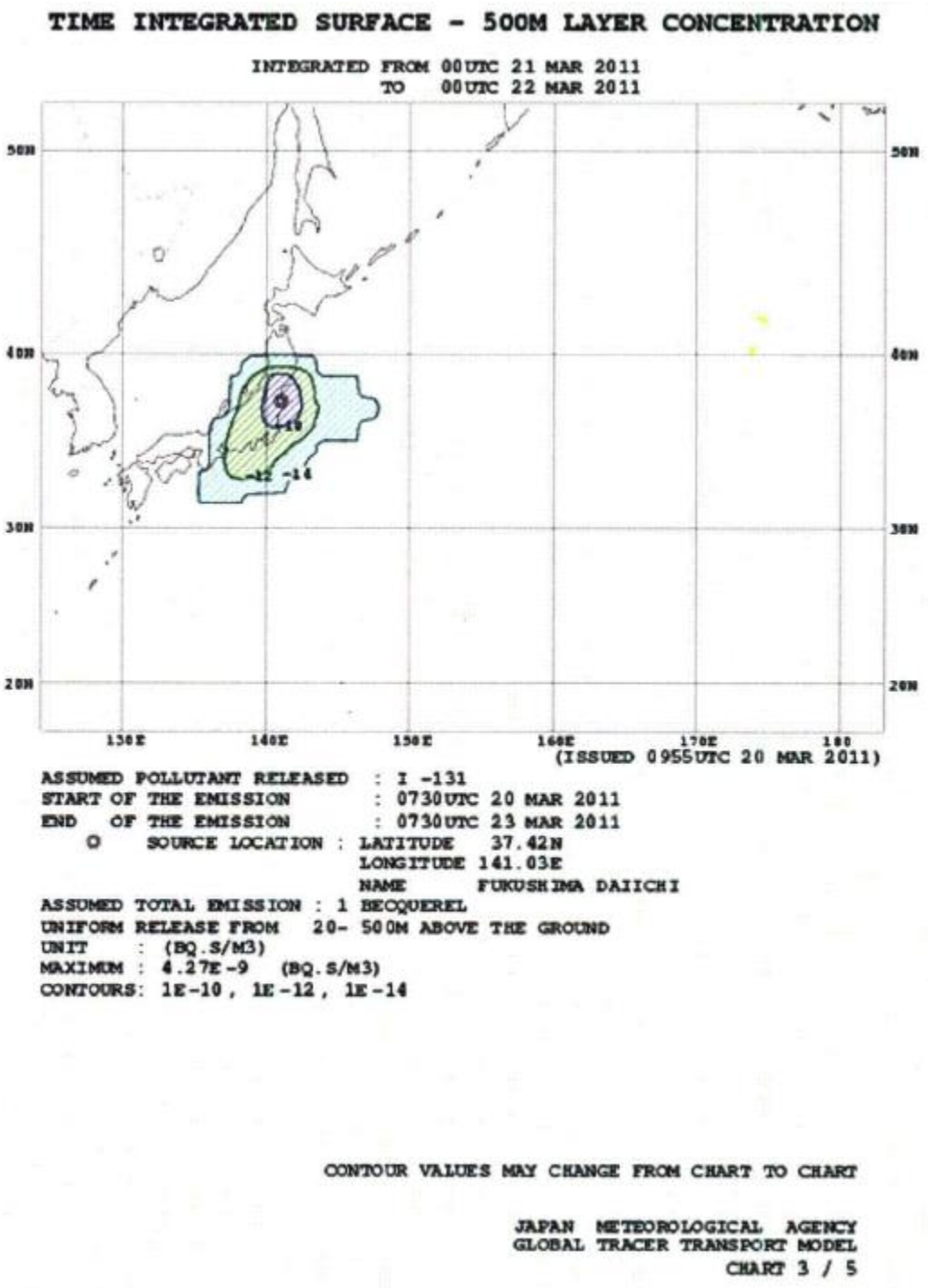
(ISSUED 0955UTC 20 MAR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0730UTC 20 MAR 2011
END OF THE EMISSION : 0730UTC 23 MAR 2011
O SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 4.90E-9 (BQ.S/M3)
CONTOURS: 1E-10, 1E-12, 1E-14

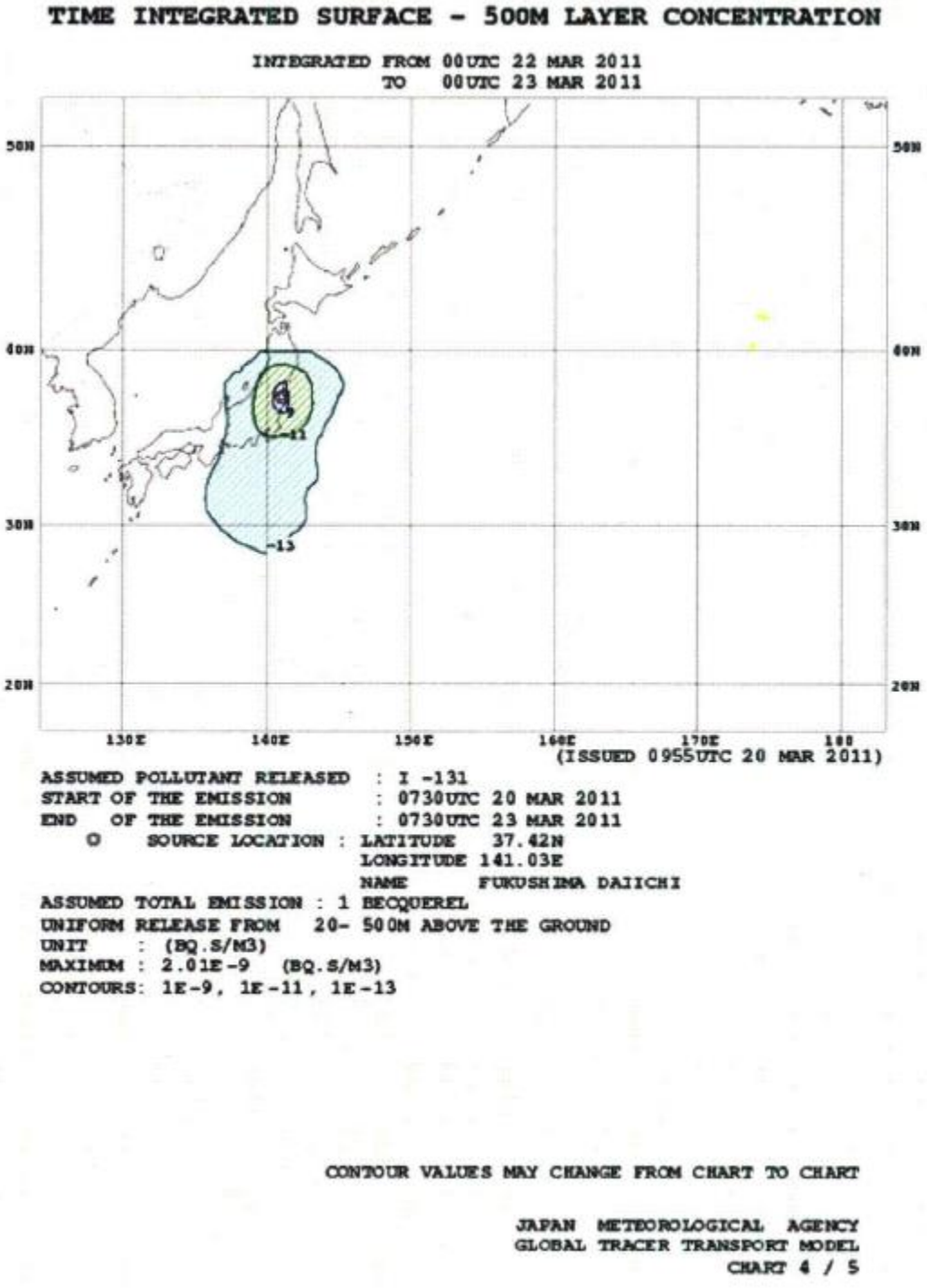
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 2 / 5

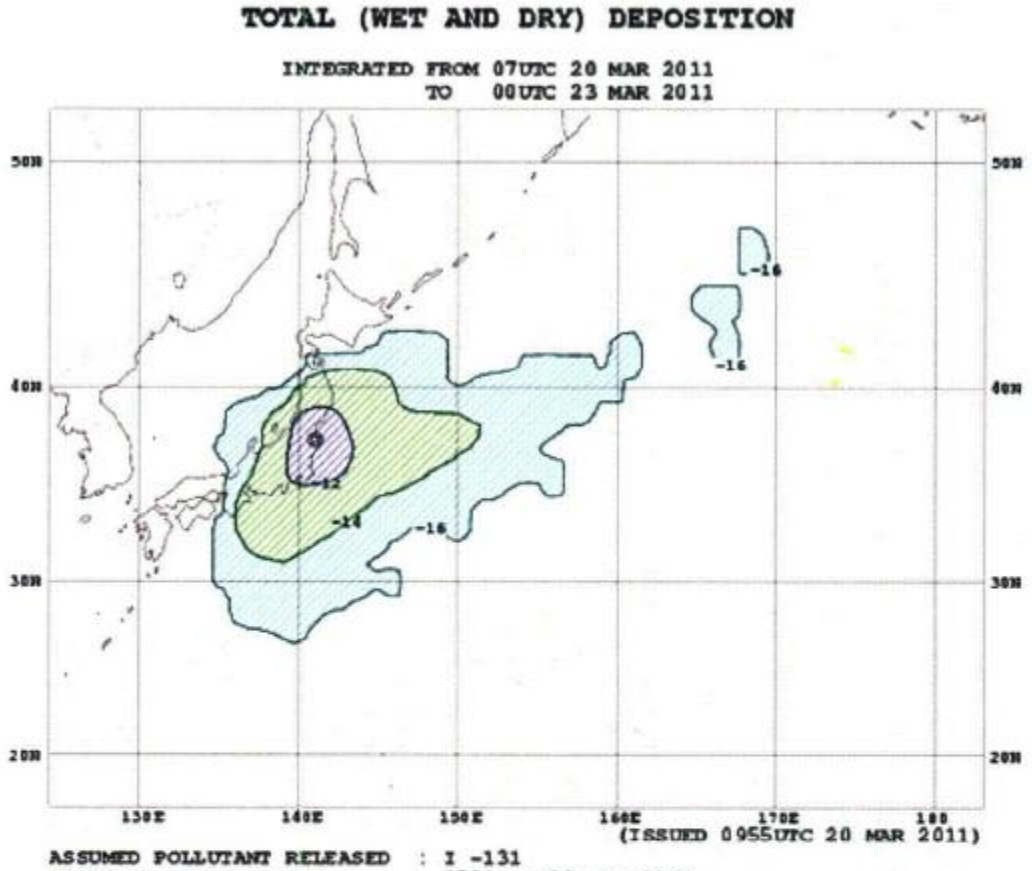
(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 16th-19th, 2011



(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 16th-19th, 2011



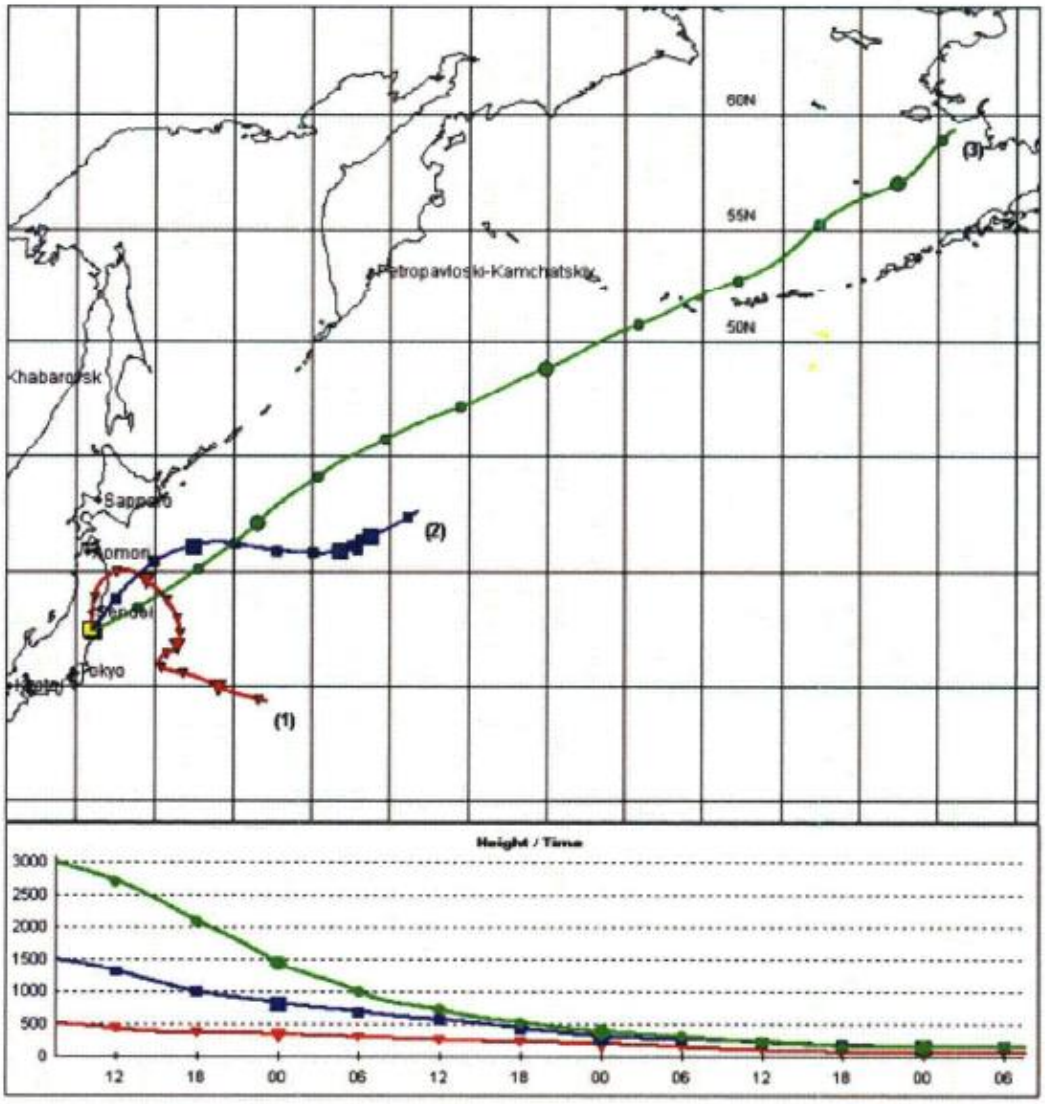
(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 20th-23rd, 2011 total wet and dry deposition



(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011)

RSMC Obninsk, Russia

Forward trajectories



Levels: (1) 500 m (2) 1500 m (3) 3000 m

Date of release: 20 Mar 2011, 7:30 UTC

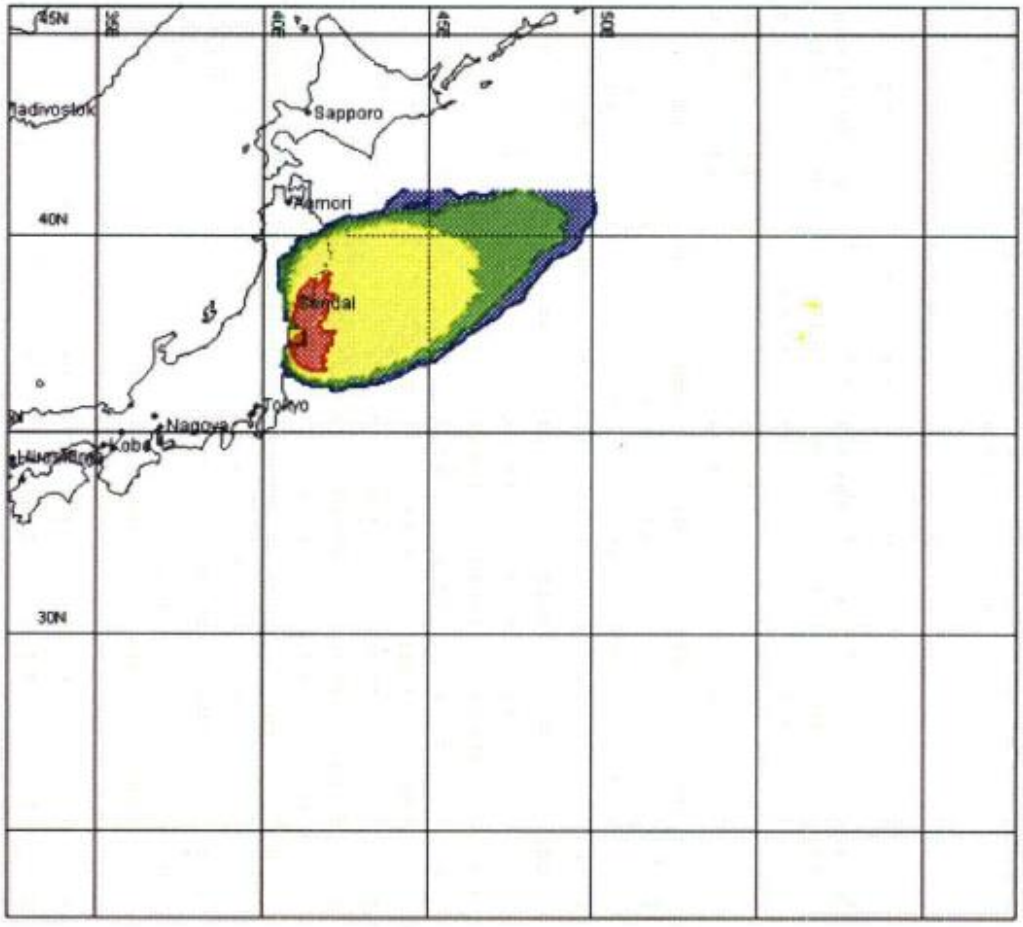
Source location: 141 03° E, 37 42° N

(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 20th-21st, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 20 Mar 2011, 07:30 to 21 Mar 2011, 07:30 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value: 2.1e-09 Bq*s/m3

Date of release: 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

Duration: 72:00

Vert. distribution: uniform 20-500 m

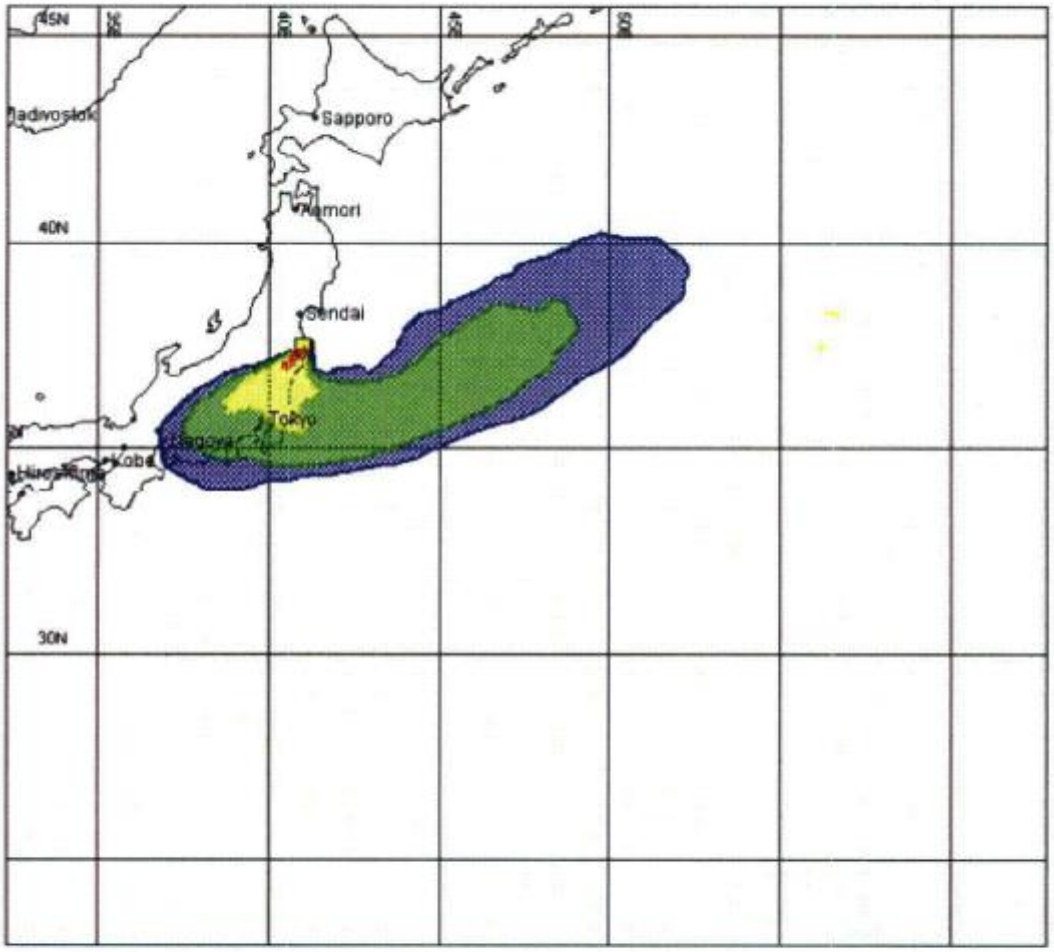
Contour values may change from chart to chart

(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 21st-22nd, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 21 Mar 2011, 07:30 to 22 Mar 2011, 07:30 UTC



Contours: 1e-09 1e-10 1e-11 1e-12

Maximum value: 5.6e-09 Bq*s/m3

Date of release: 20 Mar 2011, 7:30 UTC
Duration: 72:00
Source location: 141.03° E, 37.42° N
Vert. distribution: uniform 20-500 m
Total release: 1 Bq of I-131

