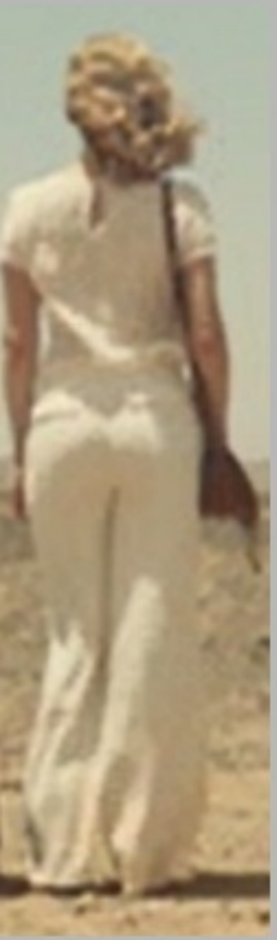
Shed light on Fukushima Nuclear Accident

Save 420 sailors of USS Ronald Reagan



March 2018

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Japan

Preface

In the previous publication, the massive release of 239-plutonium from Unit 4 of Fukushima DNPP was revealed and I offered the most effective advice to counterargue the dismissal by the judge on Class Action of 420 unfortunate sailors of USS Ronald Reagan on "Operation Tomodachi". Despite the various efforts to reach them, direct contact is yet to be made. As their symptom seems to show acute toxicity of 239-Pu, I feel pressed to tell them that as quickly as possible because neither medical doctors nor lawyers did not notice that they were internaly exposed to alpha emitters.

I learnt quite recentry and was surprised that most people don't know that a geiger counter can not detect alpha wave. It is not likely that USS Ronald Reagan was equipped with a detector for alpha ray.

http://p.booklog.jp/book/120197/read

The publication also made it clear the trick how IAEA made Fukushima radiation disaster look insignificant, that is,

1) they calculated radiation release only from core inventories of Unit 1, 2 and 3.
2) they excluded the release from spent fuel pools of Unit 1, 2, and 3.
3) they completely ignored Unit 4, SFP of which stored 1,535 fuel rods of 3,000 fuel rods in total.
4) In addition to this, the release from the reactor core and equipment pool of Unit 4 was hidden.

The last item was not discussed in the previous publication but as I want you to understand the objective of this book quickly, please read part of the letter I sent to a US senator.

Excuse me, sir but would you please help Fukushima radiation victims, 420 US sailors of USS Ronald Reagan who suffered acute inhalation toxicity of 239-plutonium and Depleted Uranium released from the new type of MOX fuel during the mission of Operation Tomodachi for disaster relief of Fukushima Daichi Nuclear Power Plant accident of March 11, 2011?

The sudden surge of both 239-Pu in the atmosphere in California on March 24 and 234-U, a component of DU in Alaska on April 1 clearly indicates, together with multiple other scientific evidence, that the MOX fuel using weapon grade plutonium mixing with DU was covertly and experimentally manufactured in Unit 4 of Fukushima DNPP.

There are two research papers which show the fall out of 239-Pu, component of more than 90% of weapon grade plutonium, is 100 times that of Nagasaki A-bomb and more than 10 times the global fall out. The level monitored in California is like those values.

Based on the analysis of the official radiation plume dispersion map and the daily trail of USS Ronald Reagan, it is obvious that those sailors inhaled deadly alpha emitters such as 239-Pu and 234-U. Their symptoms, as far as the observation in the documentary film goes, resemble to the acute toxicity of 239-Pu observed in animal studies carried out during Manhattan Project.

Nine sailors were already dead but their Class Action for compensation against Tepco was dismissed by U.S. District Judge Janis Sammartino in San Diego on January 4 this year on the ground that the sailors have provided no information to support an assertion that TepCo knew its actions would cause harm likely to be suffered in California.

Please be noted;
There is a delicate issue which I didn't mention in the book because I thought that they would fight without touching on that issue.

That is;

1) 239Pu released from Fukushima is deemed as the logical and circumstantial consequence that it was part of 331Kg of weapon grade plutonium the US lent Japan for the research and development purpose decades ago. It had been kept at Tokai Village in a different facility but was moved to Unit 4.

2) IAEA says that Unit 4 was halted operation on November 30, 2010 to remove 1331 fuel rods of the reactor core to spent fuel pool (SFP). It also says there were 204 new assemblies, components of which have never been disclosed. However, as you saw in the Part 2, there was heat signature in the reactor core, equipment pool as well as SFP meaning that they were using Unit 4 to make the MOX fuel in question.

2) 234U detected in Alaska is most likely from equipment pool which had stored fresh Depleted Uranium with higher concentration of 234-U achieved through the process of enrichment of used uranium.

3) As Senator may know it very well, the US and Russia agreed to reduce the excessive weapon grade plutonium in 2000 but they changed the reduction method in 2010 called 2010 protocol.
I know it is a serious allegation, but I presume that the US government asked Japan to experimentally manufacture the MOX fuel using 331Kg for that purpose.

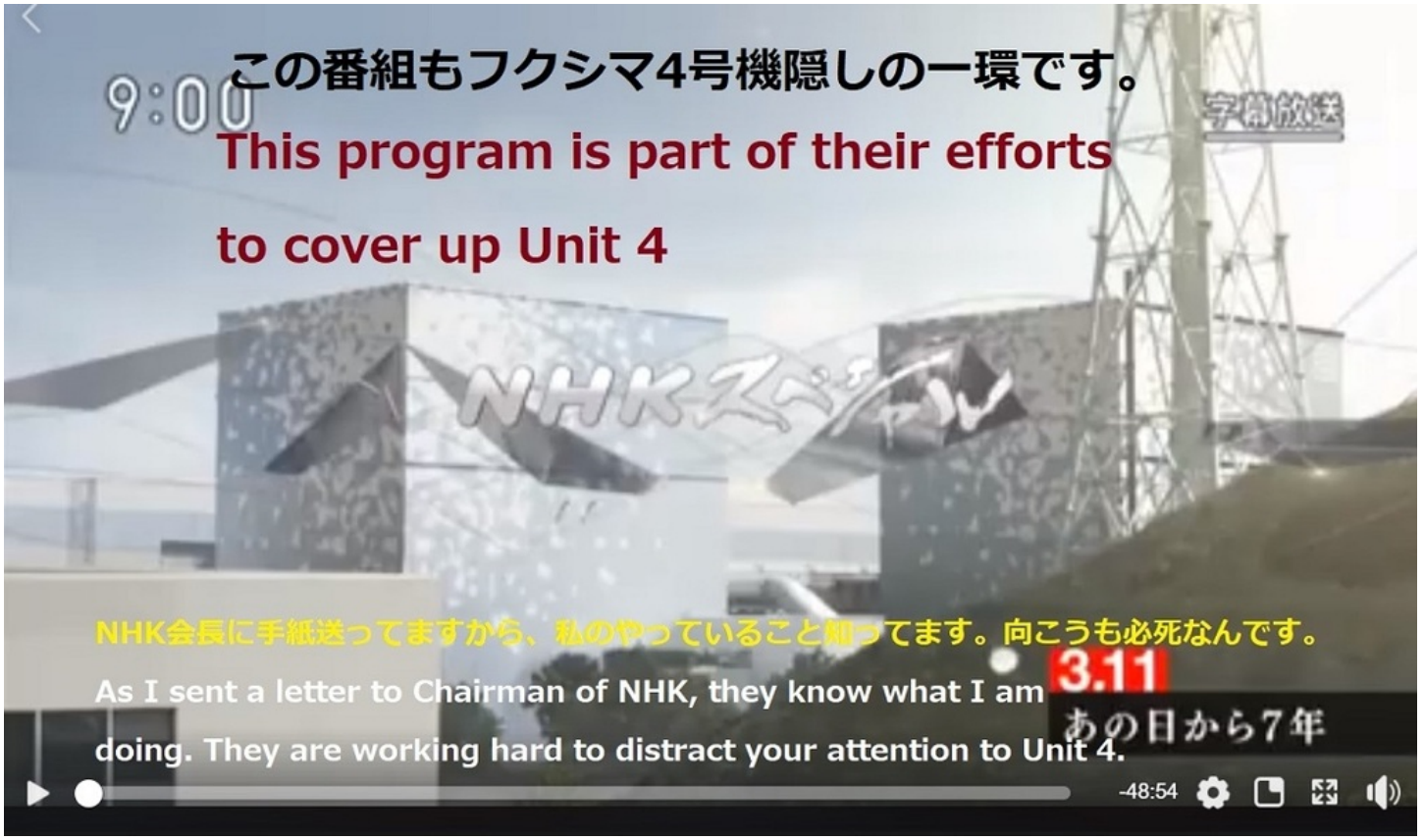
4) It was January 2014 that I had a strong doubt that part or whole 331Kg had gone from Unit 4 when Mr. Obama pressured Japan through media for its return. Mr. Abe, PM of Japan promised in March to give it back, but it took two full years to ship it from Japan March 2016 arriving at Savannah River Site in June.

The seriousness of the covert operation and violation of non-proliferation on top of the huge amount of radiation release is the reason why Unit 4 had to be covered up.

Cover up still continues

On March 17, 2018, NHK Special entitled "Abberence for two days; Reasons of cooling water reduction" was broadcasted.
https://www.facebook.com/gomizeromirai/videos/2070506202989506/?fref=mentions&pnref=story

Let's see how they did using some chart I posted at Facebook.

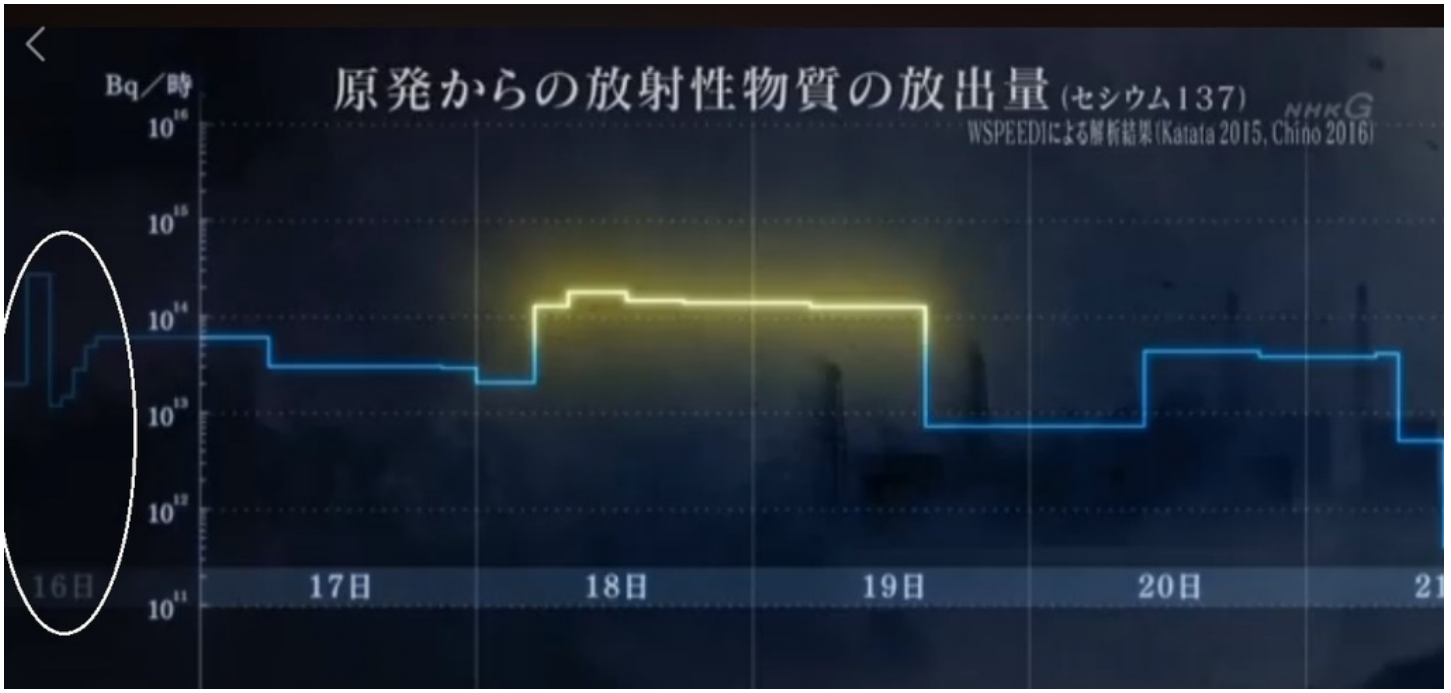


It is obvious that there is rising steam from Unit 4.