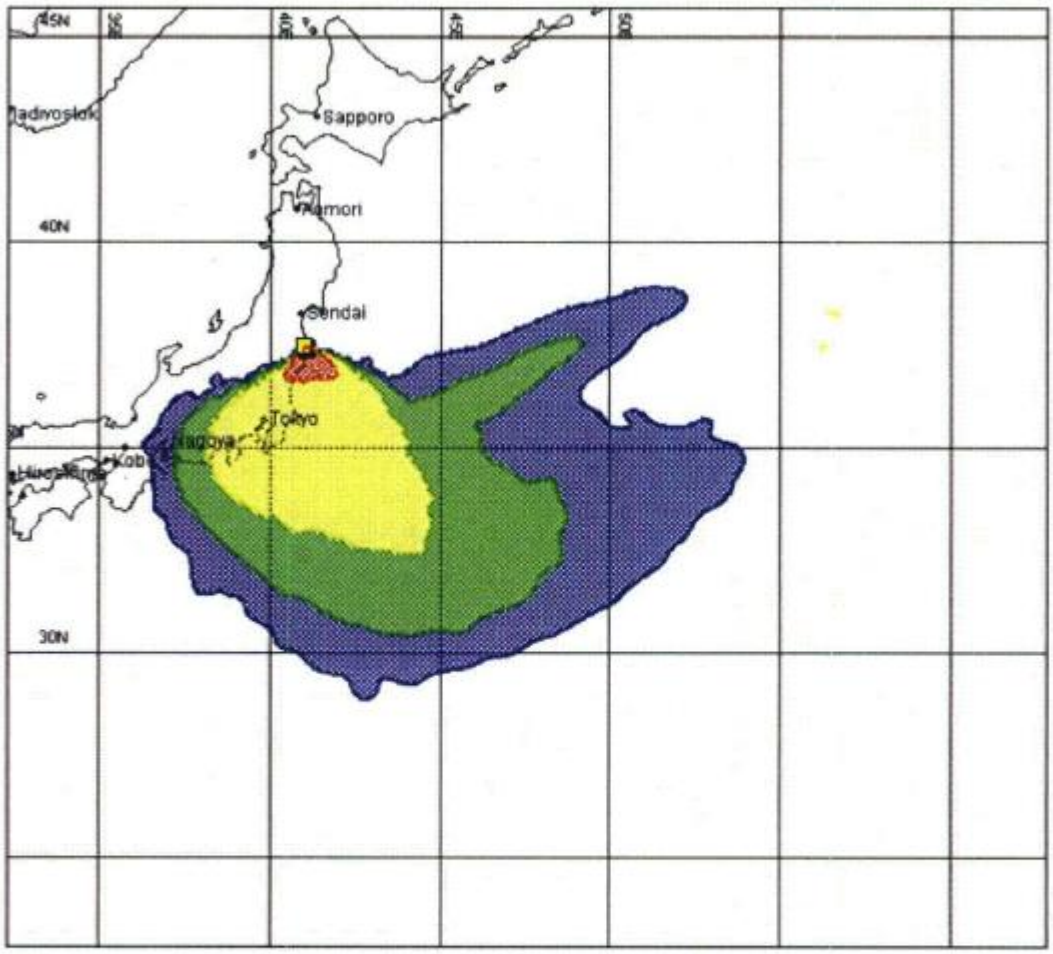
Contour values may change from chart to chart

(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 22nd-23rd, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 22 Mar 2011, 07:30 to 23 Mar 2011, 07:30 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value: 2.6e-09 Bq*s/m3

Date of release: 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

Duration: 72:00

Vert. distribution: uniform 20-500 m

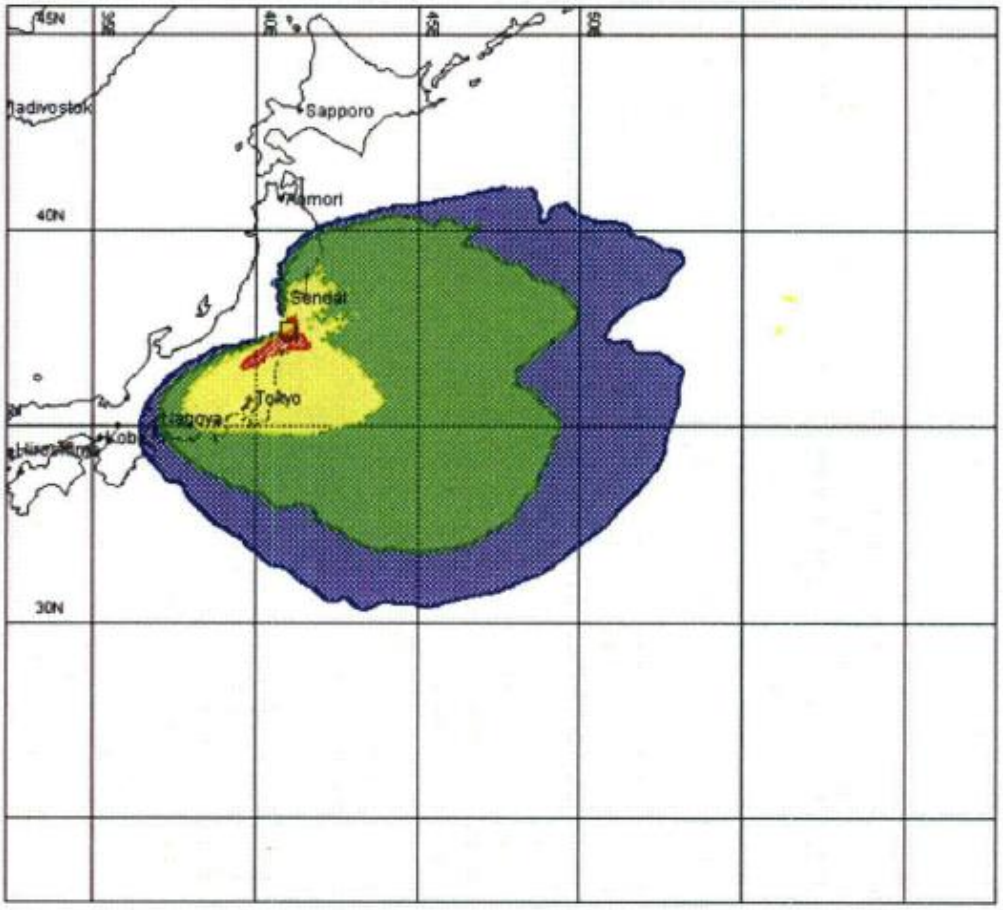
Contour values may change from chart to chart

(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 20th-23rd, 2011 total deposition

RSMC Obninsk, Russia

Total deposition

from 20 Mar 2011, 07:30 to 23 Mar 2011, 07:30 UTC



Contours: 1e-11 1e-12 1e-13 1e-14

Maximum value: 1.1e-10 Bq/m2

Date of release: 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

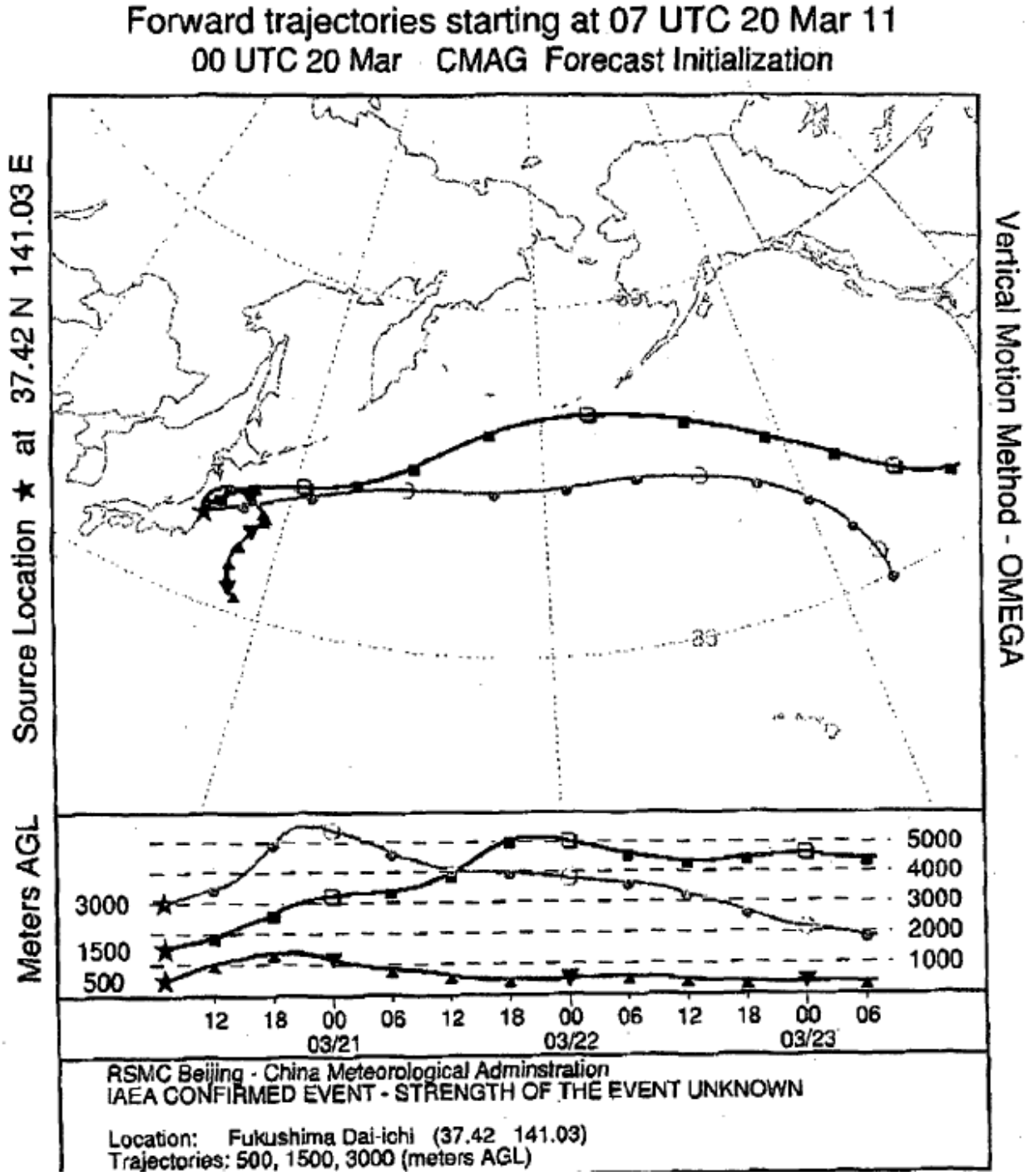
Total release: 1 Bq of I-131

Duration: 72:00

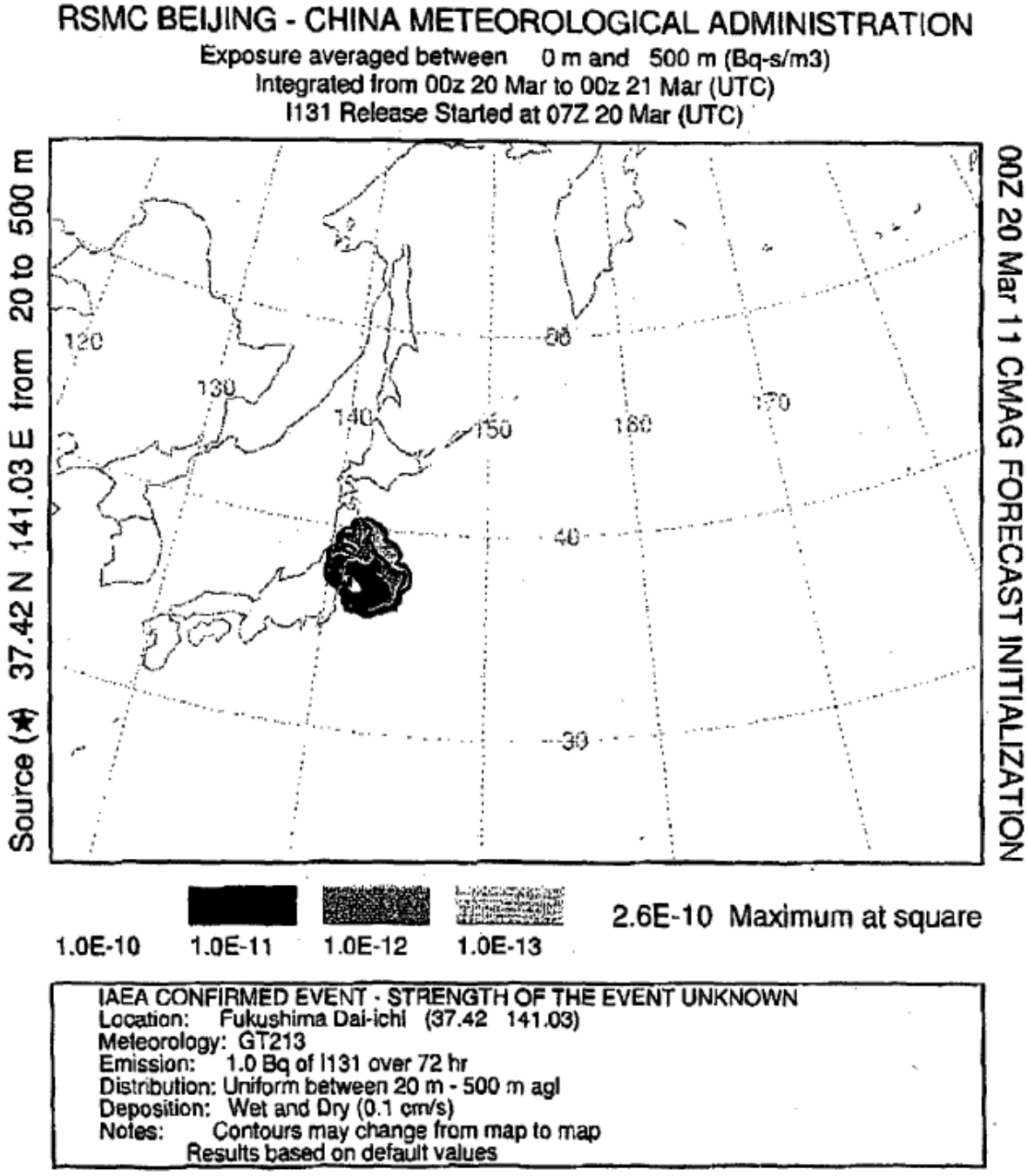
Vert. distribution: uniform 20-500 m

Contour values may change from chart to chart

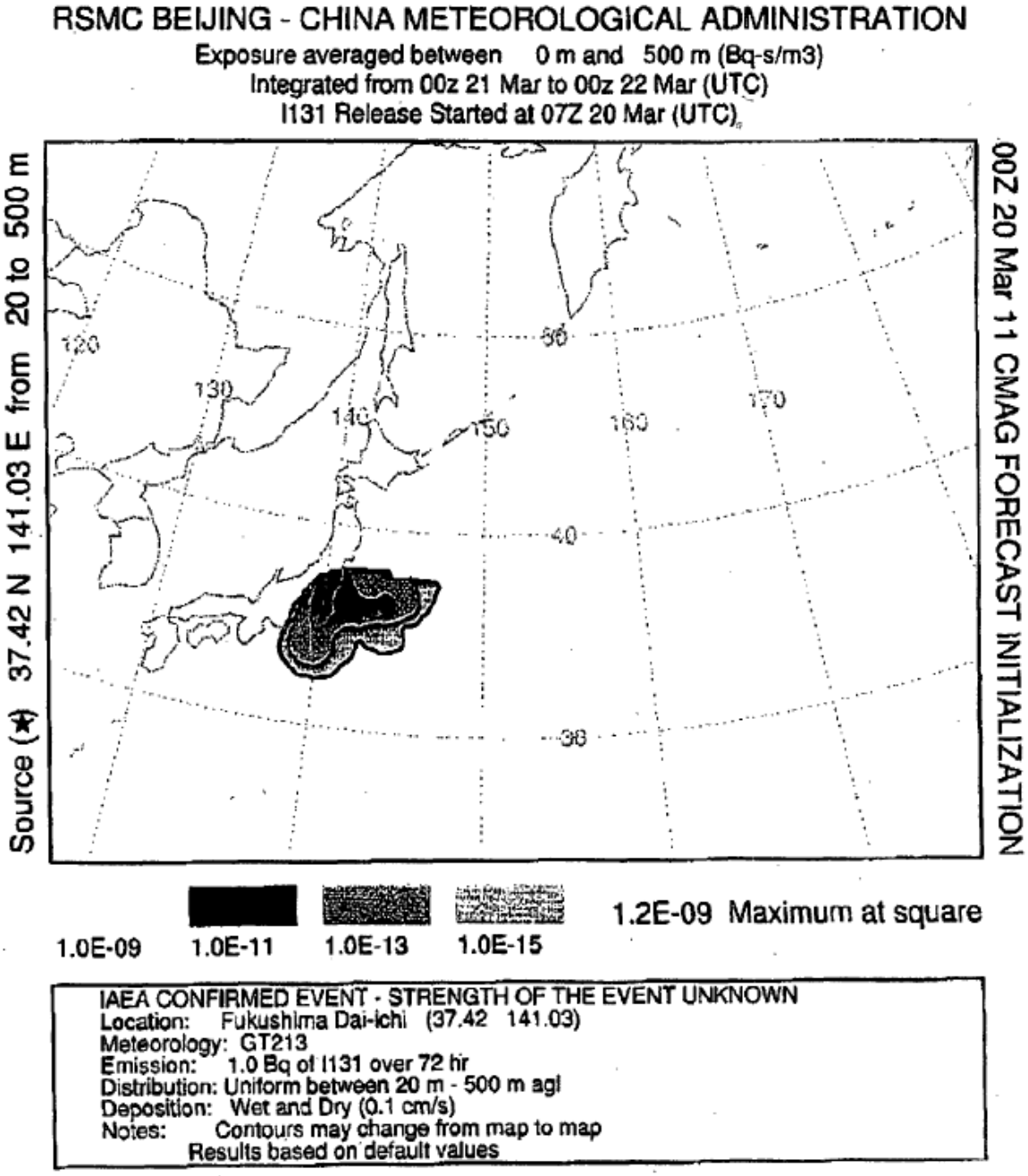
(below) From the NRC FOIA documents: (1 in a series of 4) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011)



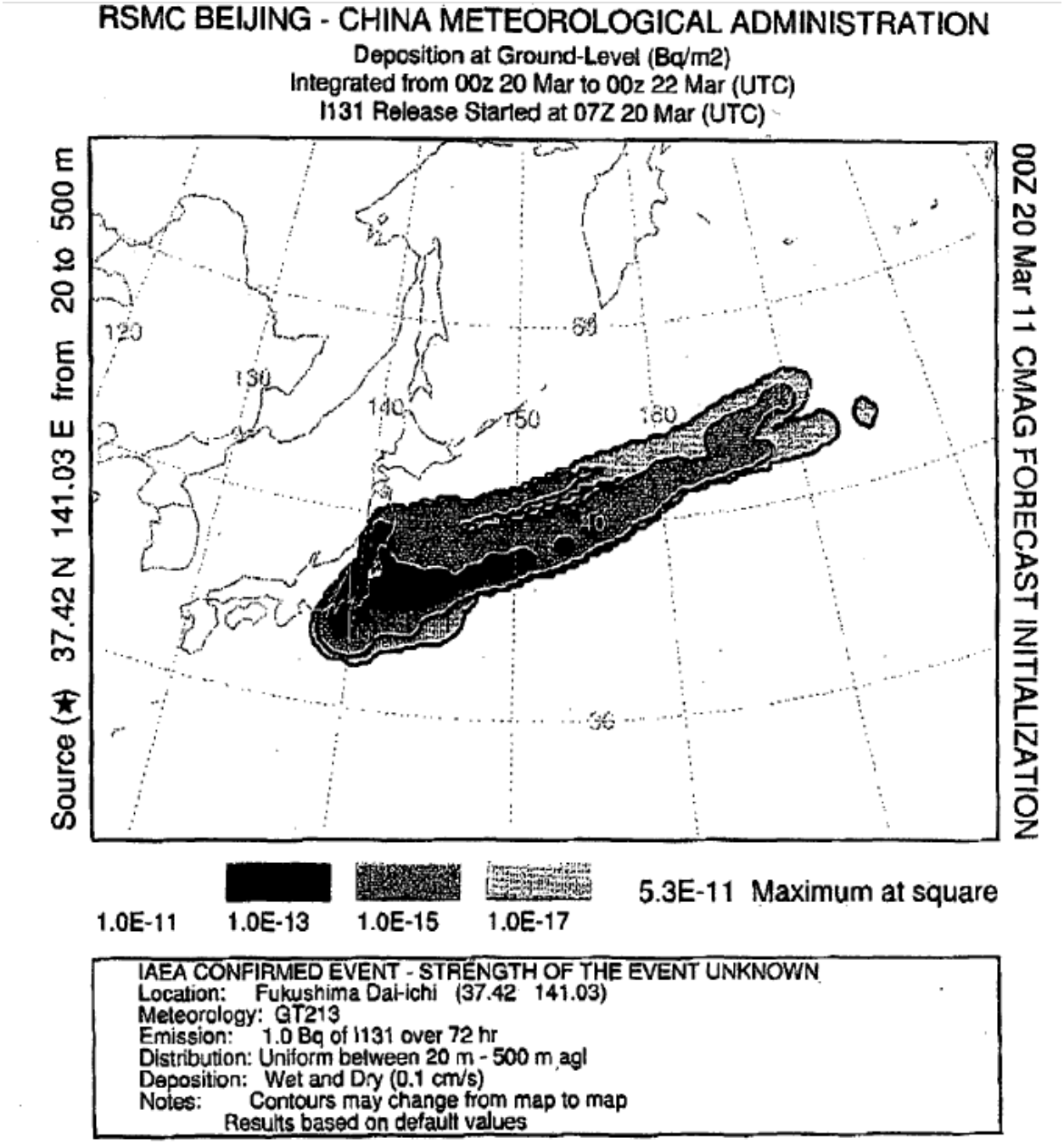
(below) From the NRC FOIA documents: (2 in a series of 4) modeling from March 20th-21st, 2011 of I-131