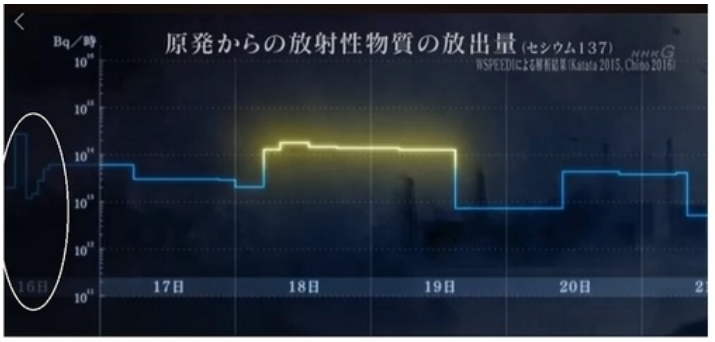
However, they put caption only for Unit 2 and Unit 3 in Japanese. They ignore Unit 4 despite the rising steam even in this screen.

They also ignore 1000 mSv/h of Unit 4 at 10:00AM on March 15 clearly stated in IAEA Report explaind in the revious book and the high level of radiation in gold color of March 15, they say, attribute to the breach of core container of Unit 2 and pressure buildup in core container of Unit 3.

In addition, they hide the high does level of March 15. Take a look at the circle carefully.



Then don't show the day 16.
It is useless because such FOIA document is available but they bravely depend on the overwhelming majority who don't know anything about FOIA document.



16日も隠す！！！

McKelvey, Harold フクシマのアメリカ規制委員会メンバーリンダがワシントンに送ったメール。3月16日、朝7時23分。

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

2号機は報道よりいい状態かもしれない。**4号機はますます悪い。使用済み燃料プールの水はなくなった。**
日本軍（そう書いている）は 海水を3号機と4号機にヘリから注水する予定だったが、放射能線量が高すぎてあきらめた。**4号機周辺の線量が高すぎて中に入れない。**50名の作業員だけ残して750人は退避した。

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.

NHK knows that I know about Unit 4 because I sent a letter to Chairman in December last year and Mr. Edano, Cabinet Secretary at the time of the Fukushima accident and now the leader of

Cinstitutional Democratic Party.

It must be easy to deceive the public only if you have a good mouth piece like media.
I am not cynical but I can't help thinking that the democracy is a system where the public is deluded.
There was a popular chant for the demonstration against Security Act two years ago; "What is democracy?" to invite the response of the crowd to raise various placards such as "I AM NOT ABE".

Unless the public gain insight into the deceit of the power, democracy would never come. This is the honest feeling I have through the research of Unit 4 over four years.

If people have the basic of deductive inference, it won't be that difficult to look through things.

Motivation and need of cover up

I did not talk about their entire strategy of Fukshima cover up in the previous book because it would make the Class Action a little too complicated for the attorney to handle.

The table was made from day to day record of IAEA Technical Report on Uni 4.

IAEA Report chronological statement regarding Unit 4 RB(Reactor Building)

Date	Event	Radiation level	SFP W.Temp/level
Mar 11	SBO(Station Blackout)		27℃(Before EQ)
Mar 13			78℃ (measured at 11:50)
Mar 14	Explosion at Unit 3 RB at 10:01	Could not enter Unit 4 RB at 10:30 due to high radiation **at the door**(inside or out not known)	84℃(measured at 04:08)
Mar 15	1)Explosion around 4th floor was observed to destroy 3,4,5th floor 2)Damage of 5th floor was first confirmed at 06:55 3)Fire of N/W part of RB reported at 09:38 and extinguished at 11:00	1)12mSv at the main entrance gate at 09:00 2)Between 10:30 and 11:00, **over 1000mSv/h upon opening the door** (inside)	
Mar 16	Another fire on 4th floor at 09:45	In the afternoon, **inspection from SDF helicopter** confirmed that there was sufficient water in the Unit 4 **SFP** to cover the fuel assemblies.	
	No statement on Unit 4 during Mar 17 and 19 in IAEA Report		
Mar 20	Between 08:21 and 09:40 on 20 March, the **Japan SDF started to spray fresh water into the SFP using a fire engine**. This operation was repeated between 18:30 and 19:46 on the same day and between 06:37 and 08:41 the next morning. By 21 March, approximately 250 m3 of fresh water had been sprayed into the pool. On the morning of 22 March, use of a concrete pumping truck to spray sea water into the SFP of Unit 4 was started and continued on daily basis for the next three days. Injection of water via the FPC system commenced on 25 March, and the level in the skimmer surge tank was observed to be rising, indicating that the SFP level was restored.		
Mar 26	After the SBO, temporary off-site power to Unit 4 was restored.		
Mar 29	The MCR(main control room) lighting was restored at 11:50		

The cover up of the radiation release from Unit 4 was **not the strategy but reactive decision**.

The daily record of Mar 16 shows their alleged confirmation from heicopter that there was sufficient water in the Unit 4 spent fuel pool to cover the fuel assemblies is the **only ground to claim** of "**no radiation release from Unit 4**".
Even US NRC(nuclear reguraory committee) officials, according to the FOIA document, were skeptical about the confirmation from helicopter but let's take what IAEA report states as it is.

However, even if there was water, more than 1000mSv radiation was recorded on March 15 and water temperature at 4 AM of March 14 was 84℃ and there was neither cooling nor water injection for the next five days. It was ovious that water was boiled to vapor to reduse the water level.

And fuel assemblies to expose to air either burn the zilcon coating or plutonium inside, eight times larger than zilcon in thermal expansion rate, destroys the coating to make plutonium oxide by air contact. Thus, even if the confirmation from helicopter was true, **radiation particles were released from SFP**.

Now let's discuss the entire cover up strategy before going to another important issue of 234-uranium detected in Alaska.

1) Motivation and reason of the cover up

To make a long story short, read from Item 1) through 4) at first.

1) 239Pu released from Fukushima is deemed that it was **part of 331Kg of weapon grade plutonium the US lent Japan** for the research and development purpose decades ago. It had been kept at Tokai Village in a different facility but was transfered to Unit 4.

2) IAEA says that Unit 4 was **halted operation on November 30, 2010** to remove 1331 fuel rods of reactor core to spent fuel pool (SFP). It also says there were 204 new assemblies, components of which have never been disclosed. However, there was heat signature in reactor core, equipment pool as well as SFP meaning that **they were using Unit 4 to make the new type of MOX fuel** which we will discuss after this section.

3) 234U detected in Alaska is most likely from equipment pool which had stored **fresh Depleted Uranium with higher concentration of 234-U** achieved through the process of enrichment of used uranium.

4) The US and Russia agreed to reduce the excessive weapon grade plutonium in 2000 but they changed the reduction method in 2010 called 2010 protocol.
I presume that the US government asked Japan to **experimentally manufacture MOX fuel of 2010 protocol using 331Kg** prior to the production at Savannah River Site.

5) It was January 2014 that I have a strong doubt that part or whole 331Kg had gone from Unit 4 when Mr. Obama pressured Japan through media for its return. Mr. Abe, PM of Japan promised in March to give it back, but it took **two full years to ship it from Japan March 2016 arriving at Savannah River Site in June**.

In order to understand the motivation, your full assessment of Item 1) and 4) is necessary.
Take a look at the chronology of events and then read item 4) again.

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2013 09 07 Tokyo Olympic award
2013 12 06 Security regulation act approved at the Diet
2014 01 27 Obama pressured Japan for the return of 331 Kg
2014 03 26 Abe promised to give it back

-
- **How come did it take two full years?**
-
-

2016 03 23 Shipped from Japan
2016 05 15 Arrived in Charleston
2016 06 04 Depated Charleston
2016 06 06 Arrived at Savannah River Site

-

When Mr. Obama pressed Japan for its return through madia, I thought it was strange because it was just "(the US)give it back and (Japan) we will do by when" kind of thing.
Then, China put pressure on Japan to meet Obama's request as quickly as possibe, three times during the very short period of time through Global Times and Xinhua and the answer of Mr. Amano, Japanese Director General of IAEA on March 5 was more than strange. He said that **the agency could ensure Japan's nuclear material is for peaceful use**.
It was not the answer to the issue. His comment assured my doubt of Item 4).
You can read Chinese response, the same as mine, to Amano's comment here.

Are you sure now that the release of weapon grade plutonium from Unit 4?
You can't make a plausible explanation otherwise to satisfy all of these facts;

1) more than **10 times the global fall out of 239-Pu**
2) fall out of **unnatural 234-U** which is not a component of ordinary MOX fuel, which was allegedly storerd in SFP of Unit 3, because it does not use Depleted Uranium
3) **full two years blank period** between Mr. Abe's promise to give it back and shipment from Japan
4) **shipping route** from England to Japan and to Charleston in the US staying there for 19 days then to Svannah River Site.

If the whole 331Kg had gone, "the replacement of 236Kg UK origin and 2Kg French (3Kg in the memo is author's mistake) was shipped from England and 93 Kg US origin was loaded at Charleston" is a natural doubt any one may have for this unusual shipping route.

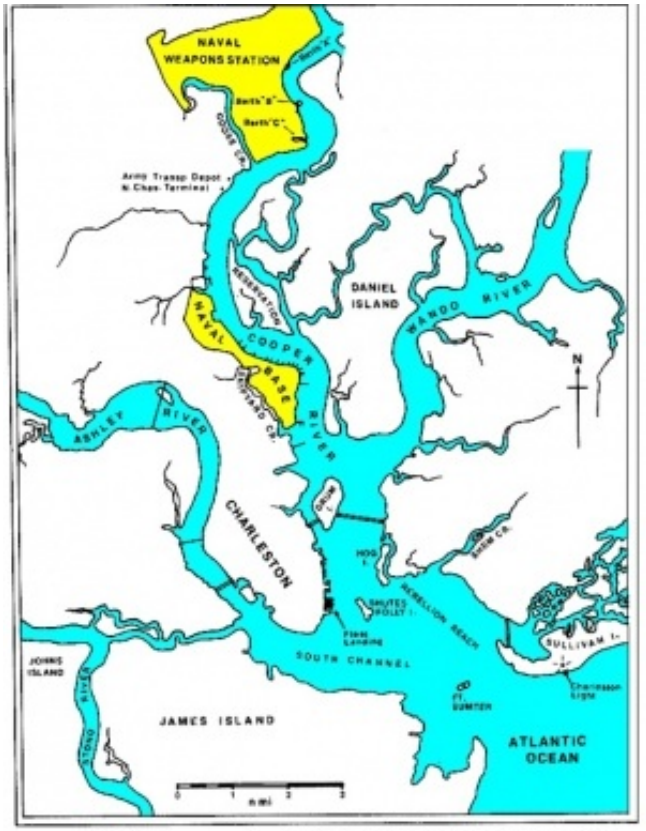


Figure III-1. Area naval activities at Charleston, South Carolina.

As Charleston facility is used to make some nuclear wepons, it may not be illogical to think that 93 Kg was loaded there although I am not sure on this;
This is its function in 70's;
Receipt of missiles from the fleet, disassembly, refurbishment and functional tests continued as required to support fleet needs. During its years of service, POMFLANT has cycled missiles through assemblyand test well over 4,000 times. It remains the only facility at which all five generations of FBM missiles have been processed. It has had all the FIRSTS and has always met fleet requirements.
「POLARIS Missile Facility, Atlantic (POMFLANT)—Charleston, South Carolina」

In addition to the release of huge amount of weapon grade plutnium and Depleted Uranium, covert manufacturing of MOX fuel at Unit 4 are clear violation against non-proliferation and it must be disgrace for the US if the world knows the truth.

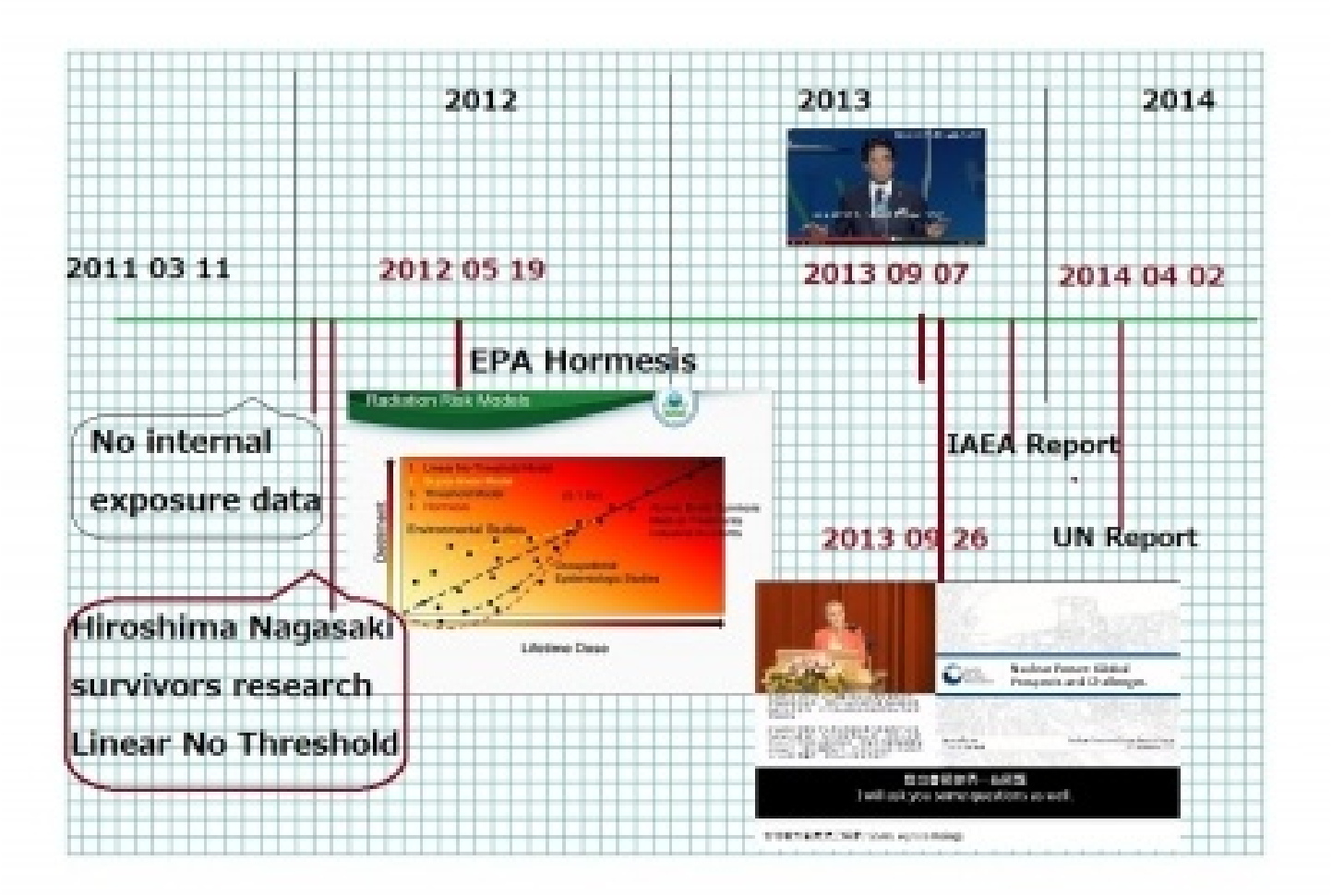
This is the motivation or reason to cover up Fukushima.
Fukushima was **not the accident of nuclear power plant only**.

Who has made Fukushima radioative disater look insignificant？

The implementation of any strategy takes steps.
Chronological assessment of major events is a simple but powerful method to find out the major elements to build the entire strategy.

Unless you do this analysis, you may miss the most important point you have to address to.

The chart below is a simple chronology of major events.
I know there were many people who complained of Abe's "under control speech" a lie. However, unless you know events took place before and after the speech, which may have something to do with it, you would not know what to do with his lie but complaining.



The motivation to cover up Fukushima is now clear but the motivation can't mobilize people because unless specific objectives to work on are shown to them clearly they can' t move. The motivation of a person in power and its stake holders (a group of elites) can not be shared by other people automatically. The strategy comes in here to organize people and let them achieve the set

objectives in their specific area of expertise. It is very important to realize that there is no direct connection between the motivation of the power and that of people to achieve specific obejectives in their capacity.

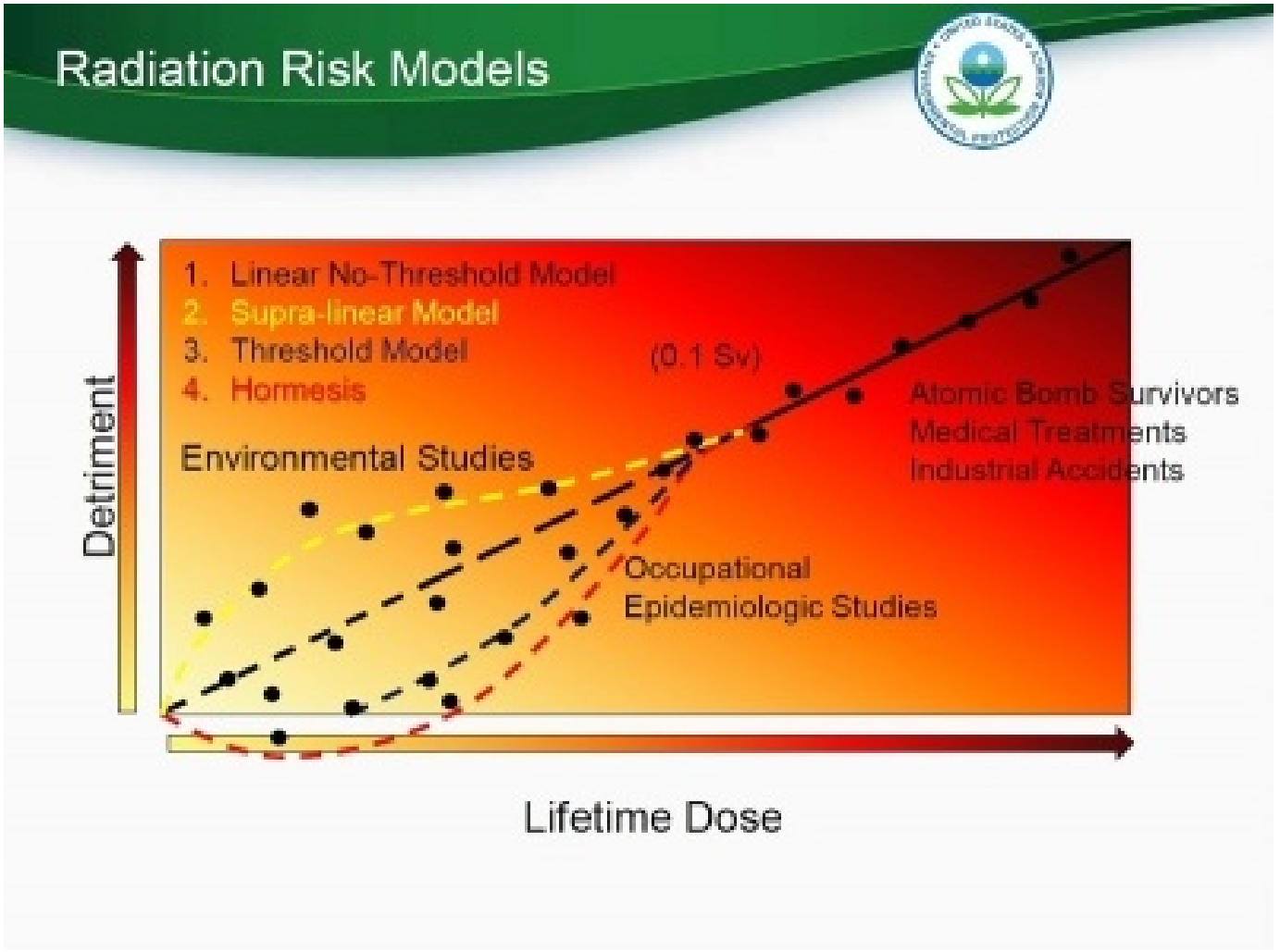
This is why there are many contradictions in IAEA Technical Report such as **honest** statement of 1000 mSv measurement in Unit 4 and **honest** SFP temperature statement of 84℃ of March 14.
If they worked with the same motivation and are excellent enough not to overlook contradictions, there would be no chance for ordinary people like myself to find such incredible mistakes or contradictions for us to fight back against the power.
They are, even work for the power, more or less the same as the rest of us in terms of morality and competency.
Thus, it is indispensable to **learn and analyse "people and organization"** behind the power who acts on specific objectives.
As they don't necessarily know the intention of cover up and whole scope of strategy for it, there would be a big chance to find contradictions which may lead to the total collapse of the entire strategy.

This is 2014 photograph of UN Science Committee members

2）Who has made Fukushima radioative disater look insignificant？

The following slides were used at the US EPA presentation to Japanese authority on May 19, 2012, 14 months after the Fukushima accident. This is the **kick off** of the inplementation of the cover up strategy.

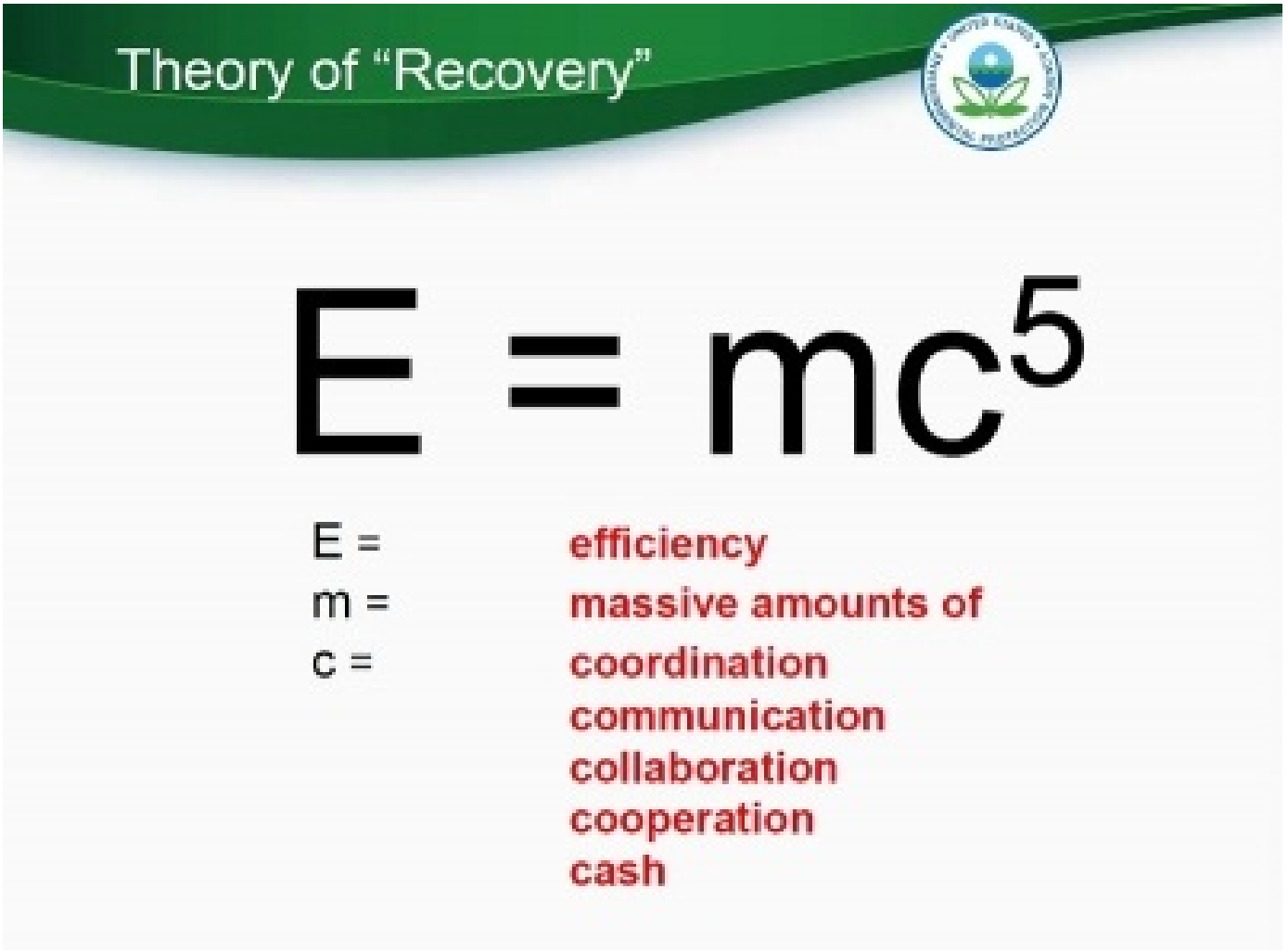
One of two major objectives of the presentation was to **promote Hormesis theory** among general public. Hormesis is a controversial concept to claim that low level radiation exposure does not pose any significant health hazards and some even say that it is good for the health.
A limited number of power elite knew how bad the radiation from Fukushima was and therefore, they thought they would have to raise the annual permissible limit of radiation exposure from 1 mSv to 20 mSv, for which they needed hoax Hormesis theory.