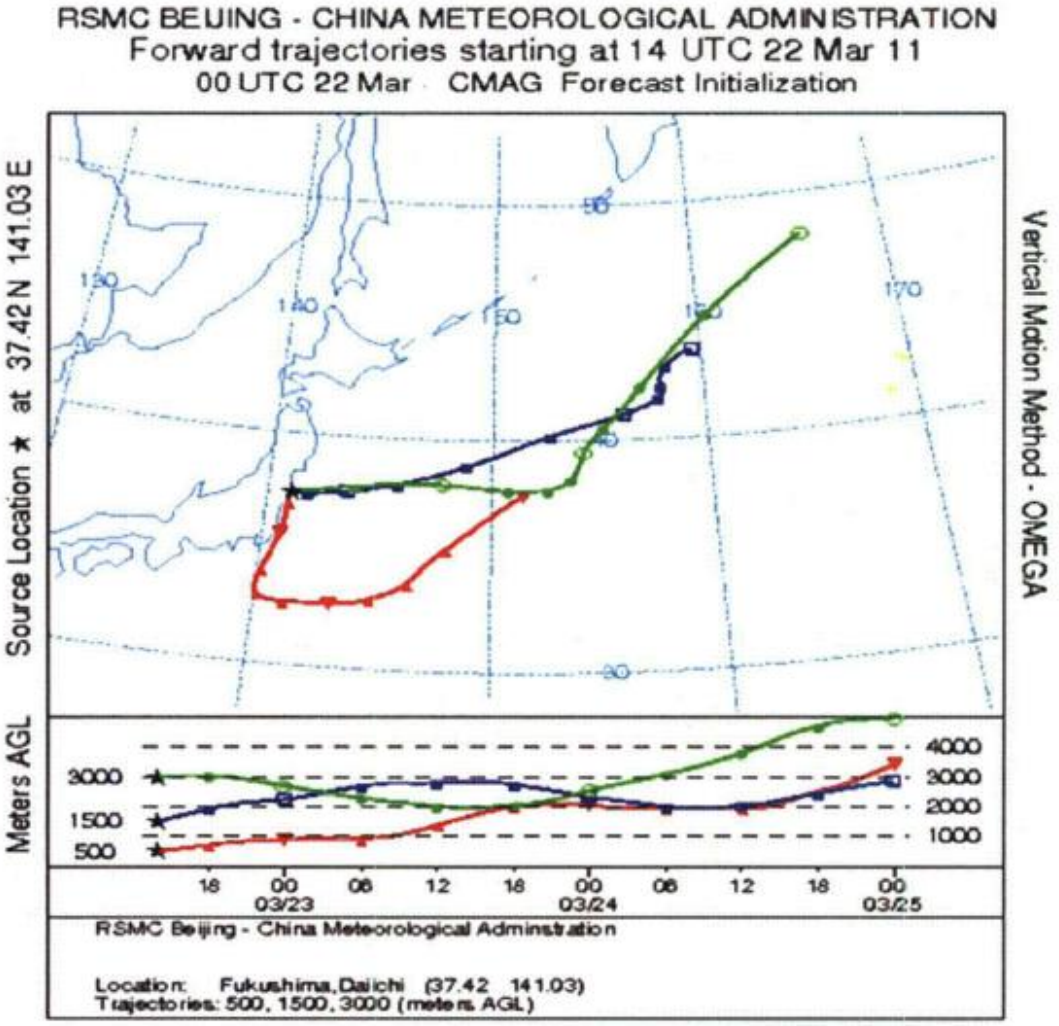
(below) From the NRC FOIA documents: (3 in a series of 4) modeling from March 21st-22nd, 2011 of I-131



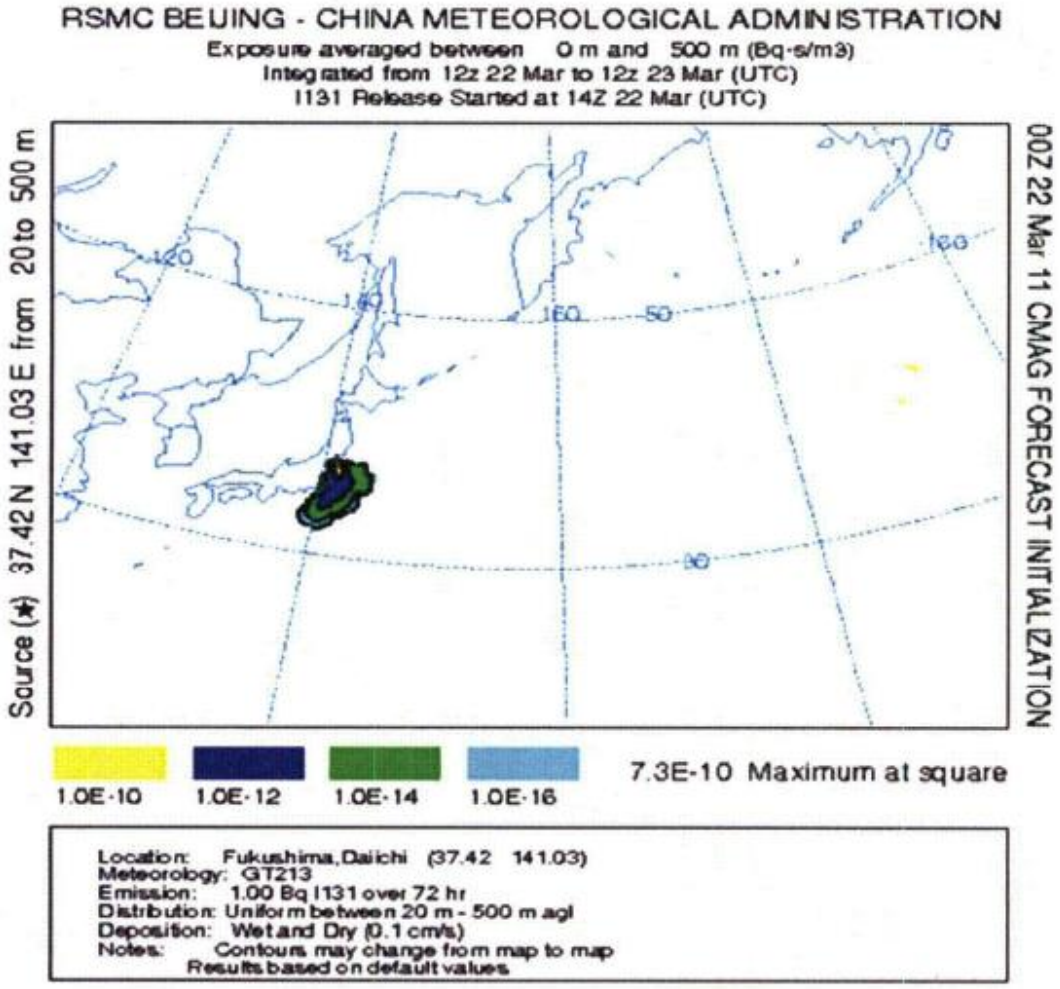
(below) From the NRC FOIA documents: (4 in a series of 4) modeling from March 20th-22nd, 2011 of I-131



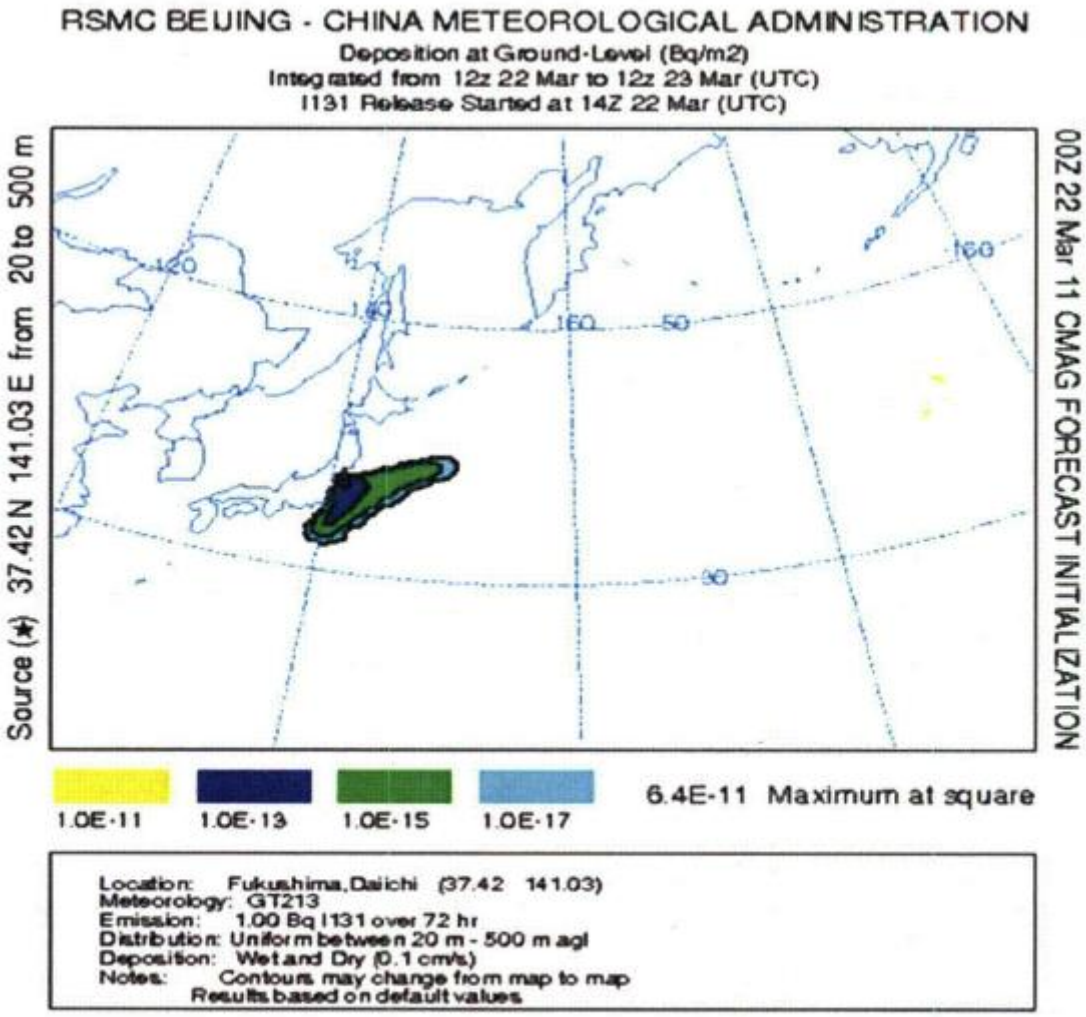
(below) From the NRC FOIA documents: (1 in a series of 6) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-25th, 2011)



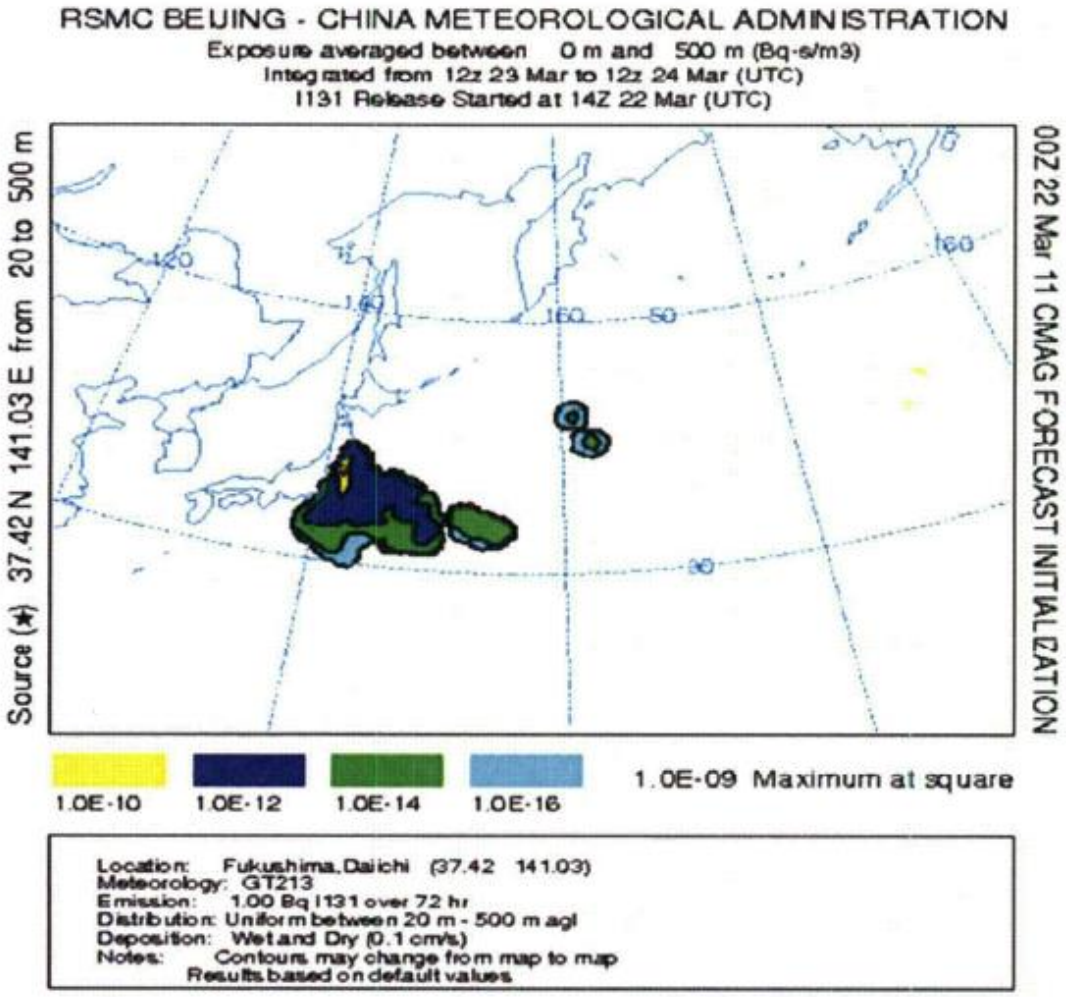
(below) From the NRC FOIA documents: (2 in a series of 6) modeling from March 20th-22nd, 2011 for I-131



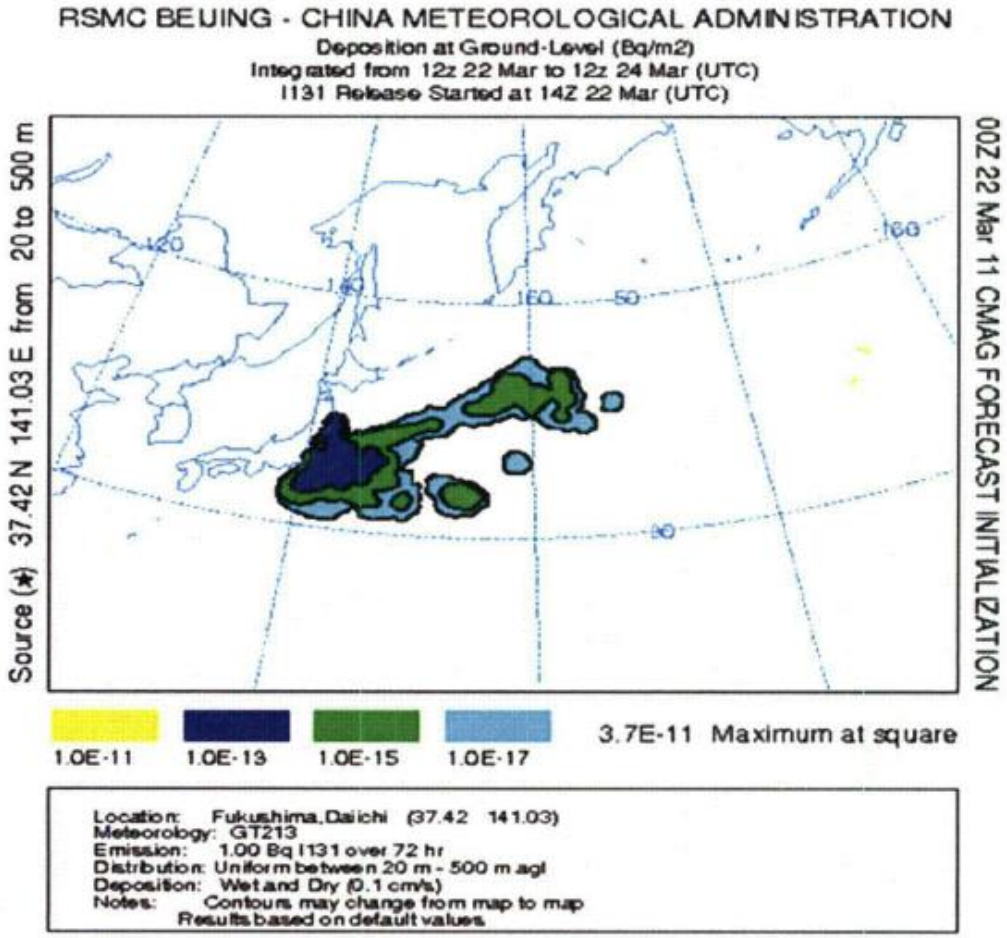
(below) From the NRC FOIA documents: (3 in a series of 6) modeling from March 20th-22nd, 2011 for I-131



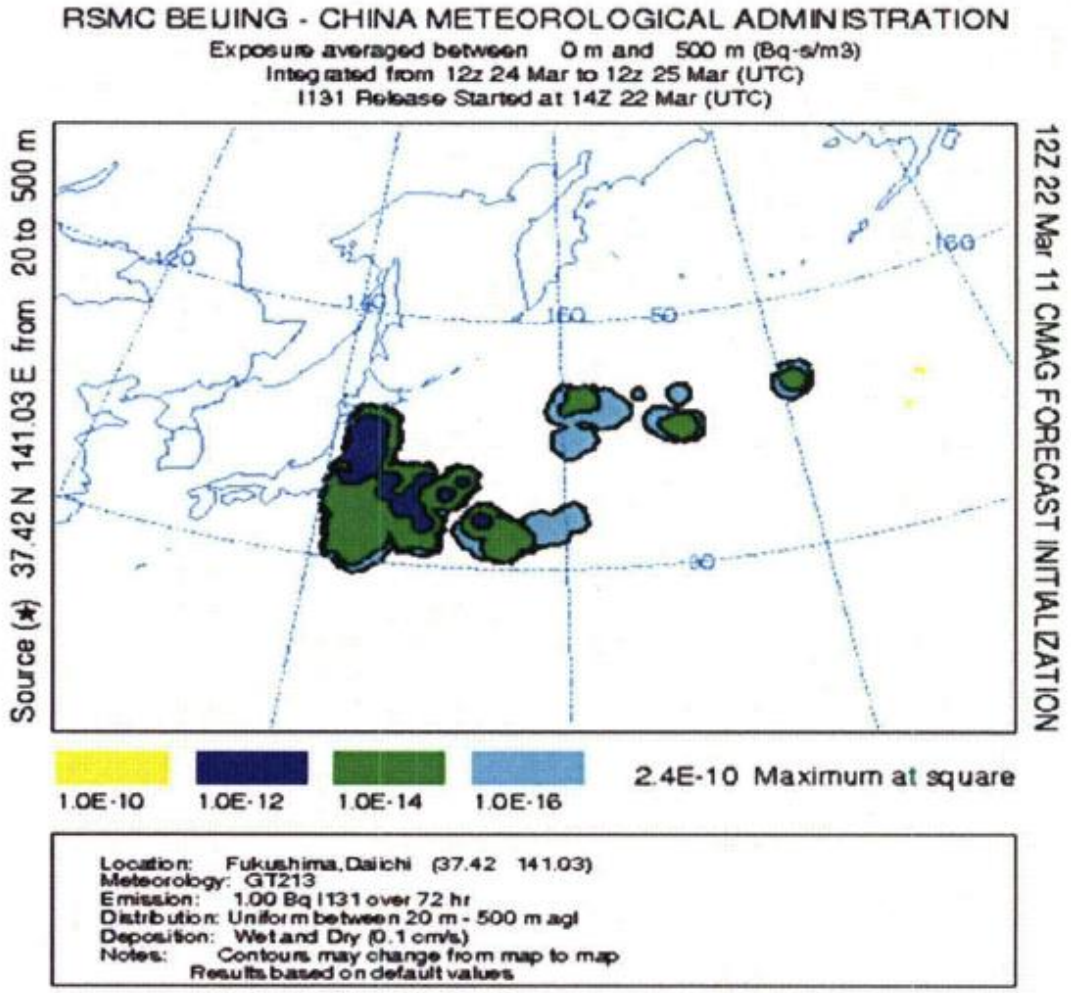
(below) From the NRC FOIA documents: (4 in a series of 6) modeling from March 20th-22nd, 2011 for I-131



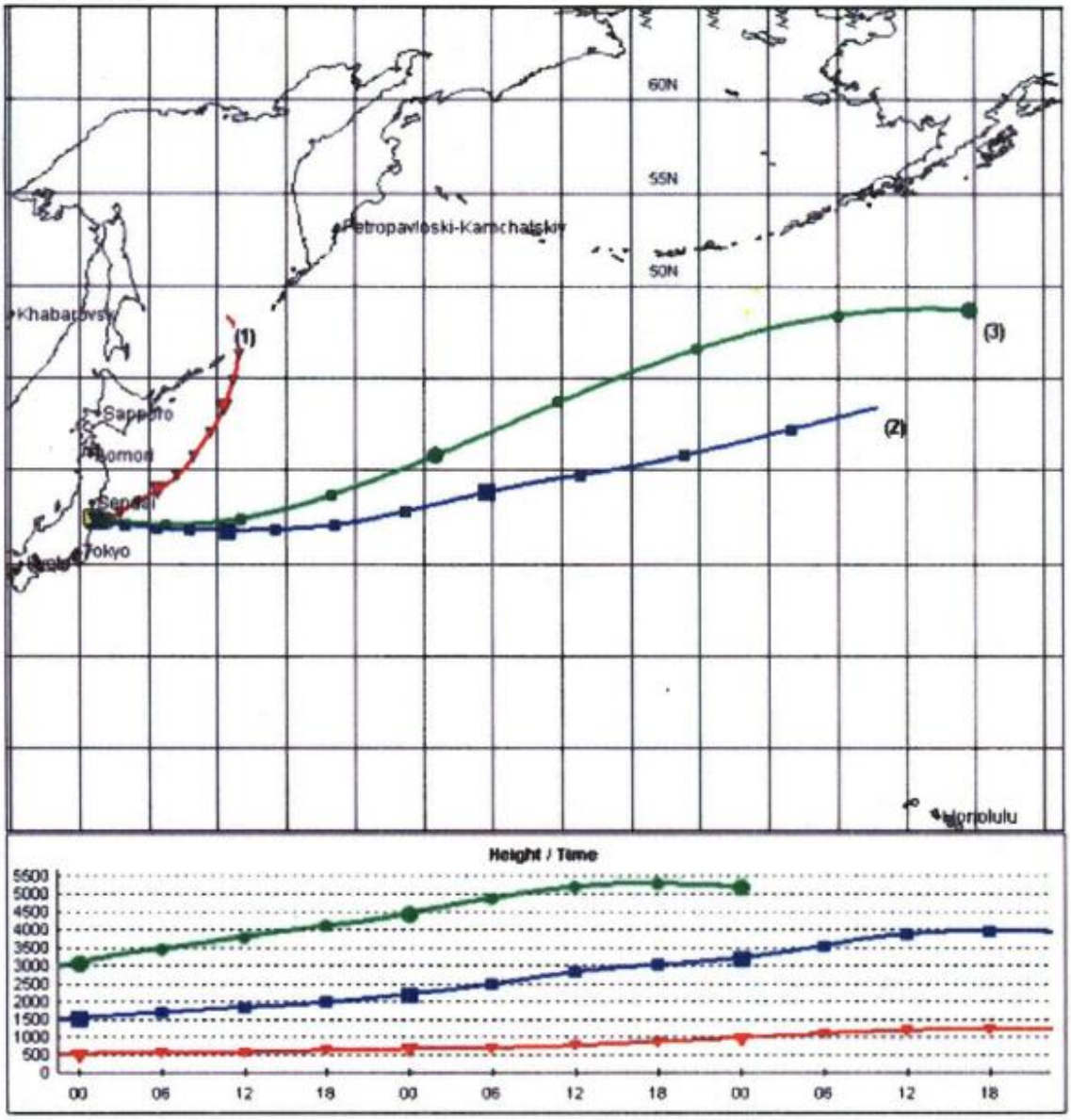
(below) From the NRC FOIA documents: (5 in a series of 6) modeling from March 20th-22nd, 2011 for I-131