The next three slides are about communication manual how to relieve the fear among people using psychological technique.

"Tell the most important message at the begining and repeat it at the end"・・・right.

Americans love this kind of expression using Equation of Relativity ending up with cash. Yes, money solves all the problems, damn right.



"**Don't worry too much. Fukushima is not as bad as you think**" is the point of the presentation to pass on this message to the public.

What we must know is that US Environment Protection Agency(EPA） was hijacked by Nuclear cowboy, which means that the agency was **bowed down to the nuclear industry**.

World Nuclear ssociation

Ms. **Agneta Rising** of the **World Nuclear Association** delivered a speech in Taiwan on September 26, 2013, 19 days after Mr. Abe's infamous "Fukushima under control" speech at the IOC convention for 2020 Tokyo Olympic games. The image is linked to YouTube.

After the talk about the necessity of nuclear power plant, she speaks on Fukushima at 26 minutes. Her message is shown in the following three screen shots;

Neither death nor injury by the damage of nuclear power plants.（Death and injury were caused by earthquake and tsunam)

.

Radiation release from the power plants is not large enough to cause health hazards.

However、**psychology of people to fear radiation disrupted people's life.**

As you recognize, her talk is the same as that of EPA presentation how to solve people's general concern about radiation.

The **nuclear industry dismissd at this point the potential risk of Fukushima radiation disaster**.

Agneta Rising's discourse is **before** two IAEA interim reports published in October and December, 2013 and six months **before** UNSCEAR Report made public on April 2, 2014.
US EPA and the nuclear industry made Fukushima finished before the public report by international organizations.

And the summary of the United Nation's report was amazing;

子供たちは大人よりも放射線に敏感なので、原子力発電所の事故後の主なリスクは、幼い子供たちがヨウ素131を吸収して甲状腺に蓄積され、甲状腺がんになる可能性があることだ。この極めて稀な病気は治療可能でその治療成功例は多い。しかし、潜在的疾患可能性を調べるために年齢18歳までの子供たち36万人を超音波検査を行っているところである。
Children are more vulnerable than adults to the effects of radiation and after a nuclear accident, the principal risk is for the youngest children to absorb iodine-131 which would accumulate in the thyroid gland, increasing the chance of thyroid cancer. This rare disease is treatable with a high success rate, but to guard against potential extra cases the thyroid glands of some 360,000 young people up to the age of 18 are being surveyed by ultrasound.
原子放射線の影響に関する国連科学委員会（UNSCEAR）は、“一回目の（甲状腺の）小節、シスト、がん発生の増加が観察されたが、検査精度の向上から予期された程度であった。福島事故の影響のない地域における同様の検査データから見て、福島県の子供たちに見られる甲状腺がんの発現率は高いが、それは放射線被爆と無関係である。
UNSCEAR said, "Increased rates of detection of nodules, cysts and cancers have been observed during the first round of screening; however, these are to be expected in view of the high detection efficiency. Data from similar screening protocols in areas not affected by the accident imply that the apparent increased rate of detection among children in Fukushima prefecture are unrelated to radiation exposure."
”野生生物と近辺のエコシステムへの影響は、人間の健康に対して予見したものと同程度のものであった。高度汚染水が放出された区域、及び原発工場の隣接環境から遠く離れたい地域への影響はないと思われる。さらに、その隣接地帯であっても影響は一時的なものである。広大な太平洋の生物全体に対して“影響はあっても、大したものではない”」と委員会は報告した。
Effects on wildlife and nearby ecosystems were similar in magnitude to the predicted human health impact. UNSCEAR said it expected no effects beyond the areas where highly radioactive water was released - i.e. the immediate environs of the plant itself. Even there the effects would be "transient" it said. In the wider area of the Pacific Ocean, "the potential for effects on biota is insignificant."
「UN reports on Fukushima radiation」（02 April 2014）

Surprised at this report, I checked who are authoritative members of the UN scientific committee; Japanese Rapporteurs are Mr. Yoshiharu Yonekura, Director of National Institute of Radiological Science and Kazunori Kodama, Chief researcher of Radiation Effects Research Foundation.
What?
They are Japanese government itself, aren't they?
UN Scientic Committee? Authoritative committee?・・・Is this the end of Fukushima?・・・ Wow, it surely makes people of Fukushima happy・・・

Despite the fact that Radiation Effects Research Foundation published "**Vision 2012**" on-line stating that as they could not accommodate the anxiety of people because they have only external exposure data, they will strive to become the world research and education center for chronical effects of not only atomic bomb but also of general radioactivity based on the accumulated knowledge in the past.

Vision 2012 also committed to clarify the risk of the low radiation exposure including internal exposure and to fulfill the lack of internal exposure data by international cooperation to collect more data to respond to the request of people of Fukushima.
The Vision is self explanatory that this Cooperative Japan-US Research Organization admits the data they have is **insufficient to address the internal exposure risk assessment**.

As it was 2014 when I read "Vision 2012" in Wikipedia, I should keep their statement in Japanese as a record for possible argument in the future.

しかもですよ、”放射線影響研究所が外部被曝研究のデータのみで、福島第一原発事故による福島県民の内部被曝の不安に応える事が出来なかった事から、放射線影響研究所の新たな方針として過去の業績と蓄積した資料を使い、原爆に限らず一般の放射線の慢性影響に関する世界の研究教育センターを目指し、「放射線影響研究所将来構想**2012**」を出した。将来構想では、内部被曝を含めた低線量被曝のリスク解明し、現在日米共同機関を将来の課題として国際的組織にして、被爆者情報のデータベース化して国内外の研究者に開放し、共同研究で放射線影響研究所に少ない内部被曝のデータ収集をして、福島県民の不安に応えられるようにしていくとしている。”（ウィキペディア）とある。

While they say they have not enough data, the committee says on the other hand that children of Fukushima have no problem?
Who on earth can believe the conclusion of the UN report?
Let's keep this blog in Japanese as a record, too.

2014.04.06「プルトニウムの予告編：副題の”これでお終い？”」

This organizational overview clearly tells us that **World Nuclear Association, United Nation and IAEA** are the same institution as far as nuclear issue is concerned.
This is the **background behind Mr. Abe's "Fukushima under control" speech**.

Yes, 2020 T**okyo Olympic is the final step of Fukushima cover up strategy**. If it is held as they planned, Fukushima is going to be a history.
Do you people want make Fukushima a history?
According to the research paper of 10 times the world fall out of 239-plutonium quoted earlier, authors predict that the **radiation peak will come in 2080**. You can't make it a history because **Fukushima is on going Hiroshima and Nagasaki in much more disasterous magnitude**.

There are **technologies to mitigate radiation pollution** in the environment more effectively by using microbes and other biological means.
However, if the cover up remains unrevealed, there would be no substantial changes beyond today's mimitigation programs.

Fukushima is a crisis but it is also the opportunity for all of us to work together to solve the problem for our children and their children.
What happend is what happened.
We now know who are behind the cover up but don't need to blame them. Instead, we must let them work harder for the mitigation and let them pay the expenses for it. That is **their responsibility**.

There is conspiracy in this world we live in but conspiracy theory is something diffrent. Some may take this a conspiracy theory but there are quite interesting things regarding the award to Tokyo.

Conspiracy?

Olympics: Istanbul, Tokyo and Madrid submit 2020 bid files

7 January 2015 | Olympics

Share

Istanbul, Tokyo and Madrid have handed over their bid files to host the 2020 Olympics and Paralympics to the International Olympic Committee.

IOC members will make a decision on who will host the games by secret ballot in Buenos Aires in September.

The IOC's evaluation commission, led by Britain's Craig Reedie, will visit the cities in March and prepare a report for members in June.

Reedie also founder of WADA

Rodchenkov

The Worldwide Olympic Partners

1) Sir **Craig Reedie**, Deputy Chaiman of IOC **led the evaluation committee** of bidding cities. This is the fact.

2) GE became a WorldWide Olympic Partner for the first time for Beijin Olympic in 2008 and annouced early this year to continue the status until 2020. As China used GE's nuclear power reactor at the beginning of their nuclear power plant project, it may be nothing to be curious. Also, it was the year Sir Reedie was nominated to IOC board member, which may be just coincidence.

3) chairman of GE was the first economic adviser to Obama administration in 2009. That is the fact.

4) Sir Reedie is the **founder of WADA**. This is the fact.

5) **WADA** made an allegation that doping of Russian athletes was state-sponsored based on the **Rodchenkov**'s allegation. Mr. Rodchenkov was the chief analyst of doping test for Winter Olympic games in Sochi. This is the fact.

6) Rodchenkov is under FBI protection. This is the fact. However, I don't understand why FBI has to protect him because he was indicted in Russia before his asylum. **Rodchenkov's case seems to have some thing in common with Browder's case**. Mr. Browder is an American investor having made a lot of investment in Russia and he came back to the US and he accuses Mr. Prutin of his allegedely involvement in the corruption of the state owned energy corporation. My feeling is the same as US Senetor Lindsey Graham had at the testimony a couple months ago; he said to Browder "**if your story were true, why can you be here?** "
Because his activity in Russia was free, if some one wanted to do some thing very nasty it could have hapened any time. It is amazing that he could leave Russia safely if his story were true.
The latest allegation by Ms. May of England against Russia on poisoning ex-double agent, Sergei Skripal and his daughter sounds like same kind of story line.

7) Documentary film "**Icarus**" based on the Rodchenkov's assertion **won 2018 Oscar**. This is the fact. **2017 Oscar** was given to the documentary film featuring "**White Helmet**" of Syria. White Helmet is the **mock hero** to save civilians. It is the group of terrorists belonging to Al Nusra front funded by western countries. it is a propaganda tool for those who want to topple Assad regime. This is the fact.
Although I personally take that **WADA**, **Rodchenkov, Icarus** and **Oscar** are a set of **anti-Russia propaganda**.

It was not that difficult to get on to the entire structure of cover up strategy but the real challenge for me was how to break the hoax Hormesis.

3）Hormesis campaign to raise annual permissible level of radiation exposure from 1 mSv to 20 mSv

In the chronology chart, there is "Hiroshima Nagasaki survivors research: Linear No Threshold" early 2012. It is when the report was published: "**Studies of the Mortality of Atomic Bomb Survivors, Report 14, 1950–2003: An Overview of Cancer and Noncancer Diseases**" by researchers of Radiation Effects Research Foundation and Institute of Radiation Epidemiology, Radiation Effects Association.

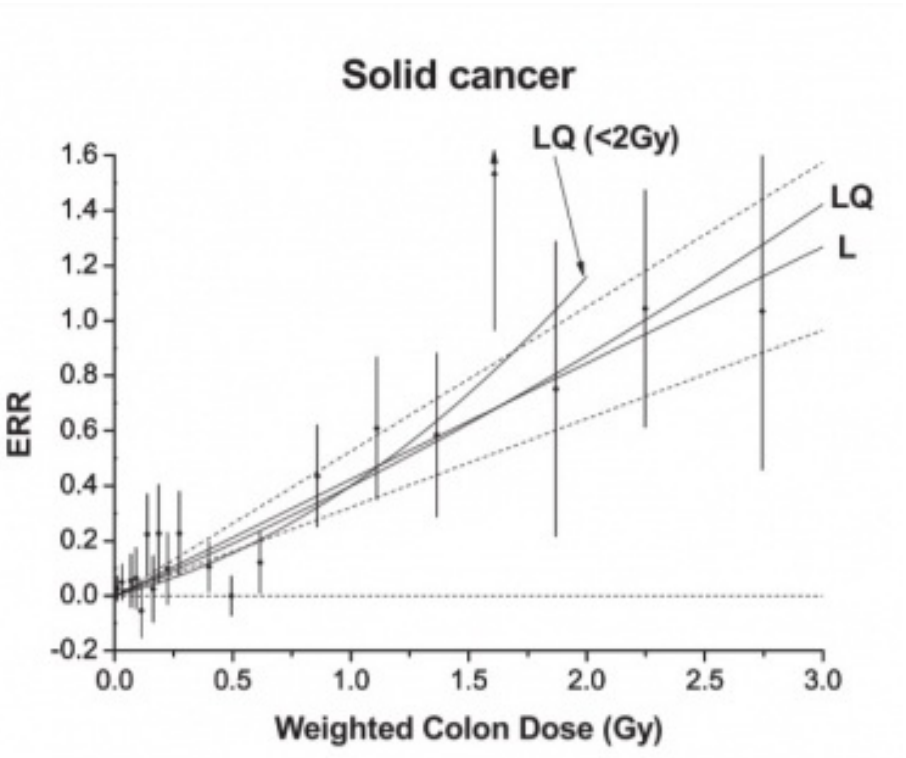


FIG. 4. Excess relative risk (ERR) for all solid cancer in relation to radiation exposure. The black circles represent ERR and 95% CI for the dose categories, together with trend estimates based on linear (L) with 95% CI (dotted lines) and linear-quadratic (LQ) models using the full dose range, and LQ model for the data restricted to dose <2 Gy.

This chart shows the relationship between radiation exposure levels(dose levels) and sideration of cancer which concludes that there is no threshold. It means that there is no exposure levels to be distiguished safe and "cancer sideration is dose dependant" which is the meaning of "no thresold linear relationship between dose levels and cancer occurence.

Horizontal axis is exposed radiation levels. Longitudinal axis shows the relative comparison between the possibility of sideration with and without radiation exposure.

Higher than 0.0 in ERR means the possibility of sideration with radiation exposure is larger than that without exposure.
Vertical line to cross the black dot(showing average) is the width of data spread. This means that since those who were exposed to the same level of radiation may show individual variation in sideration, such variation as low in ERR is evaluated by statistic analysis whether or not there is significant diffrence compared with those who were not exposed to radiation.
(Image is linked the report)

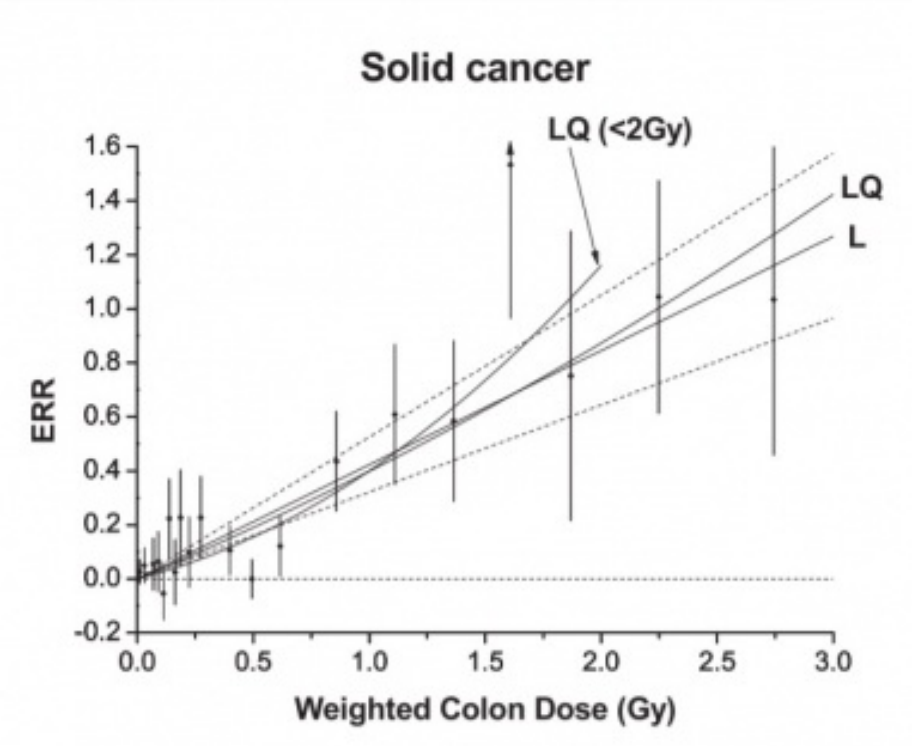


FIG. 4. Excess relative risk (ERR) for all solid cancer in relation to radiation exposure. The black circles represent ERR and 95% CI for the dose categories, together with trend estimates based on linear (L) with 95% CI (dotted lines) and linear-quadratic (LQ) models using the full dose range, and LQ model for the data restricted to dose <2 Gy.

Horizental dotted line at 0.0. Dots and vertical line below 0.0 dotted line is the data of those who lived outside 2.5 Km from hypocenter or ceter of explosion.

Survivors were on the research from 1950 to 1965 with the first evaluation and the reserch was continued from 1966 to 2003. This report is the re-evaluation of both studies combined.
The first 15 years' evaluation seemed to suggest Hormesis curve but the re-evaluation of the longer term indicates that "Linear No Threshold (LNT)" is appropriate and rather shows upward curve at later stage.

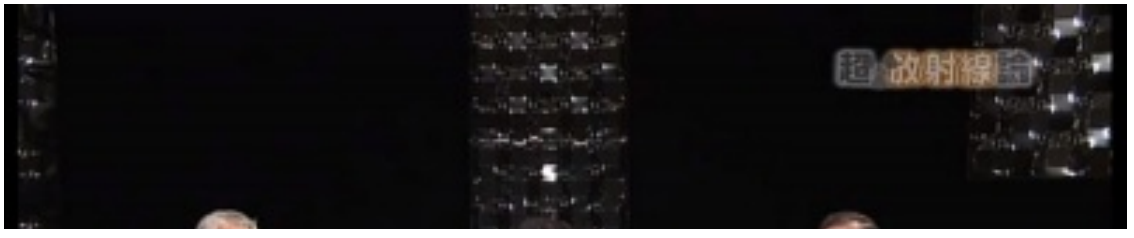
Population parameter is more than 82,000 in Hiroshima and 38,000 in Nagasaki and the evaluation result of Nagasaki survivors with smaller population paremeter is different from that of Hiroshima survivors but the re-evaluation combied shows the clear LNT.
However, if you take only lower dose levels, it won't be LNT but it shows a curve with two knobs, on which the report says that its causal relationship can't be explained but also says that as the curve won't go under zero, **Hormesis can't be applied**.
This is not my opinon but the report says so. .

Lets' confirm whether the US EPA presentation of May 19, 2012 is the sign to go with Hormesis or not.
Although the YouTube video below was uploaded on August 5, 2012, original DVD had been published in December in 2011 or early January 2012.

The debate was between Honarary professor and medical doctor of Osaka University, **Mr. Nakamura** and **Mr. Takeda**, popular self-claimed radiation expert, professor of Chubu University. Mr. Takeda won the extreme popularity after the Fukushima disaster because he was taken as a firm supporter of LNT. He participated in this debate to represent those who believe that 1 mSv anual permissible level must be kept while Mr. Nakamura is on the oppsite side to raise it to 20 mSv.

However, if you watch the video you will know immediately that this is a **disguised debate** because Mr. Takeda is more enthusiastic to emphasize the safety of radiation rather than Mr. Nakamura by implying even 100 mSv should be permissible.
In fact, there were lots of people who were disappointed in his brilliant transformation. Unfortunatey it is in Japanese language web site entitled "**Dr. Takeda, I am so sad**" dated on January 11, 2012 though, you can read the long thread of people which express their disappointment and ridicule against his sudden-change rhetoric .

It is quite easy to imagine that there must have been some friendly advise to him by someone but in this debate as there is nothing worth scientific discussion in Mr. Takeda's argument, I will focus on Mr. Nakamura's explanation how he thinks it appropriate to employ Hormesis theory. Let's move to the screen shots below.

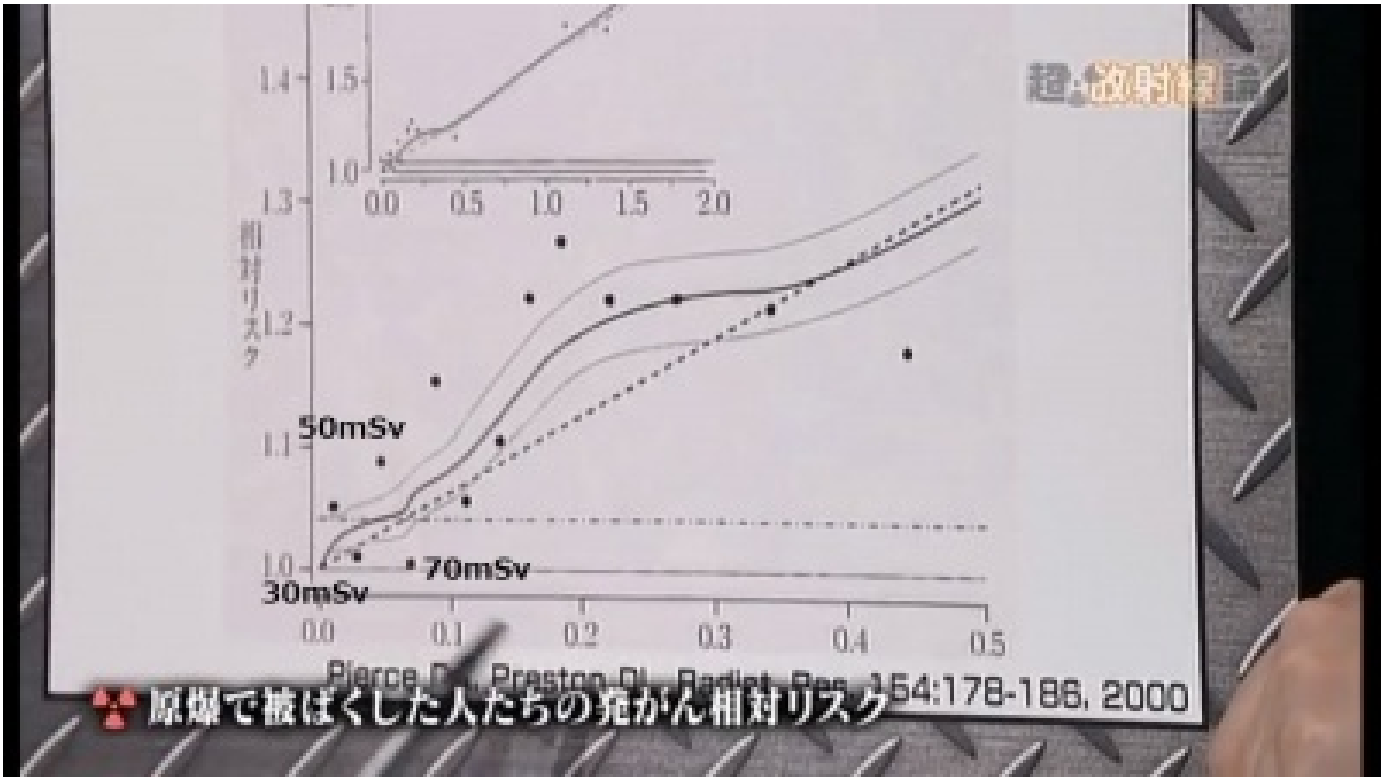



超・放射線論
大阪大学名誉教授
中村　仁信
中部大学教授
武田邦彦

Sounds like re-interpretation of the constitution for collective self defense

This is the same gragh as discussed earlier on Hirosima Nagasaki Survivors Study.

His interpretation of the report to take Hormesis denying "No Threshold Linear(LNT)" conclusion.