(below) From the NRC FOIA documents: (6 in a series of 6) modeling from March 20th-22nd, 2011 for I-131



(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-26th, 2011)



Levels (1) 500 m (2) 1500 m (3) 3000 m

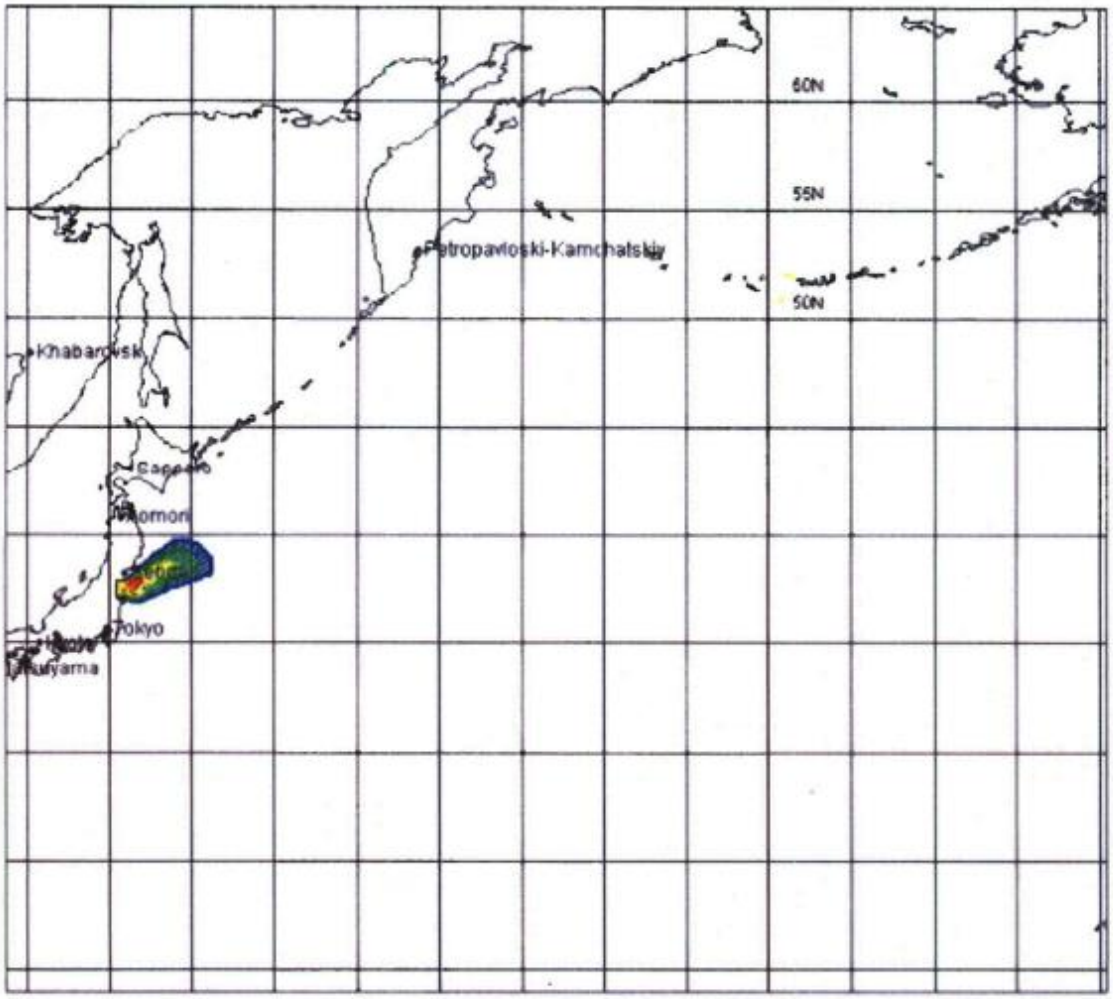
Date of release: 23 Mar 2011, 22:30 UTC

Source location: 141 03° E, 37 42° N

(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 23rd-24th, 2011

Time integrated surface to 500m layer concentrations

from 23 Mar 2011, 22:30 to 24 Mar 2011, 22:30 UTC



Contours: 1e-09 1e-10 1e-11 1e-12

Maximum value: 6.9e-09 Bq*s/m3

Date of release: 23 Mar 2011, 22:30 UTC

Duration: 72:00

Source location: 141.03° E, 37.42° N

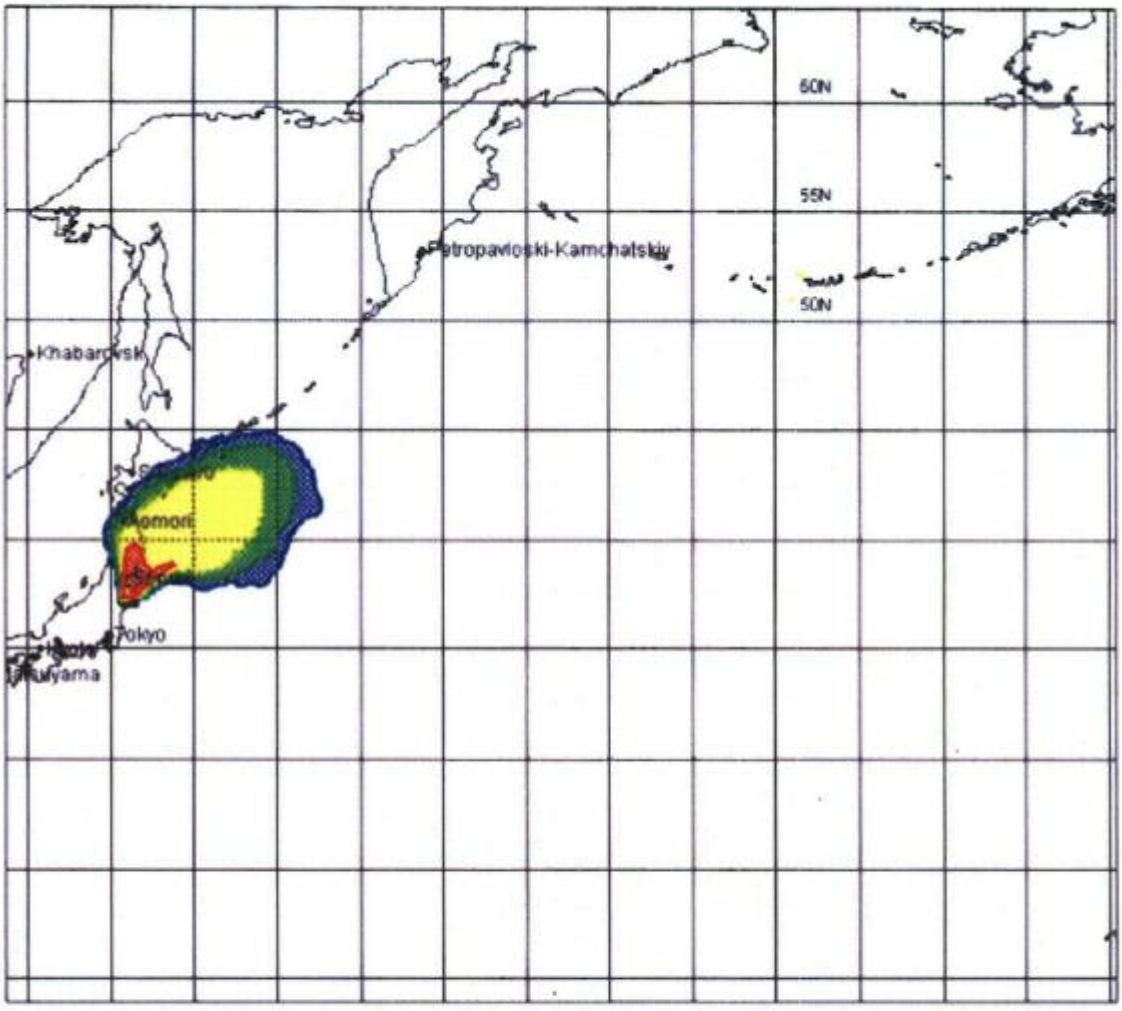
Vert. distribution: uniform 20-500 m

Total release: 1 Bq of I-131

(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 24th-25th, 2011

Time integrated surface to 500m layer concentrations

from 24 Mar 2011, 22:30 to 25 Mar 2011, 22:30 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value 3.0e-09 Bq*s/m3

Date of release 23 Mar 2011, 22:30 UTC

Source location 141.03° E, 37.42° N

Total release 1 Bq of I-131

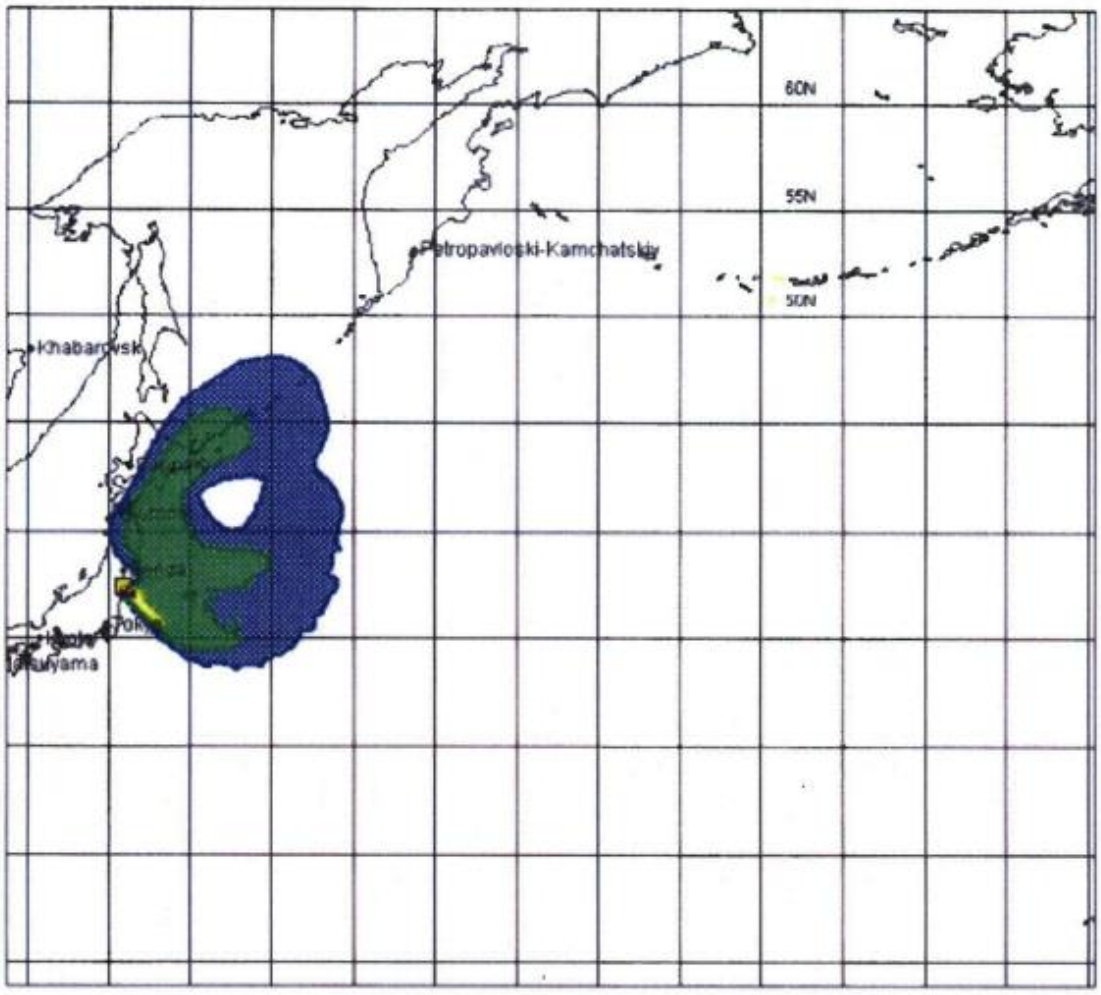
Duration 72:00

Vert. distribution uniform 20-500 m

(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 25th-26th, 2011

Time integrated surface to 500m layer concentrations

from 25 Mar 2011, 22:30 to 26 Mar 2011, 22:30 UTC



Contours: 1e-09 1e-10 1e-11 1e-12

Maximum value 7.5e-09 Bq*s/m3

Date of release 23 Mar 2011, 22:30 UTC

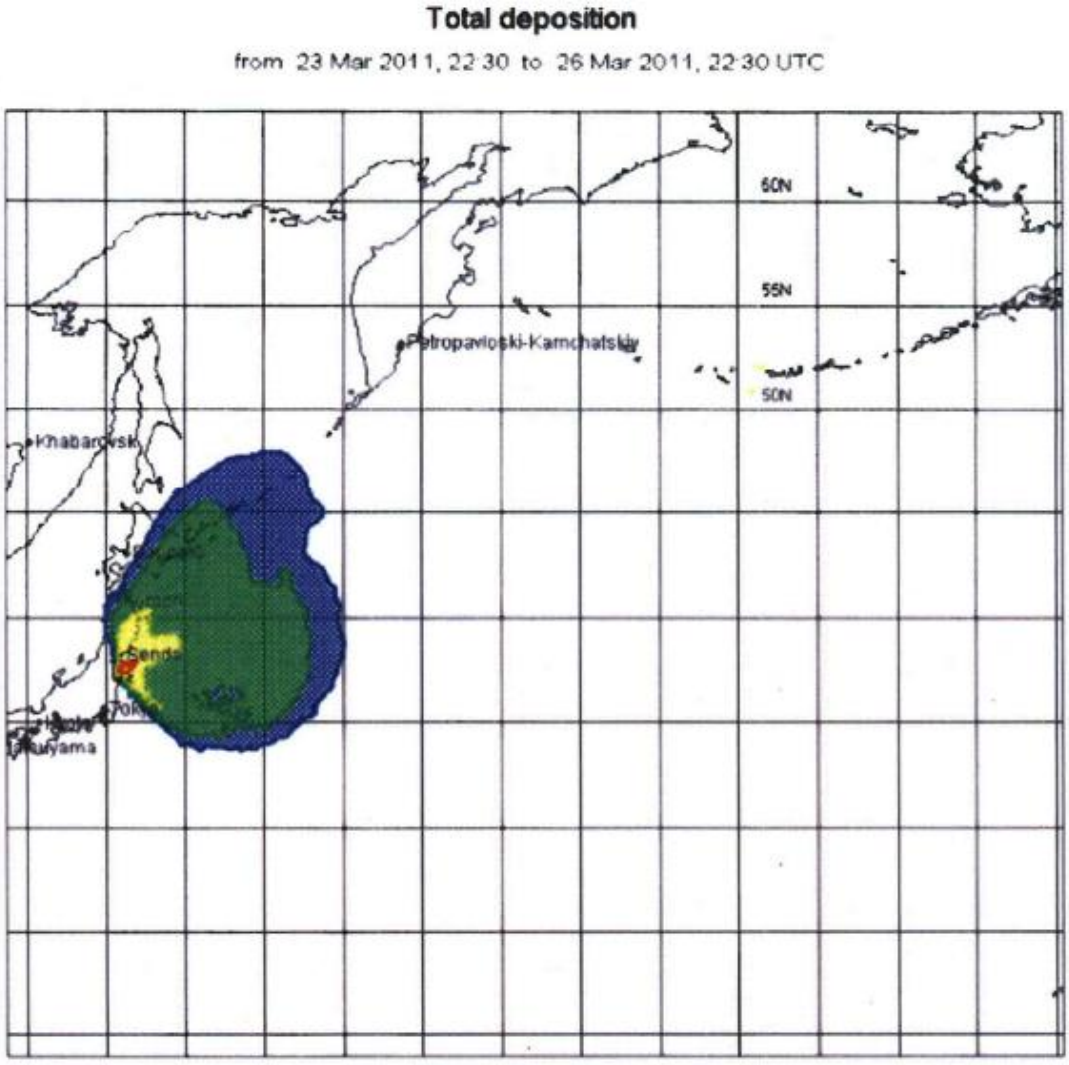
Source location 141.03° E, 37.42° N

Total release 1 Bq of I-131

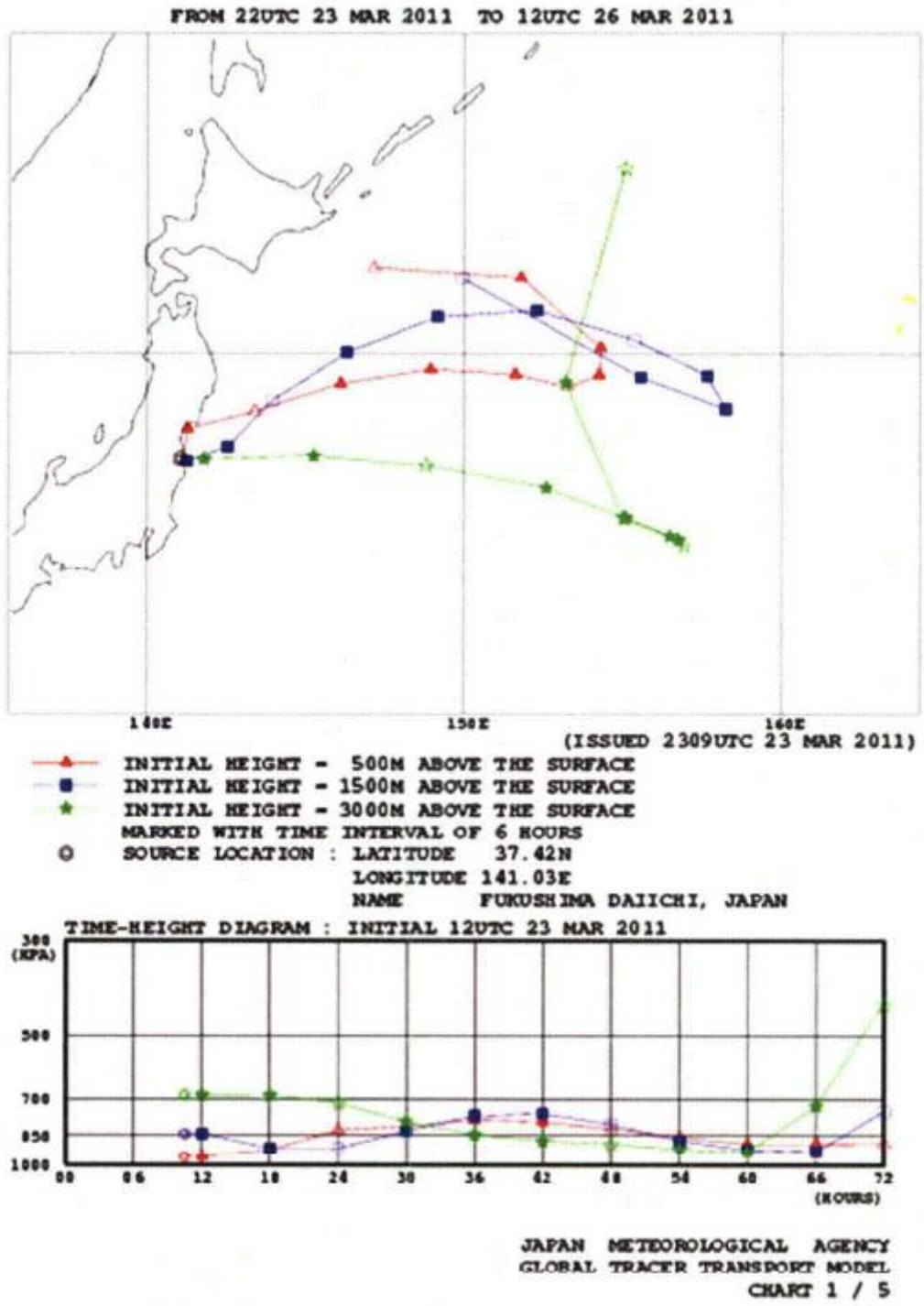
Duration 72:00

Vert. distribution uniform 20-500 m

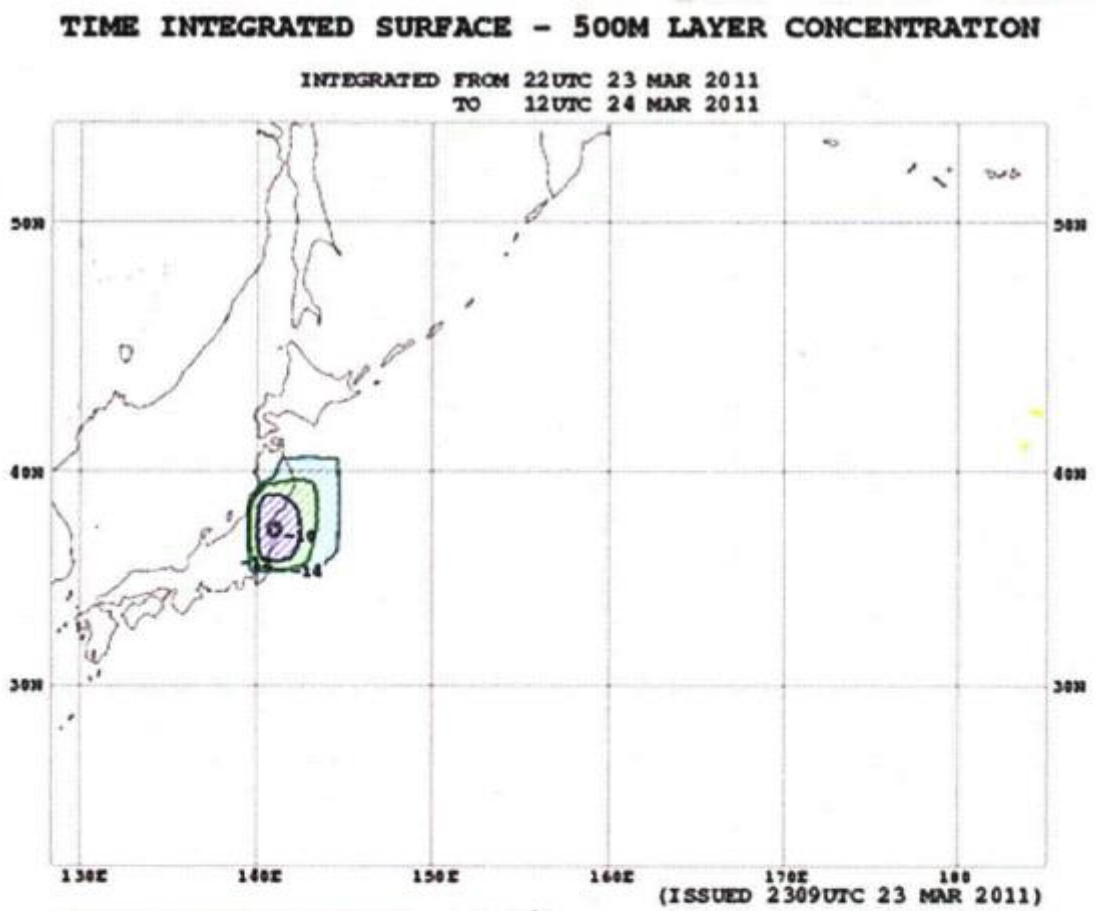
(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 23th-26th, 2011