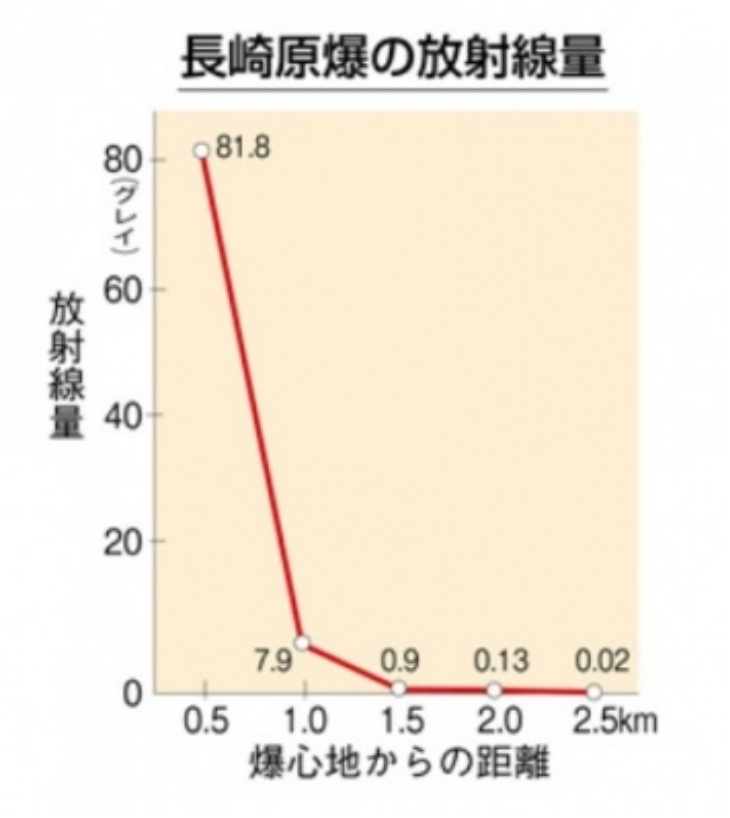


Above 1.0 horizontal line, he says the data of those who lived within 3 Km from the hypocenter and even those who lived outside 3 Km have cancer with no radiation exposure.
His saying 3 Km is just a small mistake of 2.5 Km in the official report but there are two fundamental distortions in his interpretation.

1) He says that there are those who show 70 mSv radiation exposure near the 2.5 Km boader where radiation level is not high. Despite that the official report says that it is within the data spread as the result of the statistic analysis including ERR factor (vertical axis), he may ignore it or cherry pick the convenient data.

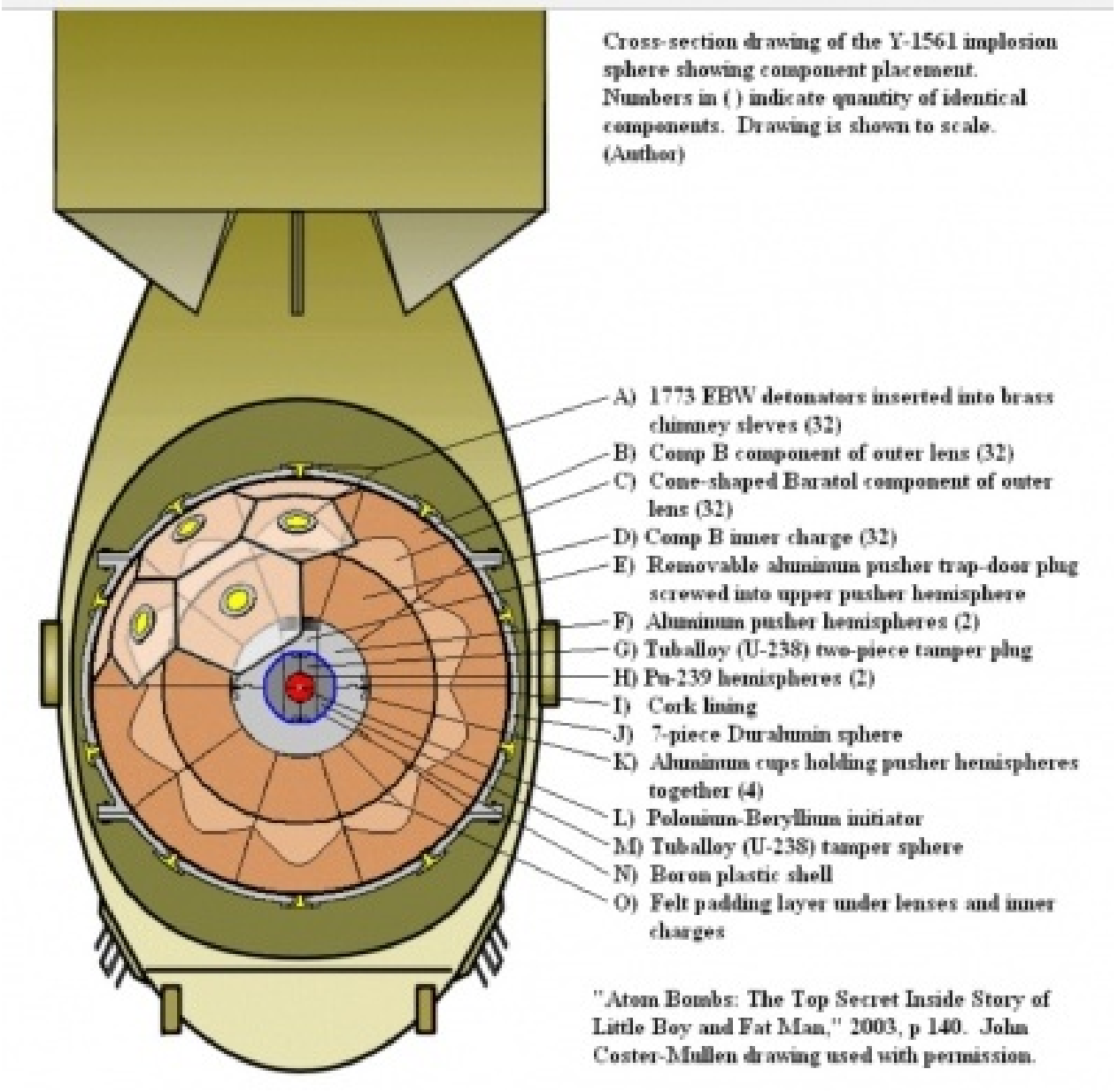
2）The second distortion is more serious but I am not sure whether he had the intension to distort or did not know how serious small particles are for internal exposure through inhalation.
His radiation exposure concept may largely come from this chart which shows the relationship between the levels of radiation ionized in vertical axis and distance from hypocenter of Nagasaki A-

bomb.



Radiation ionized means underwent fission and radiation exposure deos not mean only exposure to radiation ray from nuclear fission. This is particularly important for Nagasaki A-bomb because it is 239-plutonium bomb and its inhalation toxicity is vary dangerous.

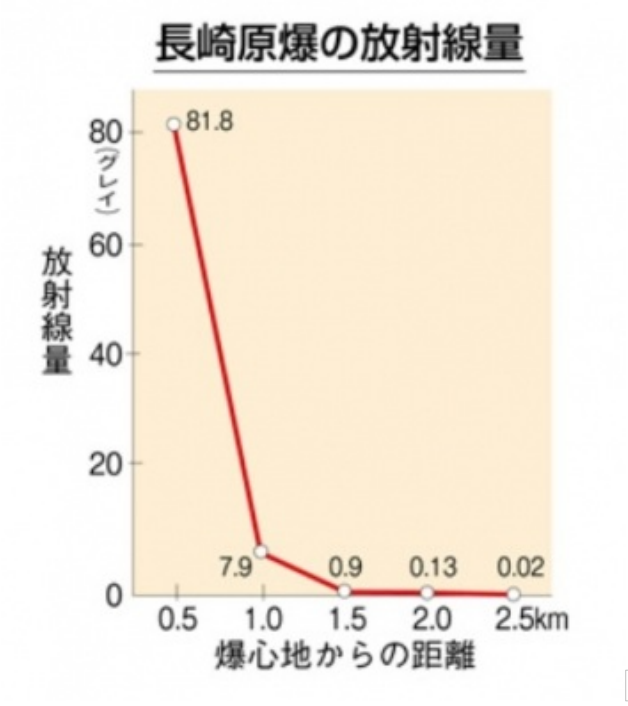
This is the diagram of Fat Man, implosion type of plutonium-239 fission bomb, dropped on Nagasaki.
You can see H) Pu-239 hemisphers, which is the main nuclear material to fission.



The explosive yield of "Fat Man" is said about 20 kirotons in TNT equivalent
while Hiroshima's "Little Boy", uranium-235 fission bomb is said 15 kirotons.
Calculated from the yeald of 20 kirotons, fissioned quantity of 239-Pu is said about 1 Kg of 6 to 6.5 Kg packed inside.
Then, where did the rest of 5 to 5.5 Kg go?

That is, the left graph means the radiation ionized of 1 Kg of 239-Pu only.
5 to 5.5 Kg, which were not ionized, flew in all directions by air blast by explosion in the form of various size of particles to fall out.

10 ～30 Km witten in the fire work image is the guideline and suggestion the US Homeland Security published for sheltering in case of nuclear bomb attack by terrorism.



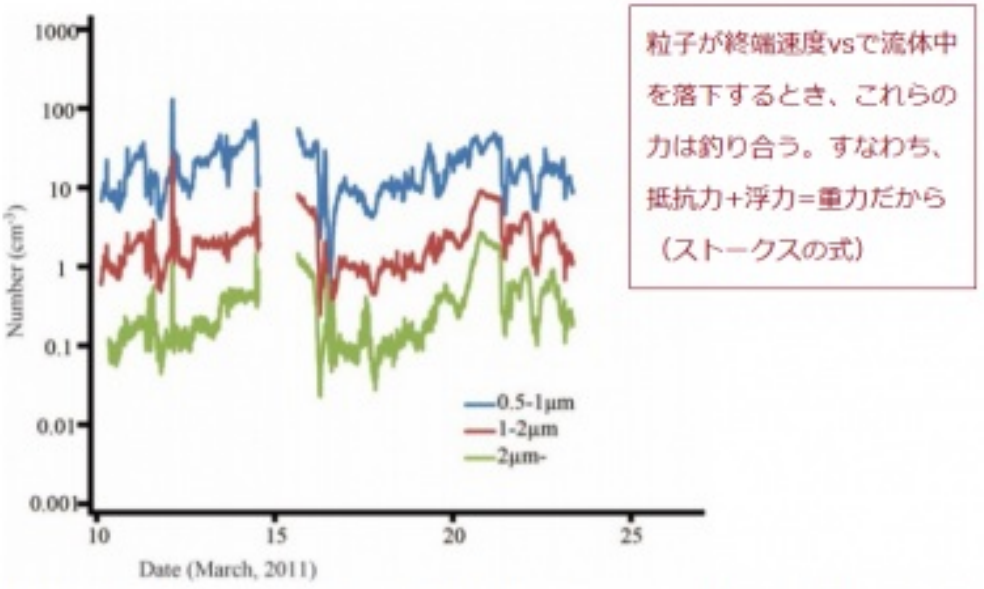
.

However, the guideline is not enough to prevent possible inhalation of small particles.

The chart shows that there are much more smaller particles than larger ones released from the same source although Fukushima was not A-bomb explosion. More worrisome is the the length of time of this size of particles to float in air by Stokes' law.

It is an atom that emits radiation ray, alpha ray in case of 239-Pu and the number of atoms 1g of 239-Pu contains is 2.47X10 to the 21th power. 1Kg=2.47X10 to 24th power. Compare with 1 billion=10 to 9th power and 1 trillion=10 to 12th power.
A particle is a coagulation of atoms and oxidised molecules and number of atoms contained in a particle depends on the particle size.

図 2－1．エアロゾルの粒径ごとの数　捕捉数は 2μm-、1-2μm、0.5-1μm ごとに約 10 倍程度多い



引用者注記：3 月 15 日前後のデータの不連続は、地震（余震であろう）による電源供給の不安定（停電のことと思われる）があり機器が作動しなかった結果であると説明されている。

Getting back to the discussion of Dr. Nakamura, radiation ionized reduces by distance but regardless the 2.5Km boaderline, survivors inhaled small particles to cause internal exposure. Therefore, **his logic to deduce and endorce Hormesis theory from the long term survivors' study is not valid** and he is intrinsically wrong because he does not take the inhalation of the most dangerous alpha emitter, 239-Pu, into consideration at all.

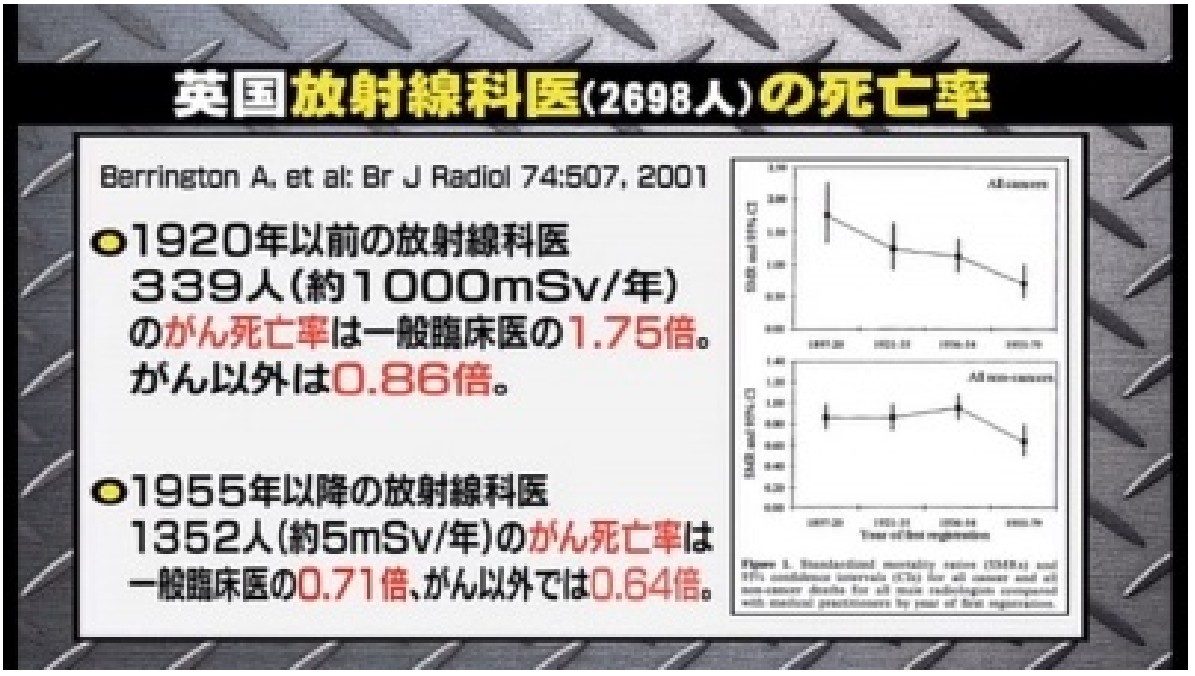
Dr. Nakamura uses other data to support Hormesis quoting epidemiological studies on hospital doctors of department of radiology in England and renovation workers of US atomic ships.

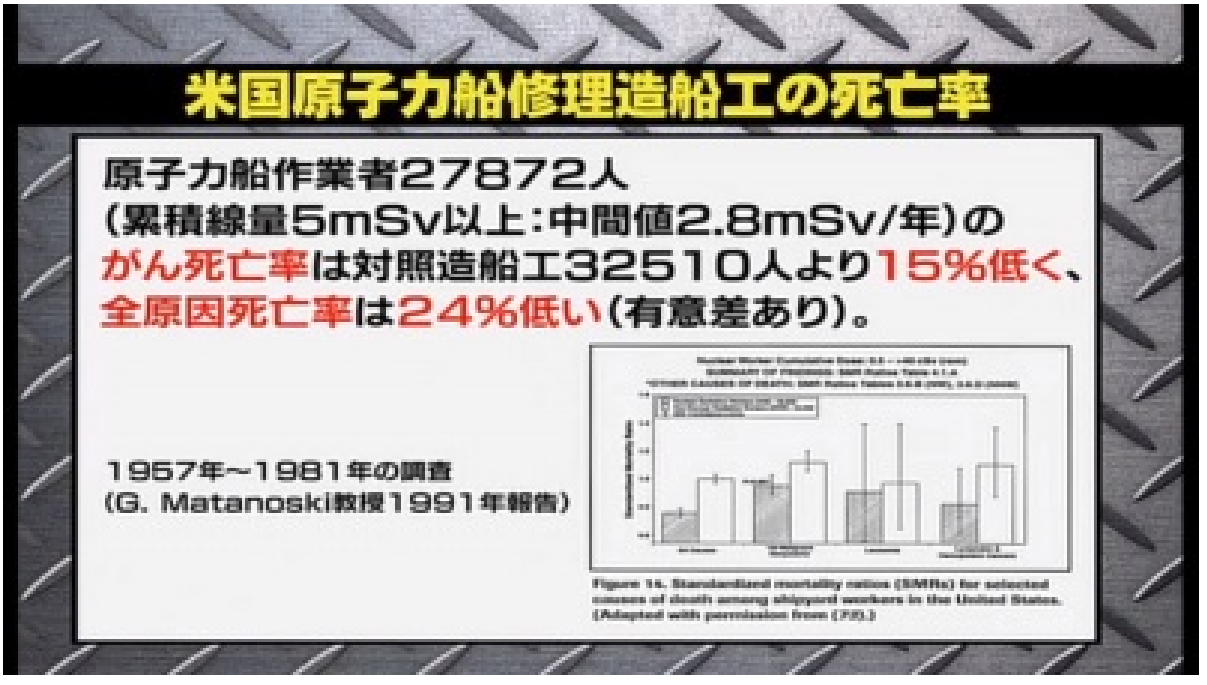
Epidemiological studies are abundant on workers at nuclear bomb manufacturing facitilities. Normally, those studies are discussed but somehow he quotes rather moderate or minor studies. I can't help thinking that he uses them because they show the convenient result for his purpose to endorce the adequacy of Hormesis.

see no evil, hear no evil, say no evil

There are many uncertainties on epidemiology studies and I think Dr. Nakamura is aware of them. Individual variation in pre-existing condition, immune system, life style including smoking and others make the charactor of population parameter unreliable for accurate statistic analysis. This is the reason of controversy no matter what result the studies come up with.

Let's jump on the third image below.





This is a paper published September 2017 by scientists of Belgium who are proud of having made the charactor of population parameter in question much more reliable than ever.
This paper denies what both Dr. Nakamura and Mr Takeda talk about ICPR guideline overstrict.
ICPR recommends alpha emitters as strong as five times the gamma and/or beta emitters to calculate dose equivalent but this study concludes that "five times" is not enough, meaning that alpha emitters are much more dangerous for internal exposure.

Risk of Lung Cancer Mortality in Nuclear Workers from Internal Exposure to Alpha Particle-emitting Radionuclides

Grellier, James[a,b,c,d]; Atkinson, Will[e]; Bérard, Philippe[f]; Bingham, Derek[g]; Birchall, Alan[h,i]; Blanchardon, Eric[j]; Bull, Richard[e]; Guseva Canu, Irina[k]; Challeton-de Vathaire, Cécile[l]; Cockerill, Rupert[g]; Do, Minh T.[h]; Engels, Hilde[j]; Figuerola, Jordi[a,b,c]; Foster, Adrian[m]; Holmstock, Luc[j]; Hurtgen, Christian[j]; Laurier, Dominique[l]; Puncher, Matthew[h,i]; Riddell, Anthony E.[h]; Samson, Eric[j]; Thierry-Chef, Isabelle[n]; Tirmarche, Margot[l]; Vrijheid, Martine[a,b,c]; Cardis, Elisabeth[a,b,c]

Epidemiology: September 2017 - Volume 28 - Issue 5 - p 675–684
doi: 10.1097/EDE.0000000000000684
Cancer

Abstract | In Brief | Author Information | Article Outline

Background: Carcinogenic risks of internal exposures to alpha-emitters (except radon) are poorly understood. Since exposure to alpha particles—particularly through inhalation—occurs in a range of settings, understanding consequent risks is a public health priority. We aimed to quantify dose–response relationships between lung dose from alpha-emitters and lung cancer in nuclear workers.

Methods: We conducted a case–control study, nested within Belgian, French, and UK cohorts of uranium and plutonium workers. Cases were workers who died from lung cancer; one to three controls were matched to each. Lung doses from alpha-emitters were assessed using bioassay data. We estimated excess odds ratio (OR) of lung cancer per gray (Gy) of lung dose.

Results: The study comprised 553 cases and 1,333 controls. Median positive total alpha lung dose was 2.42 mGy (mean: 8.13 mGy; maximum: 316 mGy); for plutonium the median was 1.27 mGy and for uranium 2.17 mGy. Excess OR/Gy (90% confidence interval)—adjusted for external radiation, socioeconomic status, and smoking—was 11 (2.6, 24) for total alpha dose, 50 (17, 106) for plutonium, and 5.3 (−1.9, 18) for uranium.

Conclusions: We found strong evidence for associations between low doses from alpha-emitters and lung cancer risk. The excess OR/Gy was greater for plutonium than uranium, though confidence intervals overlap. Risk estimates were similar to those estimated previously in plutonium workers, and in uranium miners exposed to radon and its progeny. Expressed as risk/equivalent dose in sieverts (Sv), our estimates are somewhat larger than but consistent with those for atomic bomb survivors.

See video abstract at, http://links.lww.com/EDE/B232.

Both gentlemen in this debate acted as the instrument of the World Nuclear Association and the US government for hoax Hormesis campaign but were unwieldily downed six years later.

Mr. Takeda pretended to show his adversarial quality but he is a kind of person who wrote on March 27, 2011 in his blog that plutonium does not pose any significant health hazard.

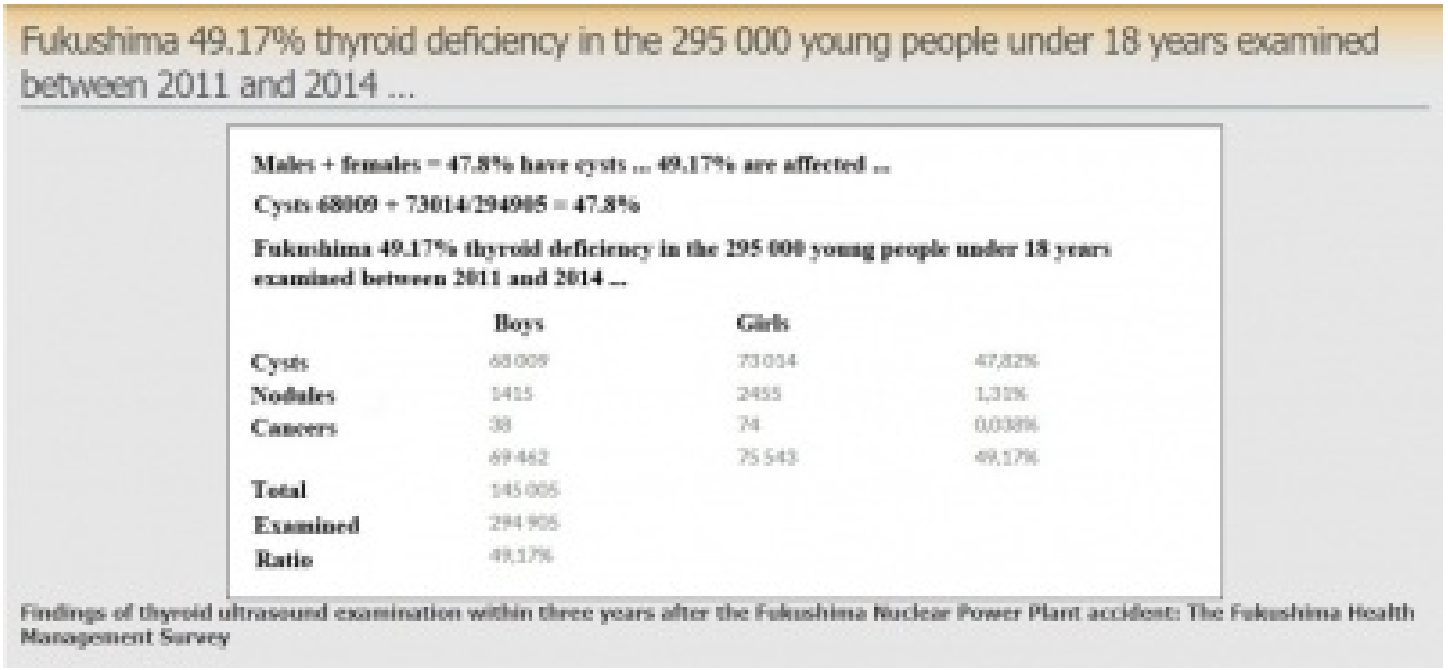
I learnt recently but I am amazed that there were so many Japanese scientists who said the same thing soon after the Fukushima. I doubt that they knew the massive release of weapon grade plutonium from Unit 4 but I can't deny that they were used as tools for the cover up.
Those names are listed in this blog in Japanese language for the record.
2017.12.11 「武田邦彦さん、知ったか振りは拙いんじゃないですか？」

（From album of Mr. Kaoru Hirasawa, painter of light and shading）

4）Dire outlook of health hazards

Thus far, it is understood that Hormesis theory is based on paper-thin evidence.
It is scary to think about how much 239-plutonium was released from Unit 4 and due to the cover up of Unit 4, overall radiation release from Fukushima has been hidden from public eye.