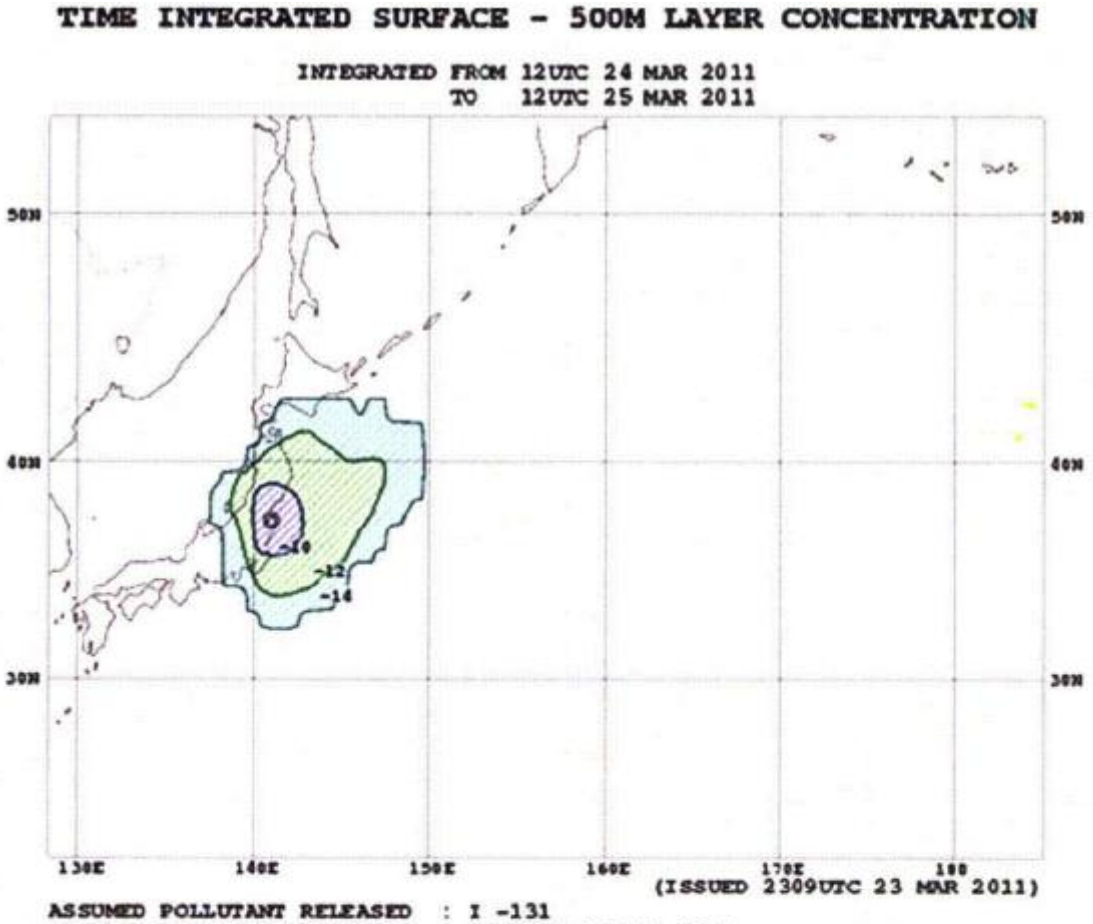
(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 23rd-26th, 2011)



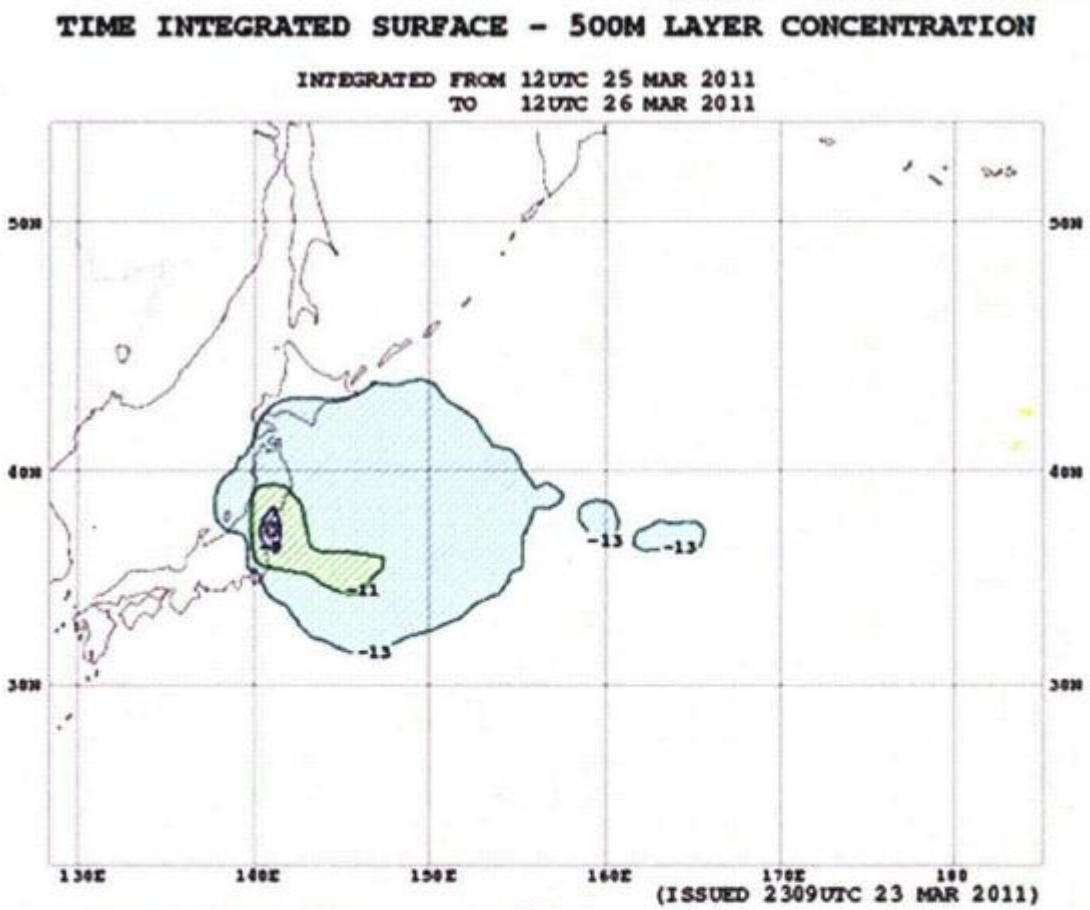
(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 22nd-24th, 2011 of I-131



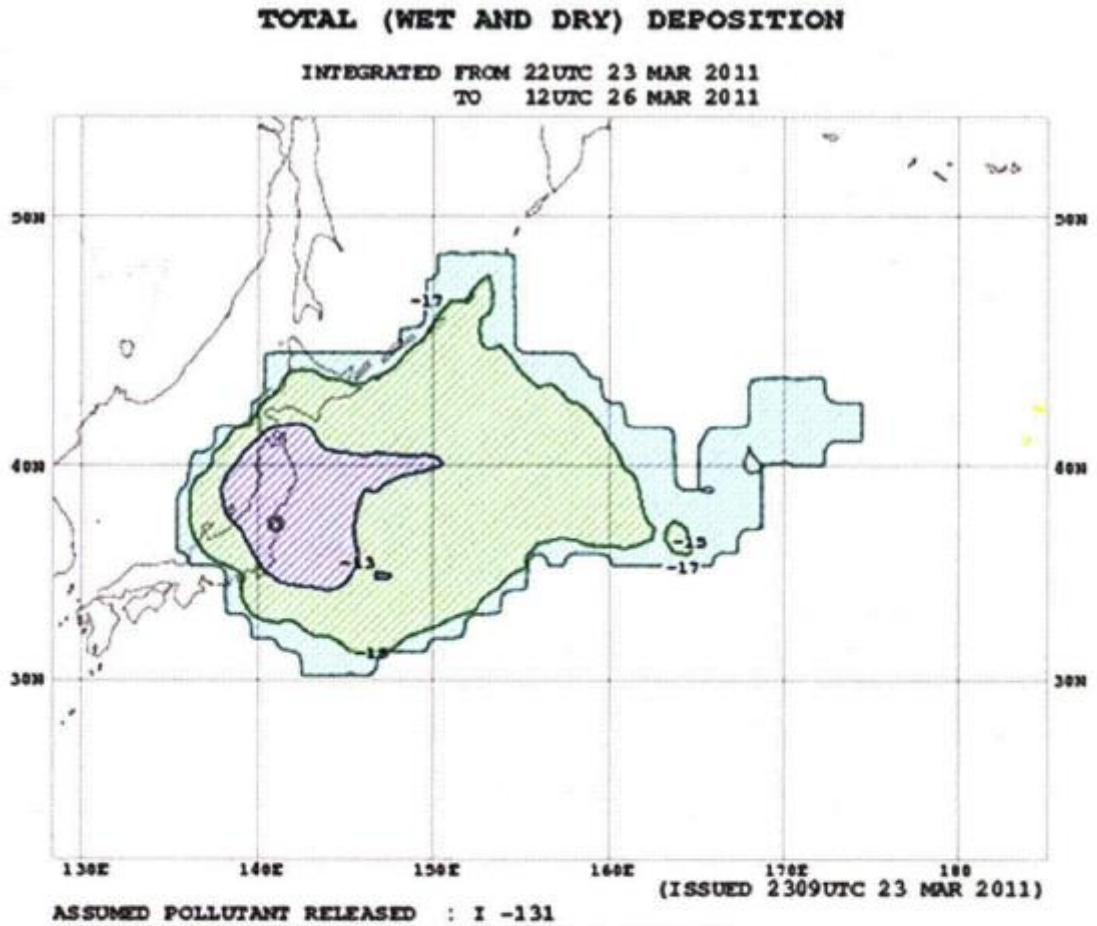
(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 24th-25th, 2011 of I-131



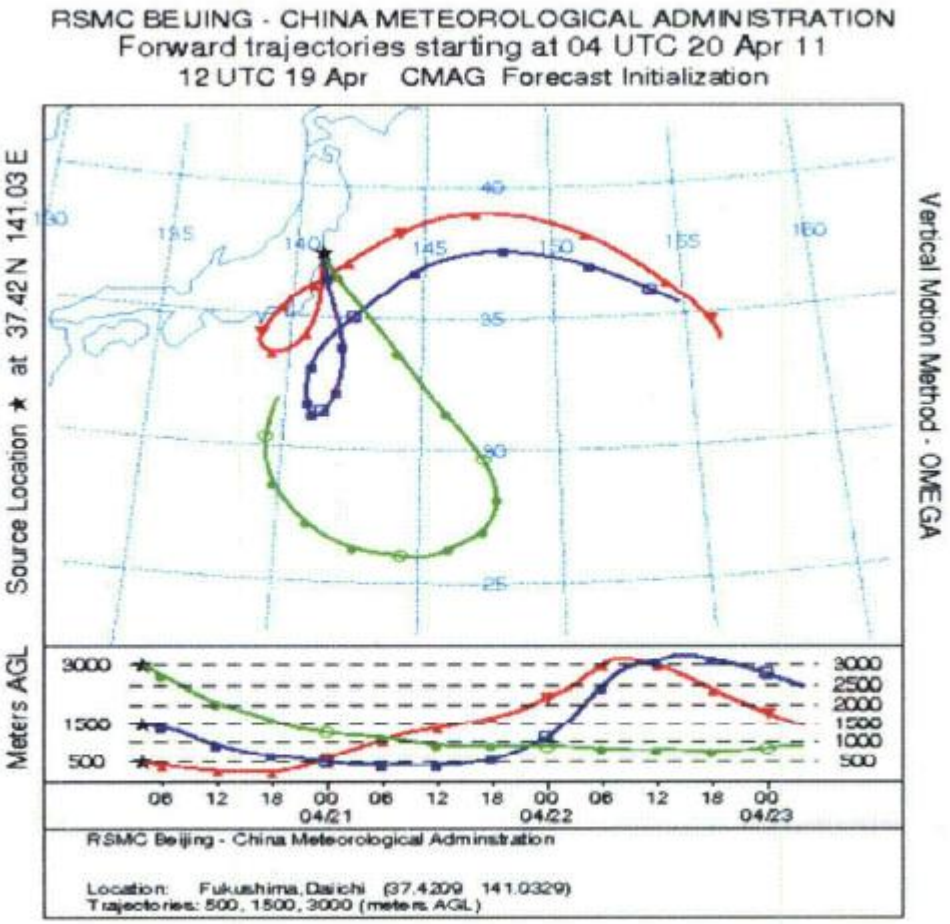
(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 25th-26th, 2011 of I-131



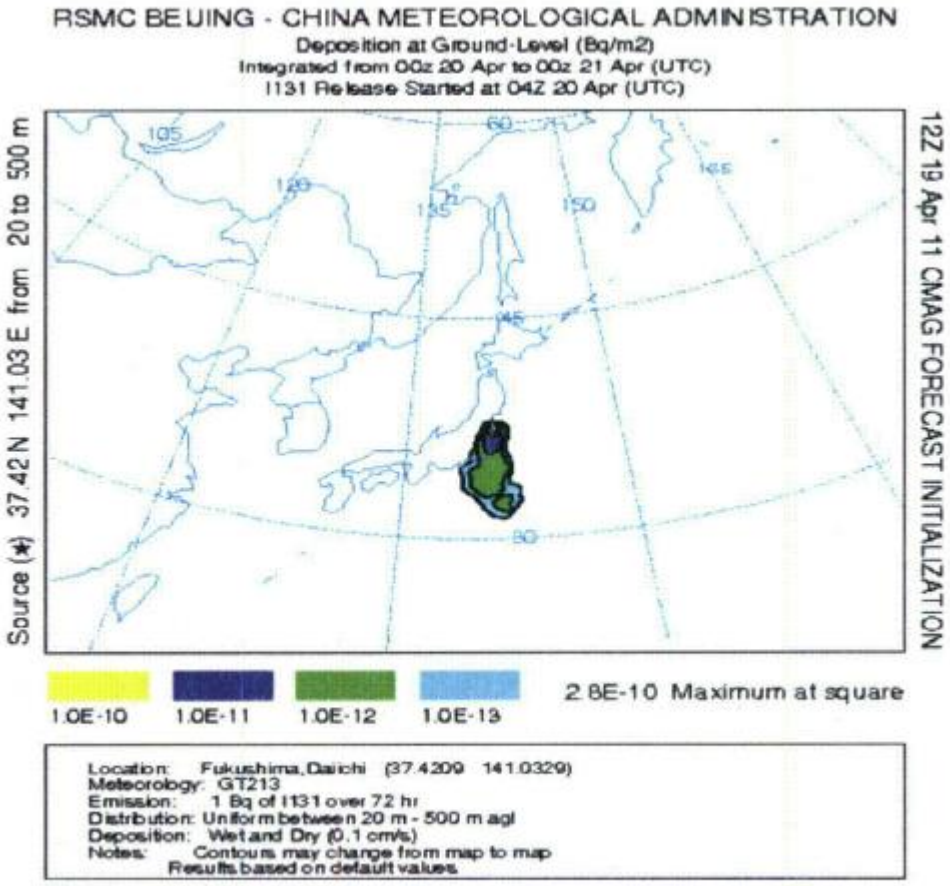
(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 22nd-23rd, 2011 total wet and dry deposition



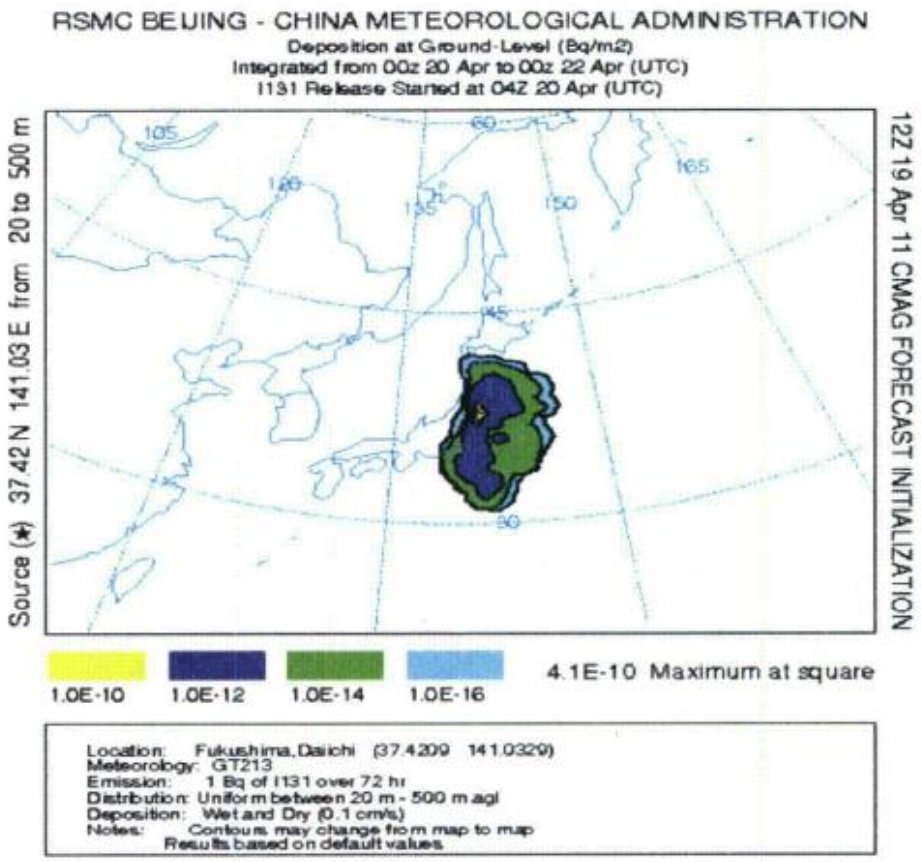
(below) From the NRC FOIA documents: (1 in a series of 4) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011)



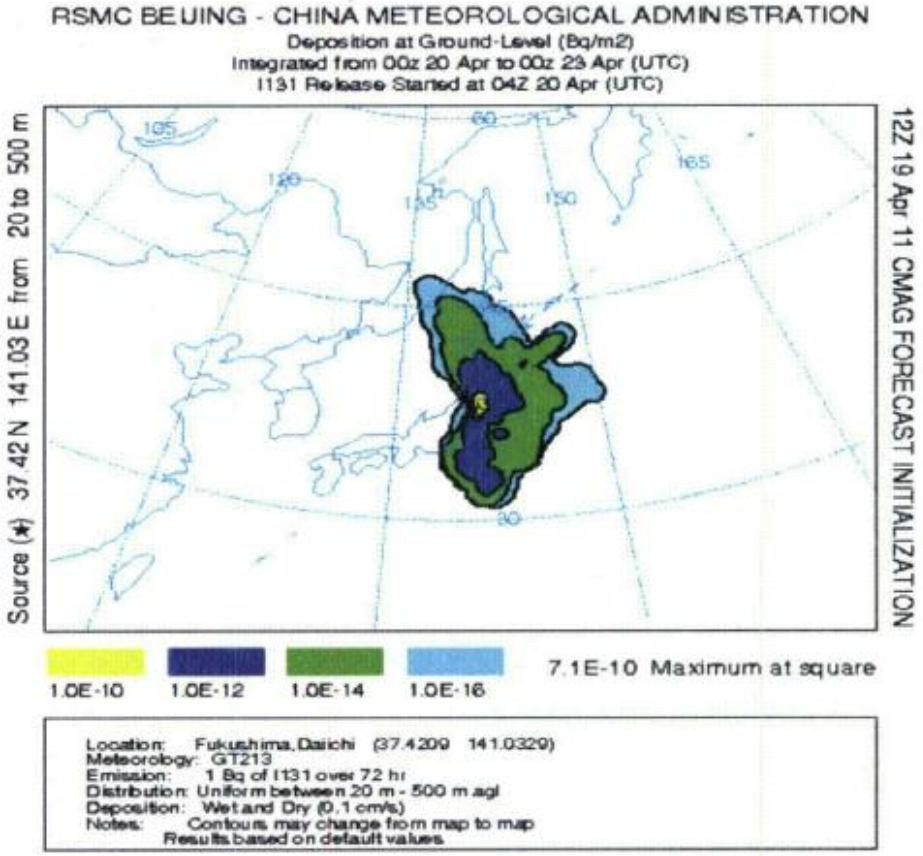
(below) From the NRC FOIA documents: (2 in a series of 4) modeling from March 20th-21st, 2011



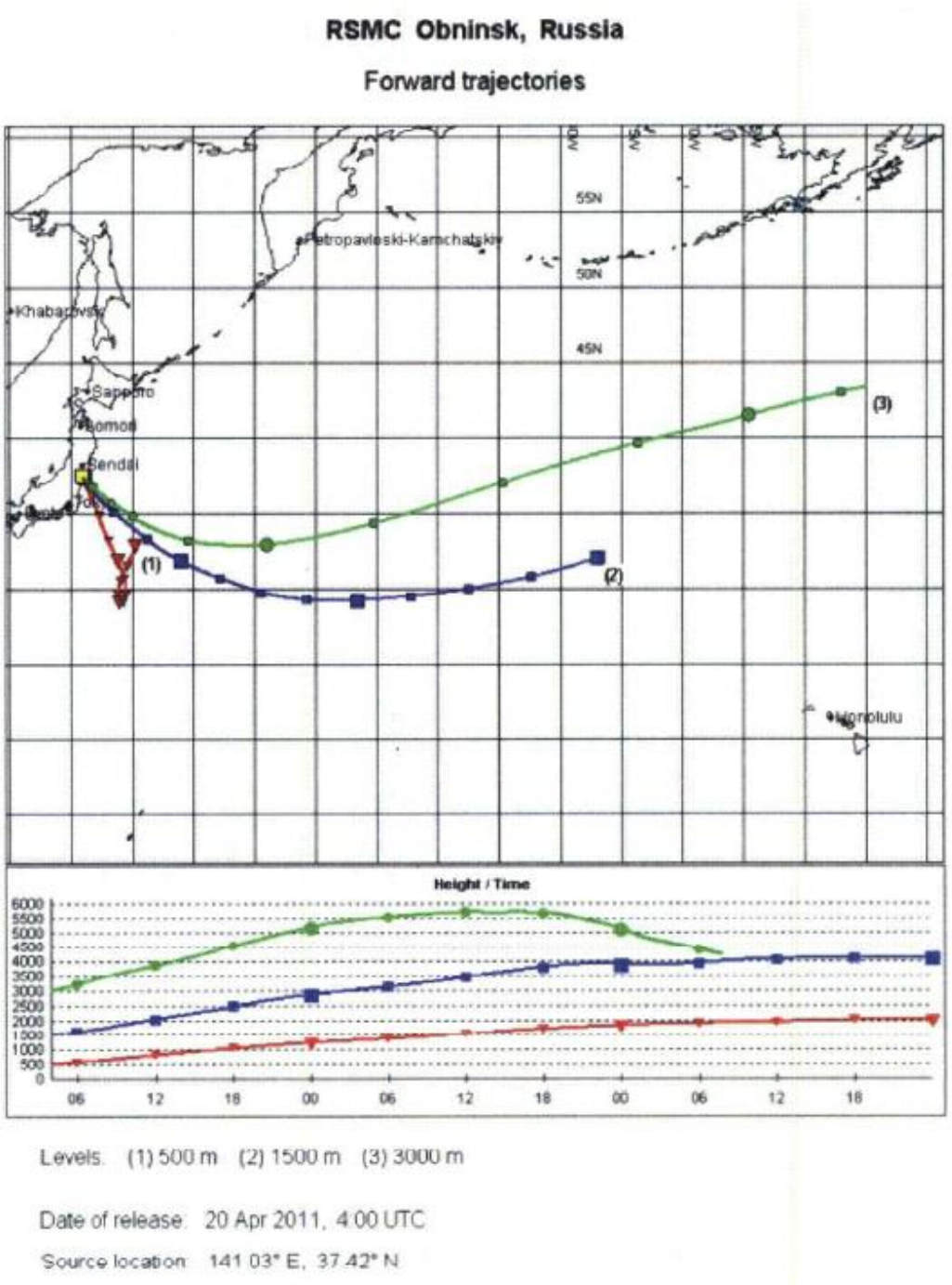
(below) From the NRC FOIA documents: (3 in a series of 4) modeling from March 20th-22nd, 2011



(below) From the NRC FOIA documents: (4 in a series of 4) modeling from March 20th-23rd, 2011 total wet and dry deposition



(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011)

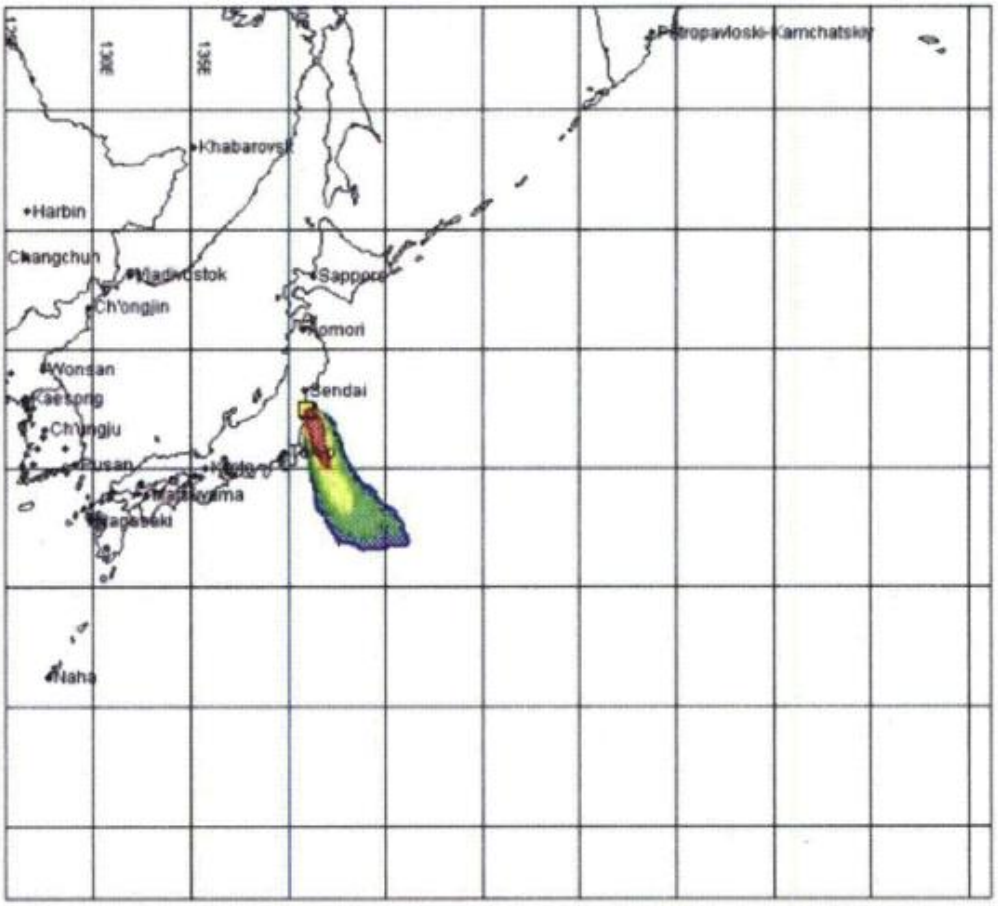


(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 20th-21st, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 20 Apr 2011, 00:00 to 21 Apr 2011, 00:00 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value: 2.4e-09 Bq*s/m3

Date of release: 20 Apr 2011, 4:00 UTC

Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

Duration: 72:00

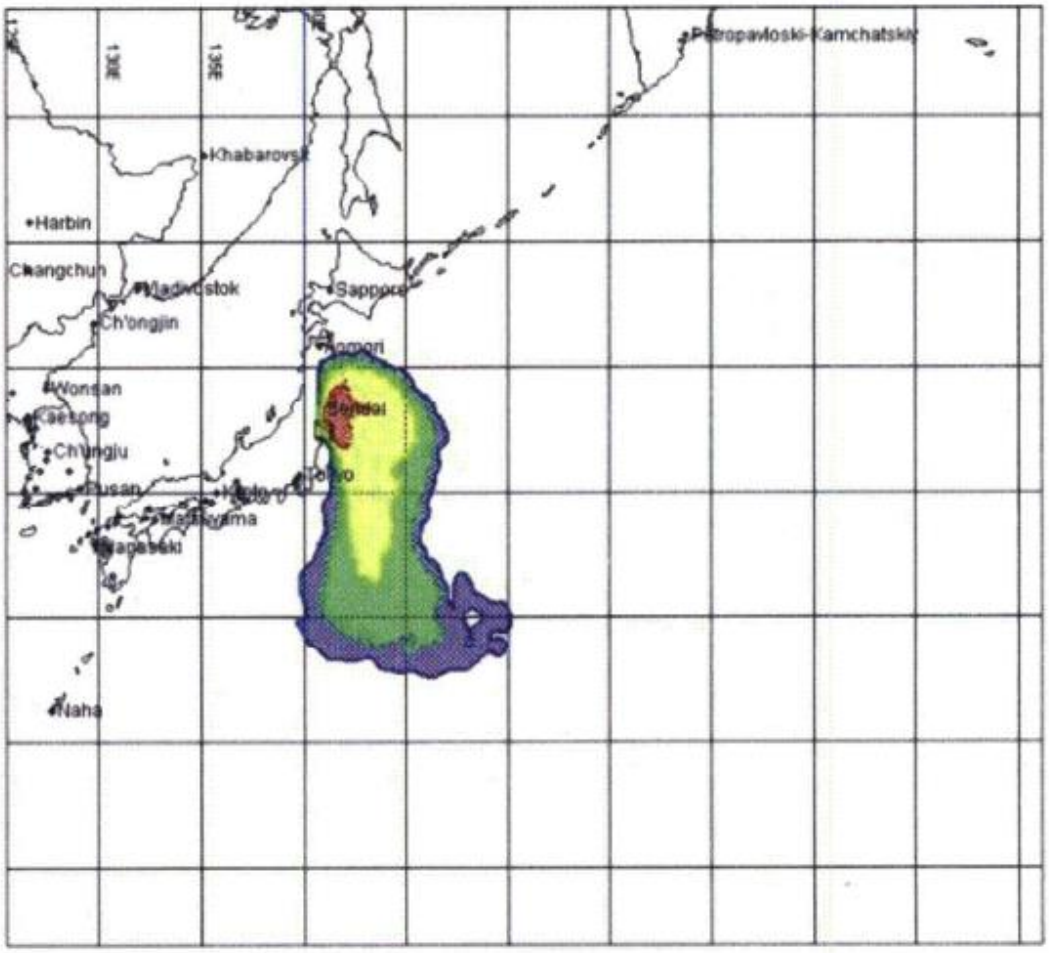
Vert. distribution: uniform 20-500 m

(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 21st-22nd, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 21 Apr 2011, 00:00 to 22 Apr 2011, 00:00 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value: 2.8e-09 Bq*s/m3

Date of release: 20 Apr 2011, 4:00 UTC

Duration: 72:00

Source location: 141.03° E, 37.42° N

Vert. distribution: uniform 20-500 m

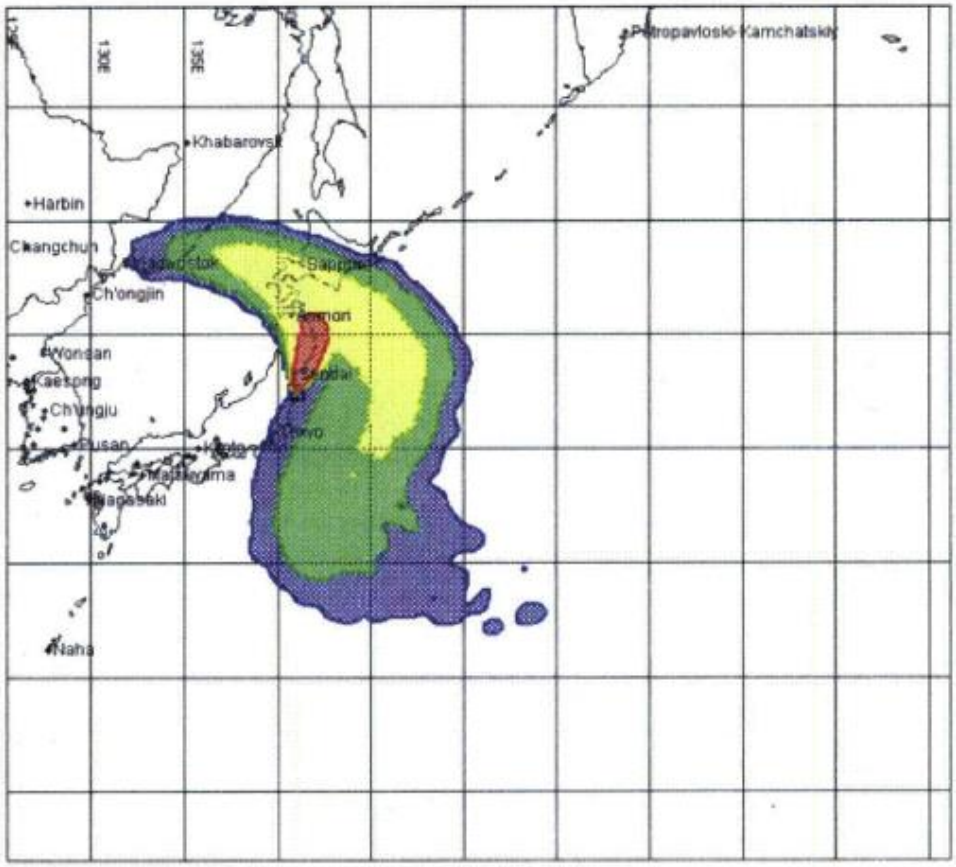
Total release: 1 Bq of I-131

(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 22nd-23rd, 2011

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 22 Apr 2011, 00:00 to 23 Apr 2011, 00:00 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value: 6.9e-10 Bq*s/m3

Date of release: 20 Apr 2011, 4:00 UTC

Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

Duration: 72:00

Vert. distribution: uniform 20-500 m

Contour values may change from chart to chart

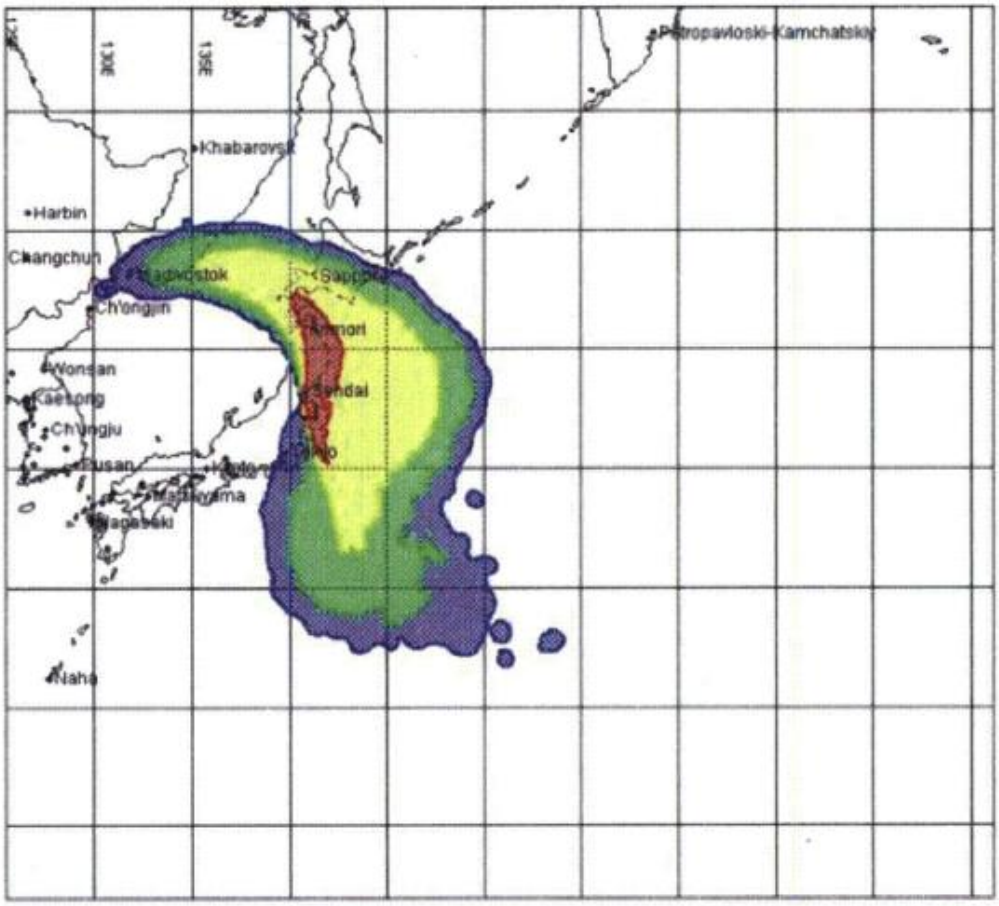
Results based on default initial values

(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 20th-23rd, 2011

RSMC Obninsk, Russia

Total deposition

from 20 Apr 2011, 00:00 to 23 Apr 2011, 00:00 UTC



Contours: 1e-12 1e-13 1e-14 1e-15

Maximum value: 2.4e-11 Bq/m2

Date of release: 20 Apr 2011, 4:00 UTC

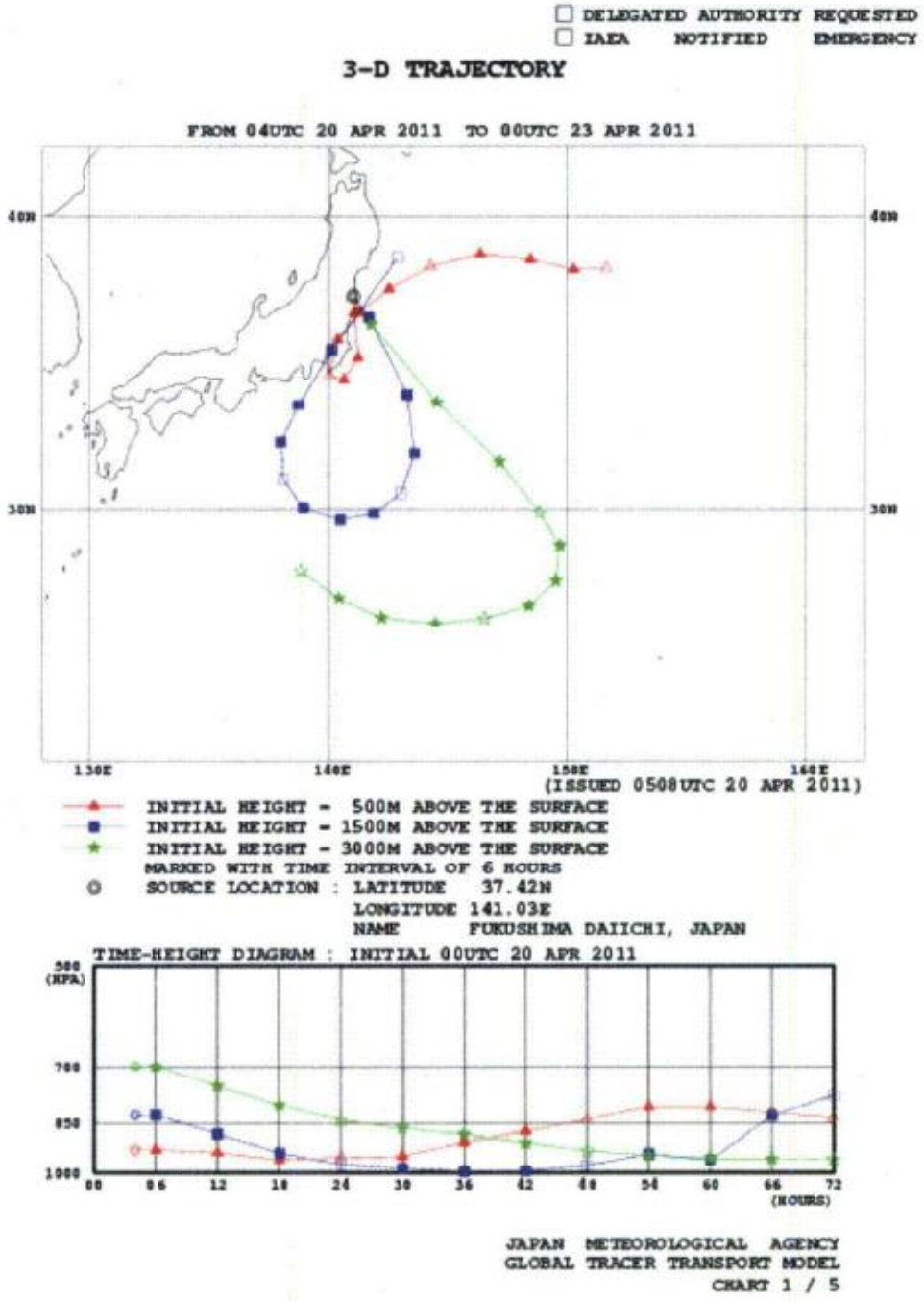
Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

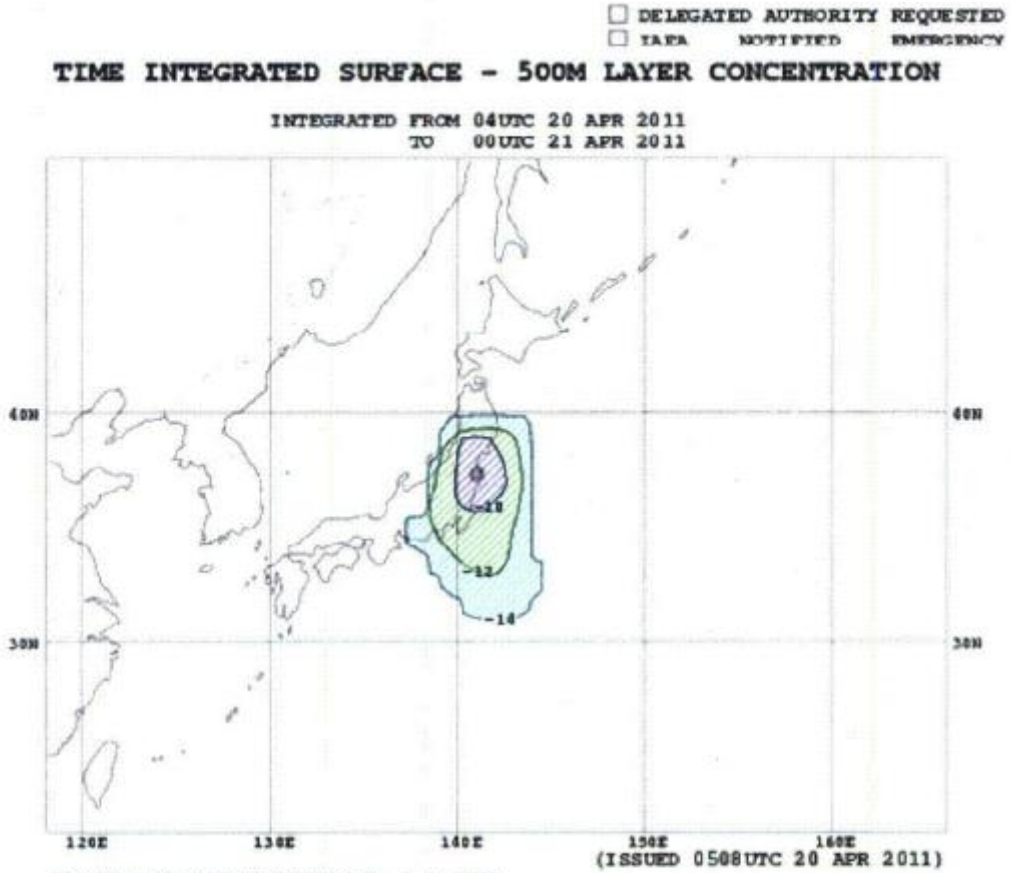
Duration: 72:00

Vert. distribution: uniform 20-500 m

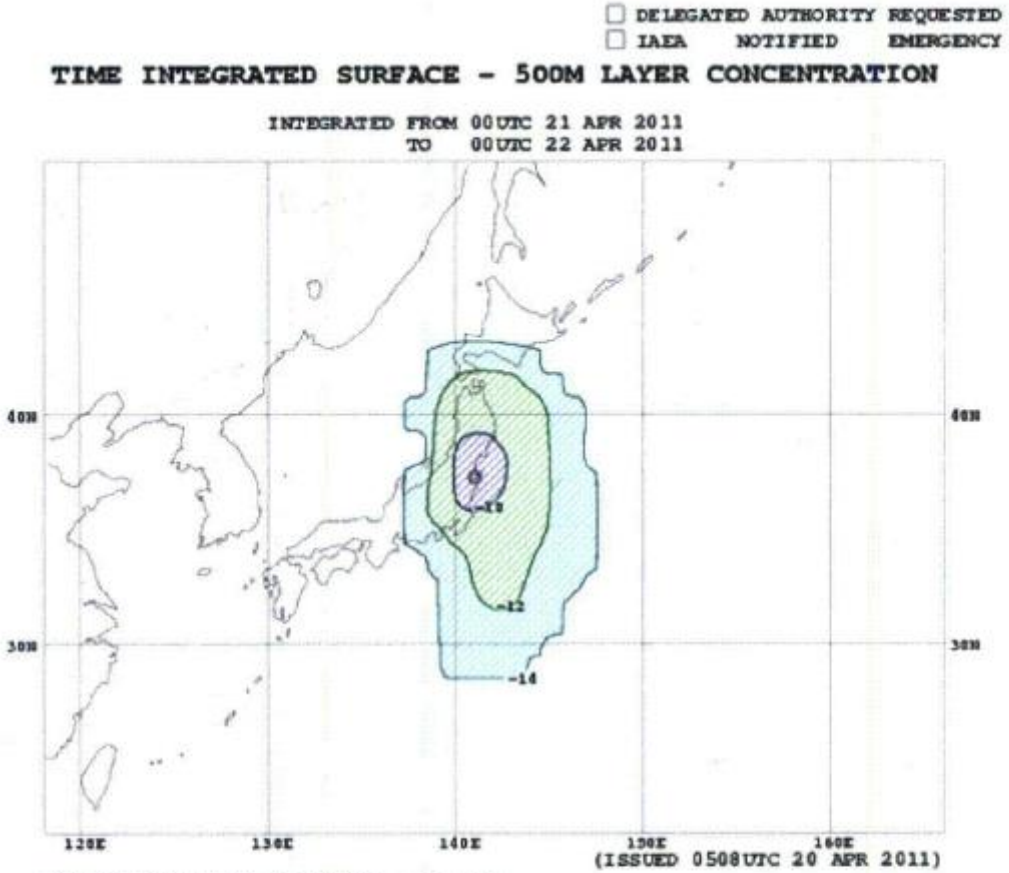
(below) From the NRC FOIA documents: (1 in a series of 5) trajectories of potential release by height (500, 1500 and 3000 meters) and time (March 20th-23rd, 2011)



(below) From the NRC FOIA documents: (2 in a series of 5) modeling from March 20th-21st, 2011



(below) From the NRC FOIA documents: (3 in a series of 5) modeling from March 21st-22nd, 2011 of I-131

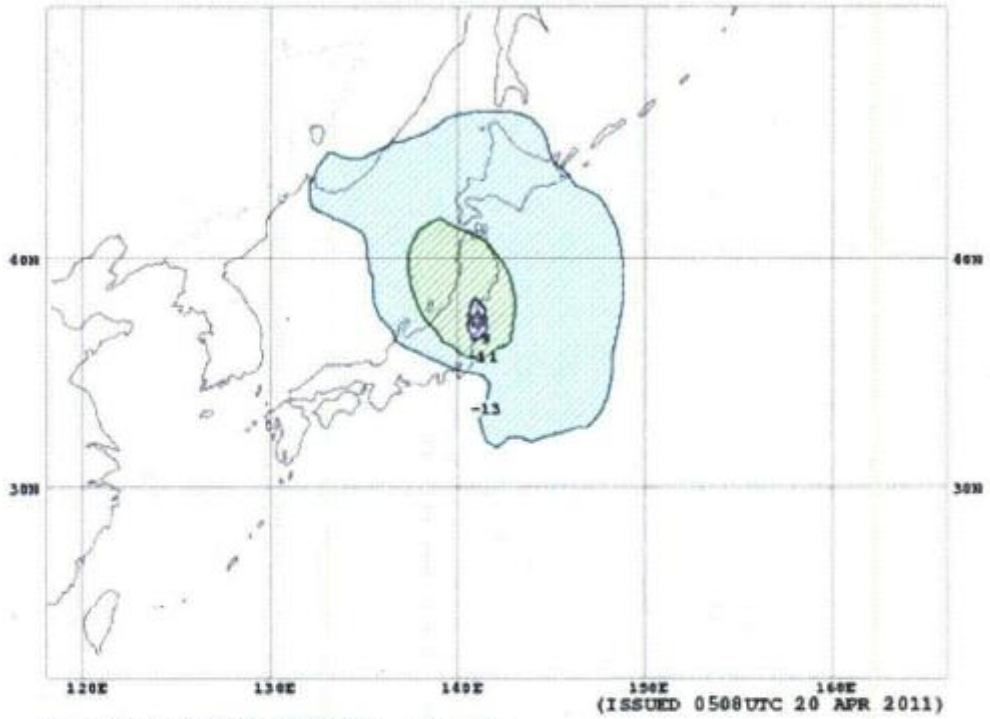


(below) From the NRC FOIA documents: (4 in a series of 5) modeling from March 22nd-23rd, 2011 of I-131

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 00UTC 22 APR 2011
TO 00UTC 23 APR 2011



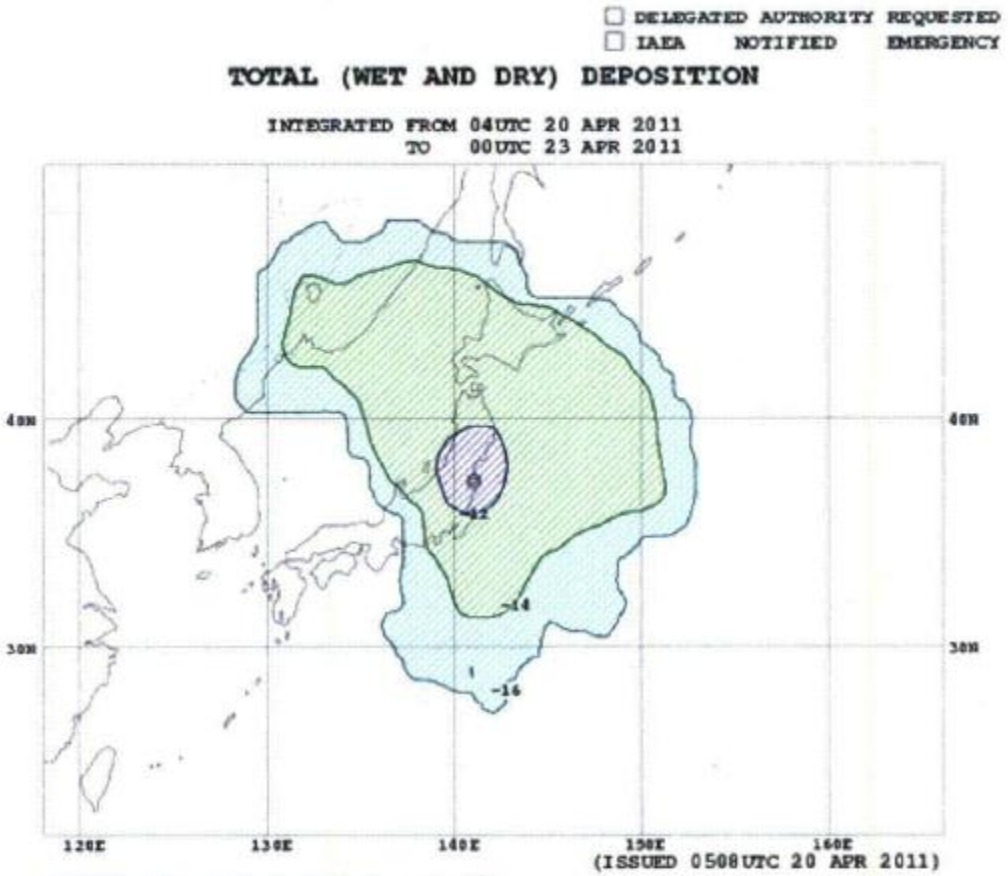
(ISSUED 0508UTC 20 APR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0400UTC 20 APR 2011
END OF THE EMISSION : 0400UTC 23 APR 2011
◎ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI, JAPAN
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 1.89E-9 (BQ.S/M3)
CONTOURS: 1E-9, 1E-11, 1E-13

CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 4 / 5

(below) From the NRC FOIA documents: (5 in a series of 5) modeling from March 20th-23rd, 2011 of I-131 total wet and dry deposition



Chapter 14

Tokyo

It is important to remember that the plumes from Fukushima contained more than just I-131 and Cs-137. Plutonium, in aerosolized form, was also carried aloft in the repeated plumes that were emitted in the months following the disaster. Part of the Plume-Gate cover-up is designed to convince the world that Tokyo was largely unaffected by fallout from Fukushima. Nothing could be further from the truth.

(below) From the NRC FOIA documents: cover page for a March 20th, 2011 transcription of teleconference calls that reveal Tokyo suffered exposure to repeated plumes from the Fukushima Nuclear Power Plant catastrophe.

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Japan's Fukushima Daiichi ET Audio File

Docket Number: (n/a)

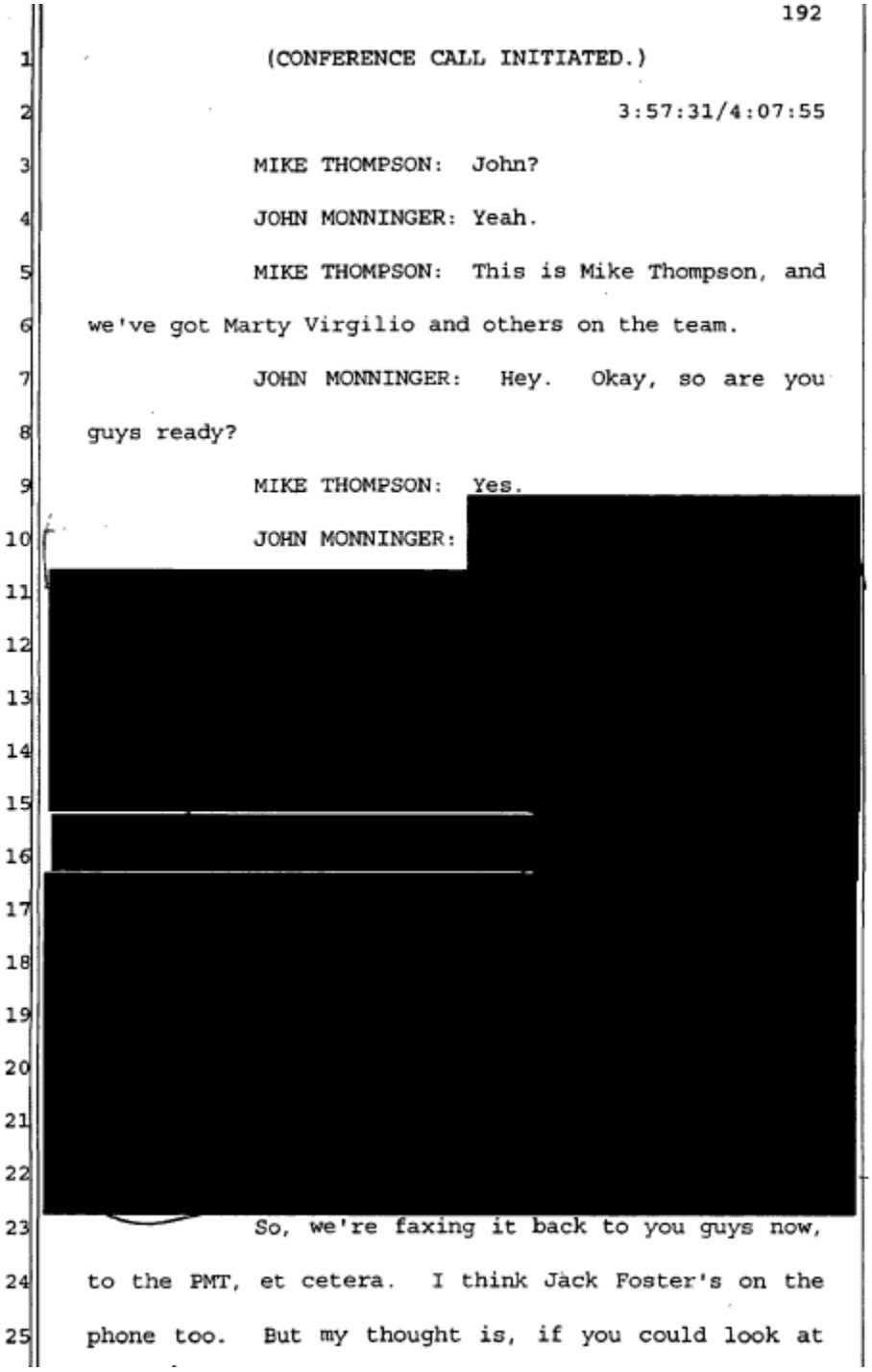
Location: (telephone conference)

Date: Sunday, March 20, 2011

Work Order No.: NRC-944 Pages 1-201

NEAL R. GROSS AND CO., INC.
Court Reporters and Transcribers
1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

(below) From the NRC FOIA documents: heavy redaction begins a conference call where an unusually high 'zeolite cartridge' sample is questioned. NRC and Navy officials admit plumes traveled down the coast of Japan, onshore and across metropolitan Tokyo.



192

(CONFERENCE CALL INITIATED.)

3:57:31/4:07:55

MIKE THOMPSON: John?

JOHN MONNINGER: Yeah.

MIKE THOMPSON: This is Mike Thompson, and we've got Marty Virgilio and others on the team.

JOHN MONNINGER: Hey. Okay, so are you guys ready?

MIKE THOMPSON: Yes.

JOHN MONNINGER: [redacted]

So, we're faxing it back to you guys now, to the PMT, et cetera. I think Jack Foster's on the phone too. But my thought is, if you could look at

5

(below) From the NRC FOIA documents: NRC official John Monniger asks if Unit 3 (with MOX fuel) has been venting radiation. Measured plume maps from the NRC FOIA documents prove that Units 1-4 vented on and off well into the month of April, 2011.

it, try to understand somewhat what the heck it says, and then we get in touch with whatever Navy facility so that they get a good understanding.

[redacted]

5

You understand?

MARTY VIRGILIO: [redacted]

[redacted]

5

JIM WIGGINS: Have they been venting? We need to know. Unit 3.

JOHN MONNINGER: Well, yes. Okay, so I can definitely get to Tepco and get the venting. But, regardless of venting or not, you guys, you've got to try to engage the PMT, try to understand what the access stuff says with silver iodine equivalent. And we've got to get you guys in touch with the Navy to make sure people are talking apples to apples.

MARTY VIRGILIO: Agreed.

JOHN MONNINGER: But we will, you know, our recommendation if we got in there would have been

(below) From the NRC FOIA documents: proof that Navy and Naval Reactors were aware of the situation…

we received the information. We're engaging our experts back at headquarters. Once we have an understanding of that, we'll return to the Navy to make sure, you know, we're on the same page. So, but that's not -- you know.

MARTY VIRGILIO: Can we get our Naval Reactors folks in? Are they still out there?

(Off mic.)

JOHN MONNINGER: So our Naval --

JIM WIGGINS: No, we're talking internally.

MARTY VIRGILIO: Yeah, we've got NR folks that have been here around the clock. We can work them on this issue too.

JOHN MONNINGER: Okay.

MARTY VIRGILIO: Hang on just a second.

JOHN MONNINGER: All right.

MALE PARTICIPANT: You mentioned 150 millirem per hour.

JOHN MONNINGER: The -- are you ready? They took some samples, and the sample is in microcuries per milliliter, and they say that's the equivalent of 150 millirem per hour.

MARTY VIRGILIO: Okay, so it's an air sample and they converted into (inaudible) hour.

(below) From the NRC FOIA documents: NRC officials scramble to find out details of a very high radiation detection…

JOHN MONNINGER: Yeah.

MARTY VIRGILIO: Okay. All right.

JIM WIGGINS: And where did you say they caught these samples?

JOHN MONNINGER: It's either --

MALE PARTICIPANT: Yokohama?

JOHN MONNINGER: -- pronouncing it correctly -- Yokashawa or Yokohama.

JIM WIGGINS: Well, there's Yakota Air Force Base and there's Yokuska Submarine Base.

JOHN MONNINGER: Yeah. I don't know which one, but we, you know, the thought is to get in touch with the Navy and figure out where they took the sample and what this write-up means.

MALE PARTICIPANT: Did you mention some Navy Admiral?

JOHN MONNINGER: Admiral Thomas. The information is from 11:30 a.m. out here, which is approximately an hour and a half ago.

JIM WIGGINS: Okay.

MARTY VIRGILIO: Okay. John?

JOHN MONNINGER: Yeah.

MARTY VIRGILIO: We've invited our Naval Reactors folks into the meeting.

JOHN MONNINGER: Okay.

(below) From the NRC FOIA documents: evidence that Admiral Thomas was the source of the zeolite sample that some NRC officials questioned…

MARTY VIRGILIO: And could you just review what you've got one more time? Sorry to run you through this, but I want to make sure he hears it first hand.

JOHN MONNINGER: Okay, so we can review it, but what I'd recommend is -- we faxed it out within the past 5 minutes to the PMT -- so the PMT should be able to pull it off and you'll see the write-up. It's notes from an individual in the Navy. They handed it to us.

MARTY VIRGILIO: Okay, so it's Admiral Thomas. We're not exactly sure [redacted]

[redacted]

5

KATHY: We have 1.5 millirem per hour.

(Off-mic conversation.)

MARTY VIRGILIO: John?

JOHN MONNINGER: Yes.

MARTY VIRGILIO: Go ahead, Kathy.

KATHY: We got information -- I just wrote down here "Navy guy."

MARTY VIRGILIO: Admiral Thomas was the Navy guy.

KATHY: Okay.

MARTY VIRGILIO: Go ahead.

(below) From the NRC FOIA documents: the sample was taken south of Tokyo…Kathy Gibson: "And they asked if we can back-calculate a dose in Tokyo."

KATHY: And they took a sample. The sample point they gave us, the latitude and longitude, is an area south of Tokyo. [redacted]

5

JOHN MONNINGER: So thyroid dose, okay.

KATHY: Yeah. And they asked us if we can back-calculate a dose in Tokyo. We wanted to try to do that. RASCAL won't do it. It will be have to be hand-calculated. But then we got a (inaudible) from Bill Cook. Is he with you, John?

JOHN MONNINGER: Yes, Bill Cook's with us.

KATHY: Okay, so we'll just talk to him if they're concerned about (inaudible) number 2.

MARTY VIRGILIO: Yeah, I didn't hear the last -- I, they're concerned about evacuating the embassy, or US citizens?

KATHY: Yeah. What, what we want to do is get, get in touch with the people that actually pulled their samples so we can get more information on how they pulled the sample.

JOHN MONNINGER: Right. And we concur 100 percent in that, the notion that we talk to the Navy, come to a complete understanding, and maybe there's

(below) From the NRC FOIA documents: NRC official Kathy Gibson yet again downplays radiation data…did she move a decimal one place? It's the difference between 1.6X10 to the power of -6 and 1.6X10 to the power of -7.

recommendations out of that; maybe there isn't.

[redacted]

5

KATHY: Okay.

JOHN MONNINGER: We're going to --

MARTY VIRGILIO: But with these data, make sure you heard her. Kathy's data does not say 150. It's 01.5, 1.5 millirem per hour.

MALE PARTICIPANT: But the source term we (inaudible) from that was 1.6 10-6 microcuries per milliliter.

MARTY VIRGILIO: Which is clearly a level of interest. It's higher than the numbers I've heard from the more --

KATHY: I have E-7.

MALE PARTICIPANT: That was about -- I'm repeating your numbers, so I repeated --

KATHY: 1.6E^-7.

MALE PARTICIPANT: Okay. That's still significant but, but not --

KATHY: No, we haven't checked them I have.

(below) From the NRC FOIA documents: the 'silver zeolite sample' from the Navy is "...a factor of 100 different than what's being reported here."

MARTY VIRGILIO: Typically, the Navy take the types of readings using filter paper (inaudible) water samples.

KATHY: This is silver zeolite sample.

MALE PARTICIPANT: Okay. So it's a silver cartridge and the same type of unit, then, for, which was sensitive to iodine and those type of thing?

JOHN MONNINGER: So can you guys repeat what you believe that equivalent is?

KATHY: We haven't done the calculations. We're just repeating what we were told.

JOHN MONNINGER: So what were you told about the equivalent thyroid?

KATHY: 1.5 millirem per hour.

JOHN MONNINGER: So that's a factor of 100 different than what's being reported here.

MALE PARTICIPANT: Yeah.

JOHN MONNINGER: They're saying 150 millirem per hour.

(Simultaneous conversation.)

JOHN MONNINGER: And that's what's being briefed to the ambassador right now.

MARTY VIRGILIO: I think it's important that --

(Simultaneous conversation.)

(below) From the NRC FOIA documents: evidence the sample was collected south of Tokyo…

KATHY: Whether they have any other sample.

MALE PARTICIPANT: We need to be clear on where that sample is collected.

KATHY: We, we have a latitude and longitude.

MARTY VIRGILIO: Can, can you read that to me?

KATHY: 36.11.46 N.

MARTY VIRGILIO: 36.11.46 N.

KATHY: 120.16.87 E. We're told that it's south of Tokyo.

MARTY VIRGILIO: Okay, John, if you'll engage Tepco -- John, are you there?

JIM WIGGINS: John?

JOHN MONNINGER: Yes, sir.

MARTY VIRGILIO: If you'll engage Tepco on any recent venting --

JOHN MONNINGER: Yes. We'll -- if you guys let us go, we'll call Tepco and you guys will run this down, and you'll get in with the Navy and, and pull your heads together.

MARTY VIRGILIO: Okay. Got it, John.

JOHN MONNINGER: Got it? Okay, you got the Navy. We've got Tepco. All right. Thanks.

(below) From the NRC FOIA documents: NRC officials along with Admiral Donald and Admiral Willard discuss multiple plumes moving down the coast of Japan…

about 175 miles from the site.

[redacted]

MR. BURROWS: Actually, Admiral -- this is Chuck Burrows. What we saw was the plume on its way. We are still measuring 2 x 10 to the -9th at this location 90 miles from the reactor plant, as well as now measuring 10 to the -9th down in the Yukoska area.

The plume is an extensive plume. I mean, I have readings at both locations that are above 10 to the -9th microcuries per milliliter as far out as Yukoska and as far in as this 90-mile point.

ADMIRAL DONALD: Okay. So I was half right. There are readings at 90 miles at 2 x 10 to the -9th but there are also readings at 170 miles at 2 x 10 to the -9th.

MR. BURROWS: Correct.

MALE PARTICIPANT: Is the weather phenomenon localized to near the bay surge or the weather phenomenon consistent along the entire area of the plume?

ADMIRAL WILLARD: This is Admiral Willard from PACOM. If I may input, we've been looking at the wind forecast and the wind data. The plume right now as we have seen in the forecast graphics have

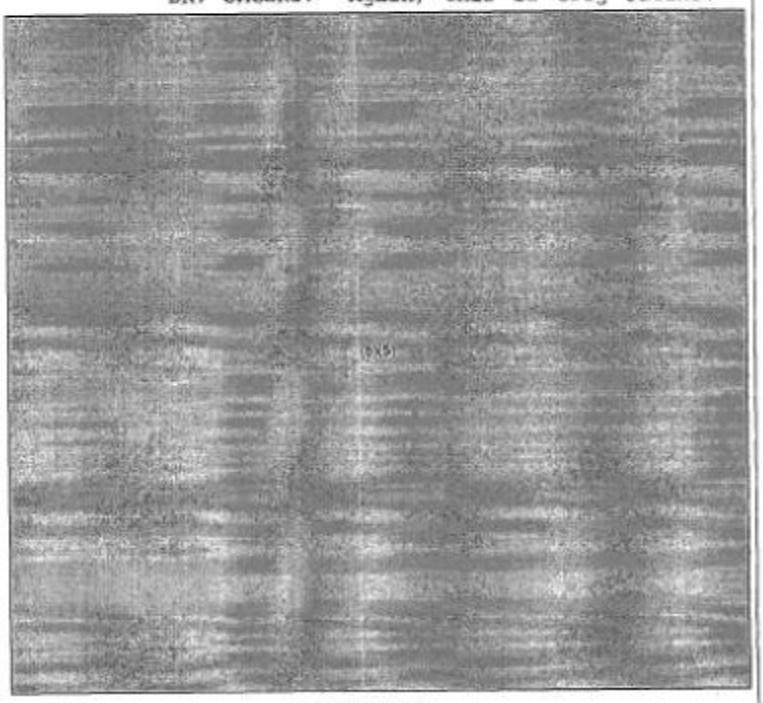
(below) From the NRC FOIA documents: (continued from above) Admiral Willard: "The plume right now as we have seen in the forecast graphics have previously extended almost due south along the coastline to impact Yukoska and they are swinging further to the west further inland and over metropolitan Tokyo and to the bases that are further inland and further north and west from Yukoska."

previously extended almost due south along the coastline to impact Yukoska and they are swinging further to the west further inland and over metropolitan Tokyo and to the bases that are further inland and further north and west from Yukoska.

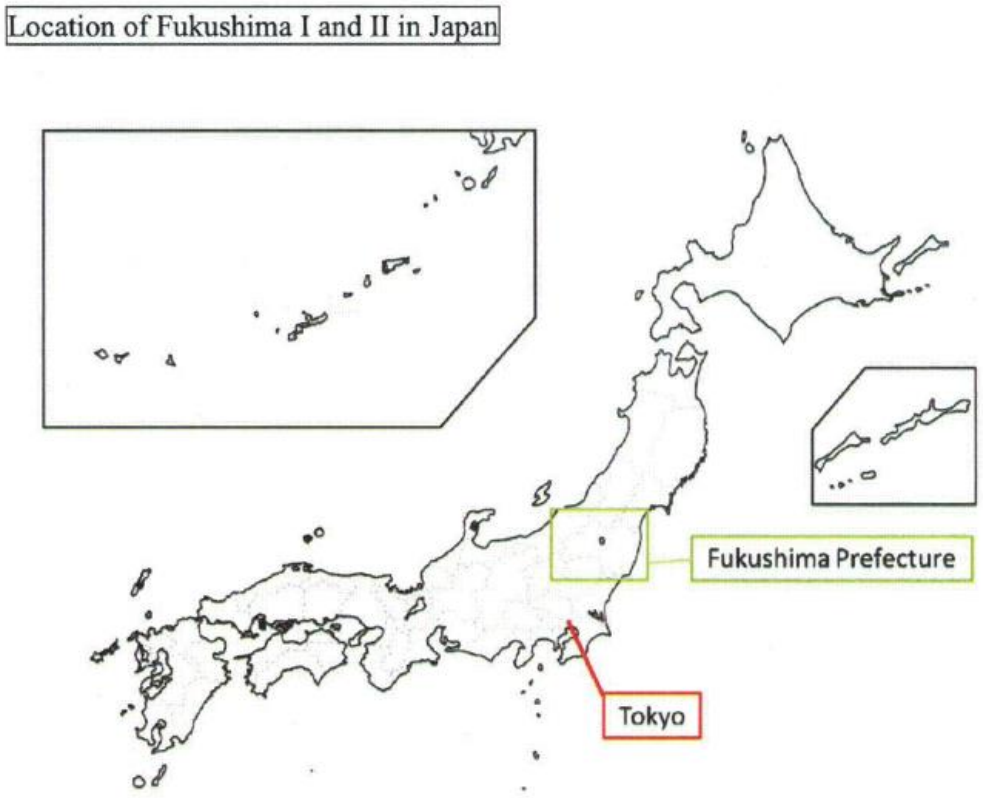
We are basically seeing the plume concentration swing. It's already swung down to the coastline and it's already begun to swing inland. We expect it to remain roughly in that area for the next 24 hours.

MALE PARTICIPANT: Okay.

DR. JACZKO: Again, this is Greg Jaczko.



(below) From the NRC FOIA documents: spatial relation between Tokyo and Fukushima

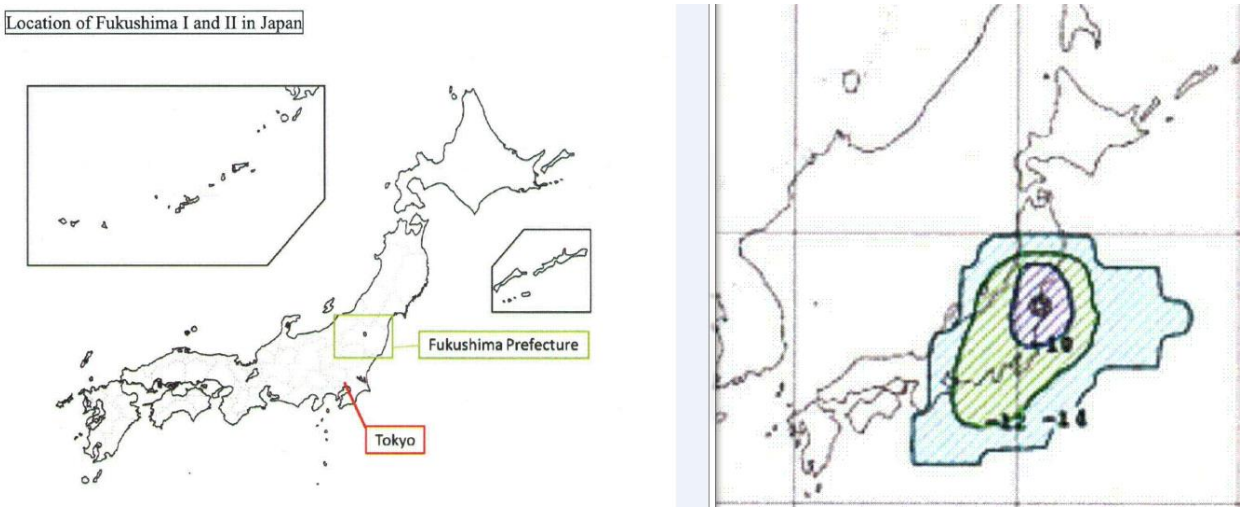


(below) NOT FROM THE FOIA DOCUMENTS: 238.34 kilometers distance between Tokyo and Fukushima…

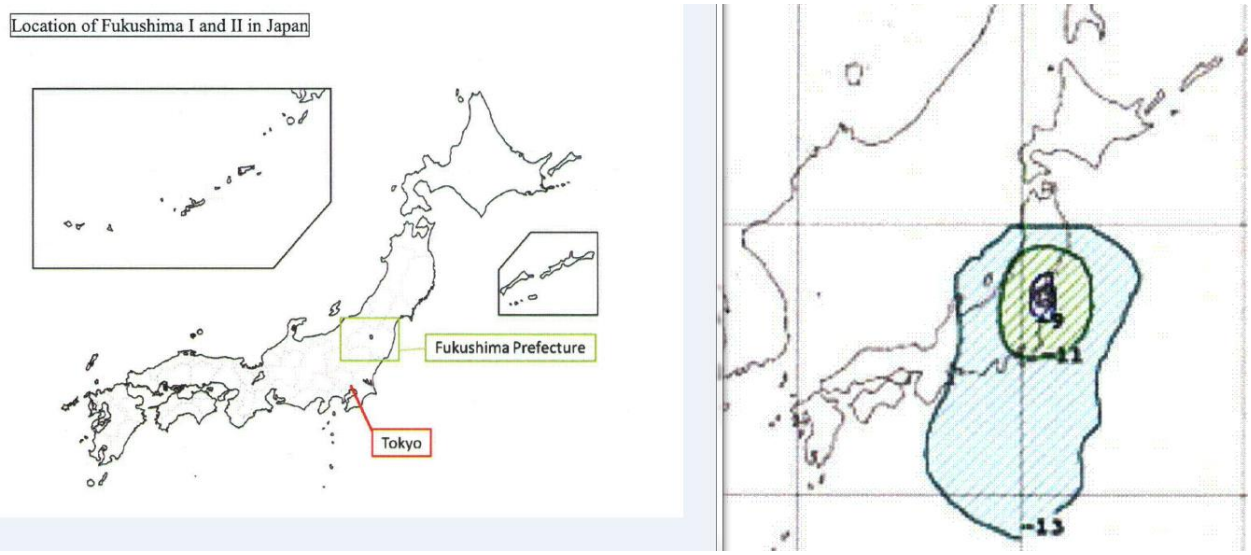
Distance between Fukushima (Fukushima) and Tokyo (Tokyo) (Japan)

The Distance between **Fukushima (Fukushima)** and **Tokyo (Tokyo)** is :
238.34 kilometers (km).

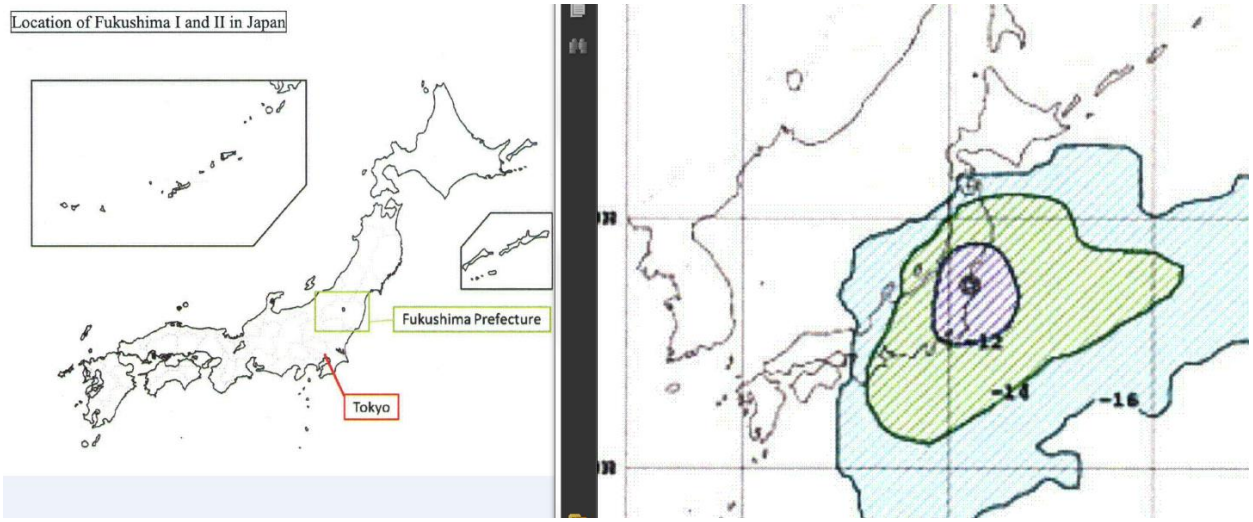
(below) From the NRC FOIA documents: (author's note: this split screen view consists of a map of Japan and a plume model (both found in the NRC FOIA documents but placed side by side by the author) that covered the dates of March 21st-22nd, 2011)



(below) From the NRC FOIA documents: plume model covers the dates March 22nd-23rd of 2011…



(below) From the NRC FOIA documents: plume model covers the dates March 20th-23rd total deposition of I-131…remember that none of the modeling found in the NRC FOIA documents covers the radioactive isotope Plutonium which is known to be carried aloft in aerosolized form (see next page). Unit 3 utilized MOX fuel which has a higher percentage of Plutonium than most fuel rods.



(below) NOT FROM THE NRC FOIA DOCUMENTS: aerosolized plutonium from Fukushima traveled around the globe and was detected as far away as Lithuania.

J Environ Radioact. 2012 Dec;114:71-80. doi: 10.1016/j.jenvrad.2011.12.004. Epub 2011 Dec 27.

Radionuclides from the Fukushima accident in the air over Lithuania: measurement and modelling approaches.

Lujanienė G, Byčenkienė S, Povinec PP, Gera M.

Environmental Research Department, SRI Center for Physical Sciences and Technology, Savanoriu 231, 02300 Vilnius, Lithuania. lujaniene@ar.fi.lt

Abstract

Analyses of (131)I, (137)Cs and (134)Cs in airborne aerosols were carried out in daily samples in Vilnius, Lithuania after the Fukushima accident during the period of March-April, 2011. The activity concentrations of (131)I and (137)Cs ranged from 12 μBq/m(3) and 1.4 μBq/m(3) to 3700 μBq/m(3) and 1040 μBq/m(3), respectively. The activity concentration of (239,240)Pu in one aerosol sample collected from 23 March to 15 April, 2011 was found to be 44.5 nBq/m(3). The two maxima found in radionuclide concentrations were related to complicated long-range air mass transport from Japan across the Pacific, the North America and the Atlantic Ocean to Central Europe as indicated by modelling. HYSPLIT backward trajectories and meteorological data were applied for interpretation of activity variations of measured radionuclides observed at the site of investigation. (7)Be and (212)Pb activity concentrations and their ratios were used as tracers of vertical transport of air masses. Fukushima data were compared with the data obtained during the Chernobyl accident and in the post Chernobyl period. The activity concentrations of (131)I and (137)Cs were found to be by 4 orders of magnitude lower as compared to the Chernobyl accident. The activity ratio of (134)Cs/(137)Cs was around 1 with small variations only. The activity ratio of (238)Pu/(239,240)Pu in the aerosol sample was 1.2, indicating a presence of the spent fuel of different origin than that of the Chernobyl accident.

Chapter 15

References:

Chernobyl: Consequences of the Catastrophe for People and the Environment: http://www.strahlentelex.de/Yablokov%20Chernobyl%20book.pdf

Bobby1 Fatality Index Study: http://freepdfhosting.com/37cc0eae6b.pdf

Sherman/Mangano Fatality Index Study: http://www.radiation.org/reading/pubs/HS42_1F.pdf

Sherman/Mangano elevated hypothyroidism on West Coast study: http://www.scirp.org/journal/PaperInformation.aspx?PaperID=28599

Shut Down by Earnest Sternglass (low level radiation study): http://www.ki4u.com/secretfallout.pdf

Spent Nuclear Fuel Pools in the U.S.: Reducing the Deadly Risks of Storage by Robert Alvarez: http://www.ips-dc.org/reports/spent_nuclear_fuel_pools_in_the_us_reducing_the_deadly_risks_of_storage

NRC FOIA documents pertaining to Japan: http://www.nrc.gov/reading-rm/foia/japan-foia-info.html

Link to NRC FOIA document on Unit 4 and the TEPCO video: http://pbadupws.nrc.gov/docs/ML1205/ML12052A108.pdf

Link to NRC FOIA document on Navy ships and plumes, President's worst-case-scenario, more: http://pbadupws.nrc.gov/docs/ML1205/ML12052A111.pdf

Link to NRC FOIA document 'children's doses in California': http://pbadupws.nrc.gov/docs/ML1205/ML12052A109.pdf

Link to NRC FOIA document MOX fuel, SITREP, more: http://pbadupws.nrc.gov/docs/ML1212/ML12122A949.pdf

Link to NRC FOIA document SITREP, unit 4 dry, more: http://pbadupws.nrc.gov/docs/ML1203/ML12034A191.pdf

Link to NRC FOIA document plume map takedown, more: http://pbadupws.nrc.gov/docs/ML1212/ML12122A300.pdf

Link to NRC FOIA document Yamaguchi letter on unit 4, more: http://pbadupws.nrc.gov/docs/ML1128/ML11287A115.pdf

Link to NRC FOIA document Markey letter, more:
http://pbadupws.nrc.gov/docs/ML1208/ML12080A196.pdf

Link to NRC FOIA document measured plume maps late March 2011, more:
http://pbadupws.nrc.gov/docs/ML1212/ML12123A058.pdfL

Link to NRC FOIA document measured plumes to April 2011, battery life, more:
http://pbadupws.nrc.gov/docs/ML1212/ML12123A058.pdf

Link to NRC FOIA document 35 REM Alaska, Midway, more:
http://pbadupws.nrc.gov/docs/ML1300/ML13008A112.pdf

Link to NRC FOIA document rooftop grabs, more:
http://pbadupws.nrc.gov/docs/ML1220/ML12201B454.pdf

Link to NRC FOIA document evidence of Japan Earthquake and Tsunami Drill, more:
http://pbadupws.nrc.gov/docs/ML1123/ML11230A043.pdf

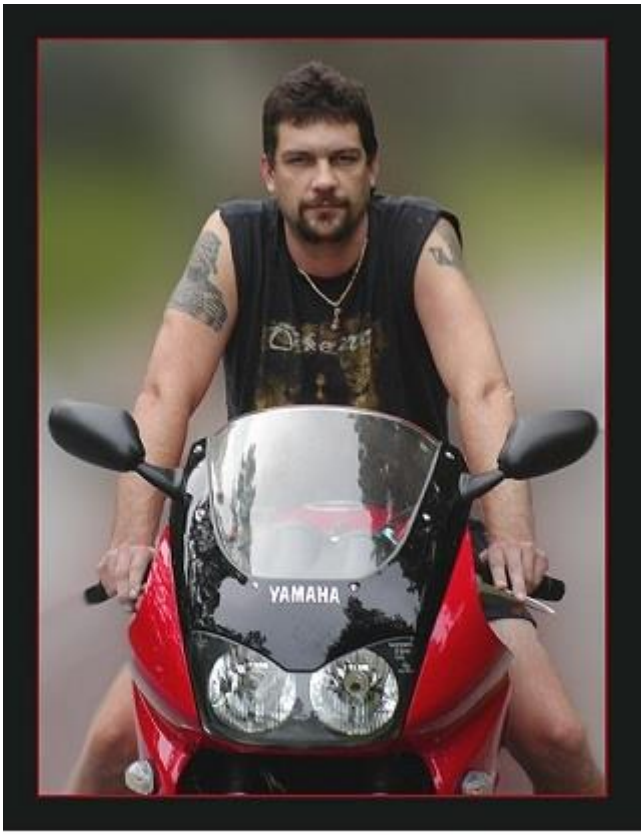
Link to NRC FOIA document James Inhofe Committee on Environment and Public Works letter says Jaczko may have broken law, more:
http://pbadupws.nrc.gov/docs/ML1323/ML13232A221.pdf

Link to NRC FOIA document transcripts of September, 2013 Japan Lessons Learned Public Meeting: http://pbadupws.nrc.gov/docs/ML1327/ML13277A215.pdf

Chapter 16

About the Author:

Tony Muga aka: Hatrick Penry is a 45 year old broadcaster, musician and published alternative media author hailing from Gainesville, Florida. He is best known for his work on Plume-Gate, the orchestrated cover-up by U.S. authorities of the radioactive plume and fallout from the Fukushima meltdowns. Find out more about Hatrick Penry and Plume-Gate at his website hatrickpenryunbound.com, his YouTube Channel, Twitter, word press blog: 'Uncovering Plume-Gate' and his BlogTalkRadio broadcast. Find Hatrick Penry's music here: http://itmusic.us/hatrickpenry/http://itmusic.us/hatrickpenry/



hatrickpenryunbound.com

Cover art by Marcelo Manuel