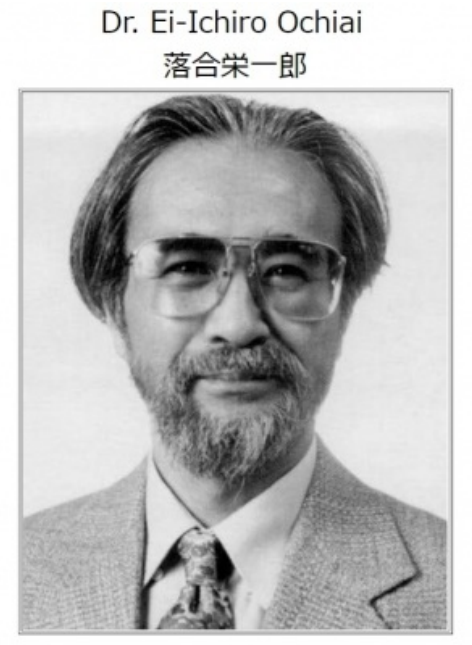
The authorities insisted that there was no causal relationship between thyloid cancer increase in Fukushima and radiation but the research paper published December last year will not allow such a weasel word any longer.
49% of 295,000 children under 18 years old has thyloid aberration including cancer.
This is a fresh reminder of dishonesty of the UN report discussed in the previous blog.



The Hiroshima/Nagasaki Survivors' report concluded that the sideration of cancer increases with age and life time problem but also induces other diseases.
Table 8 is from the report saying:
The risk of circulatory diseases was significantly higher. This is important because circulatory diseases are the leading cause of death in developed countries.
The risk of respiratory diseases was also significantly elevated due to the increased risk of pneumonia and influenza, which constituted 63% of the deaths from respiratory diseases. However, characteristics of pneumonia and influenza appeared to be different between the periods of observation; namely, it was associated with acute epidemics in the early period but was more likely to be associated with terminal diseases among the elderly in the more recent period. Hence a problem in interpreting pneumonia and influenza deaths is that they may be associated with other concurrent or underlying diseases.

Although digestive diseases showed an association with radiation during 1966–2003, liver cirrhosis, which constituted 43% of digestive disease deaths during that period, did not show any increased radiation risk. Therefore, further detailed analyses of both respiratory and digestive diseases are planned. There was no association of radiation dose and death due to external causes or to infectious/parasitic diseases.

There is a research for those who think radiation problem is something in remote areas to which would be shocked.



Dr. Ochiai earned his B.S., M.S., and Ph.D. from the University of Tokyo. He conducted postdoctoral research at Ohio State University, taught at the University of Tokyo and the University of British Columbia, and was a visiting scholar at the University of Maryland before coming to Juniata as an associate professor in 1981. He has since taught as a visiting professor at the university of Umea, Sweden and the University of Toronto, Canada.
Dr. Ochiai is a member of the American Chemical Society and the American Association of the Advancement of Science.

He published a research report on September 28, 2015;
「The Human Consequences of the Fukushima Dai-ichi Nuclear Power Plant Accidents」

The increase of myocardinal infarction across the country;

Table 5. Increase of myocardial infarction [21]

prefecture	2010	2011	2012	2013	2013/2010
Fukushima	507	622	668	675	133%
Tochigi	722	878	1014	977	135%
Gunma	538	710	797	821	153%
Ibaragi	700	948	1077	1212	173%
Miyagi	598	718	831	901	151%
Saitama	1873	2465	2733	2752	147%
Chiba	1447	2008	2558	2604	135%
Tokyo	3680	4849	5581	5605	180%
Kanagawa	2361	2871	3421	3657	155%
Aichi	2212	2877	3158	3287	149%
Osaka	2335	3224	3648	3652	156%
Fukuoka	1533	1996	2326	2285	149%
Okinawa	437	572	537	669	153%
Japan	35411	46109	51947	53400	151%

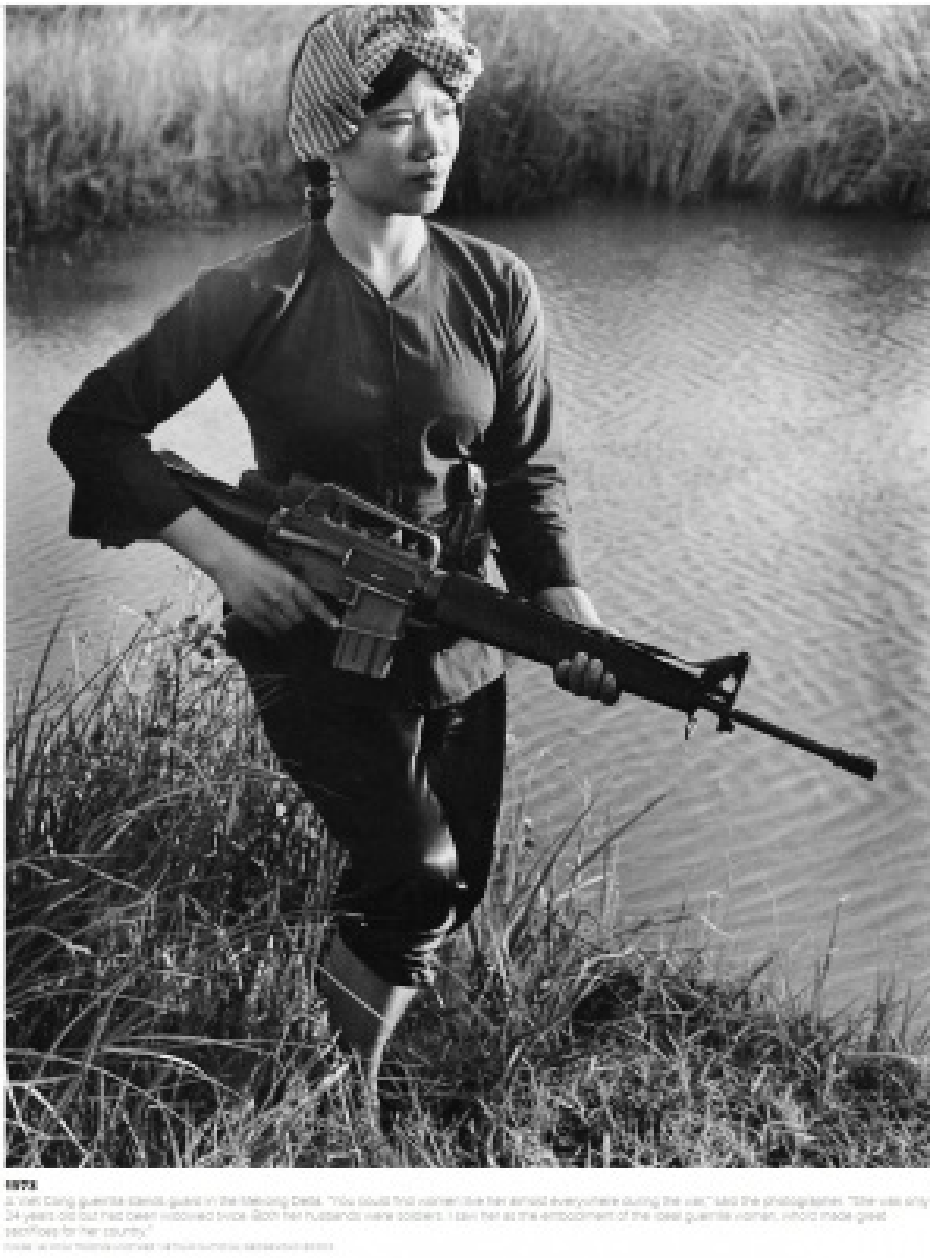
Nation wide increase of acute leukemia; Please refer to the report for other diseases.

Table 6. Acute leukemia is also increasing [21]

Prefecture	2010	2011	2012	2013	2013/2010
Fukushima	108	97	79	230	213%
Tochigi	363	418	340	322	89%
Gunma	113	178	267	350	310%
Ibaragi	251	309	351	324	129%
Yamagata	121	117	172	135	112%
Miyagi	191	236	199	241	126%
Saitama	266	336	590	757	285%
Chiba	449	430	529	576	128%
Tokyo	1770	2135	2366	2342	132%
Kanagawa	686	1024	964	1062	155%
Aichi	895	1138	1208	1178	132%
Osaka	869	1210	1393	1623	187%
Fukuoka	686	755	722	767	112%
Hokkaido	449	628	728	830	185%
Okinawa	101	111	111	110	109%
Japan	12820	15498	17015	18167	142%

Honestly, I have nothing more to say.
It might be better; knows nothing doubts nothing.

"Trivialization of Fukushima and Unit 4 cover up" is such a deep scale conspiracy as "fact goes beyond fiction" for most people not to believe instantly.



Some frustration

People don't know geiger counter can not detect alpha wave?

People don't know weapon grade plutonium?

People don't know particles emitt radiation ray?

People don't know the internal exposure is caused by inhaled particles?

People don't know particles?

People think radiation ray is like laser beam?

Or,

see no evil, hear no evil, say no evil ?

Save 420 sailors of USS Ronald Reagan

Japanese people were privileged to feel the courage to live out the jeopardy thanks to American soldiers' dedicated activity.
Even if they were on the official mission of "Operation Tomodachi" but unless each one of them have a warm heart caring for others in misery, they could not be so sweet for kids and such a scene as two men taking hold hands so firmly could not be seen.

Caring mind and kindness for other people in catastrophic situations may be inherent nature of human being regardless of race or gender. This is the origin of peace and hormony.

This is Part II in addition to Part I to support the Class Action of unfortunate sailors of USS Ronald Reagan who suffer chronical health damage by the internal radiation exposure from Fukushima Daiichi Nuclear Power Plant(DNPP).

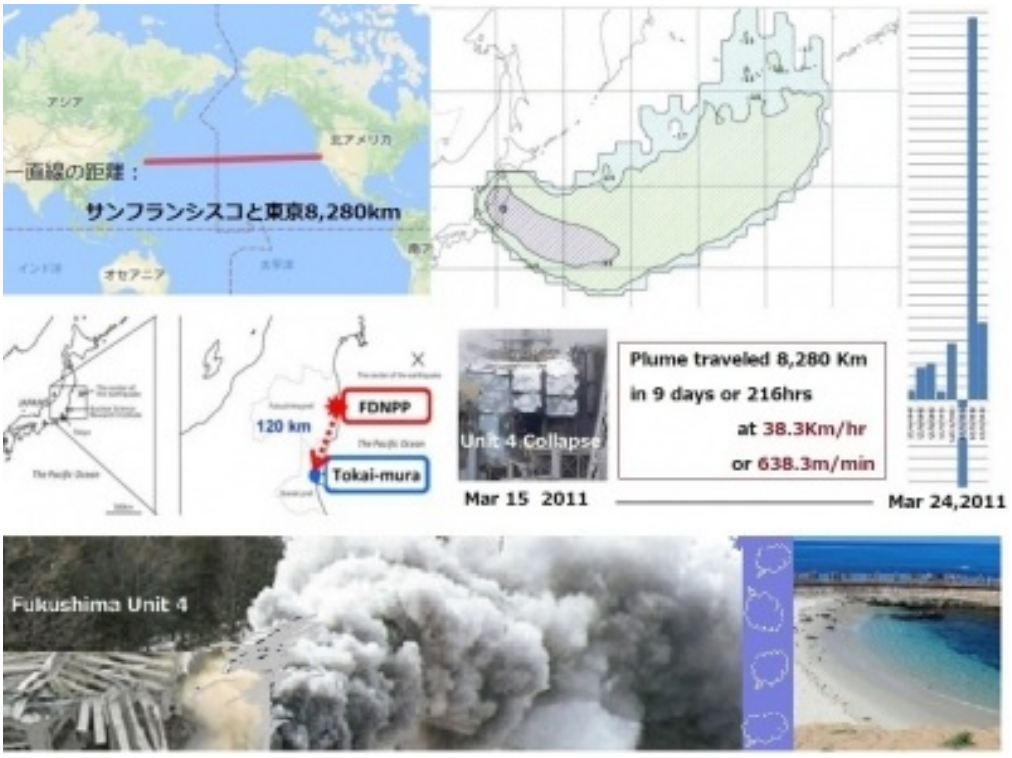
Image from https://www.girlsaskguys.com/relationships/a28001-do-true-relationships-happen-because-of-perfect-timing-or-is-it-just

1) Seven years since・・・

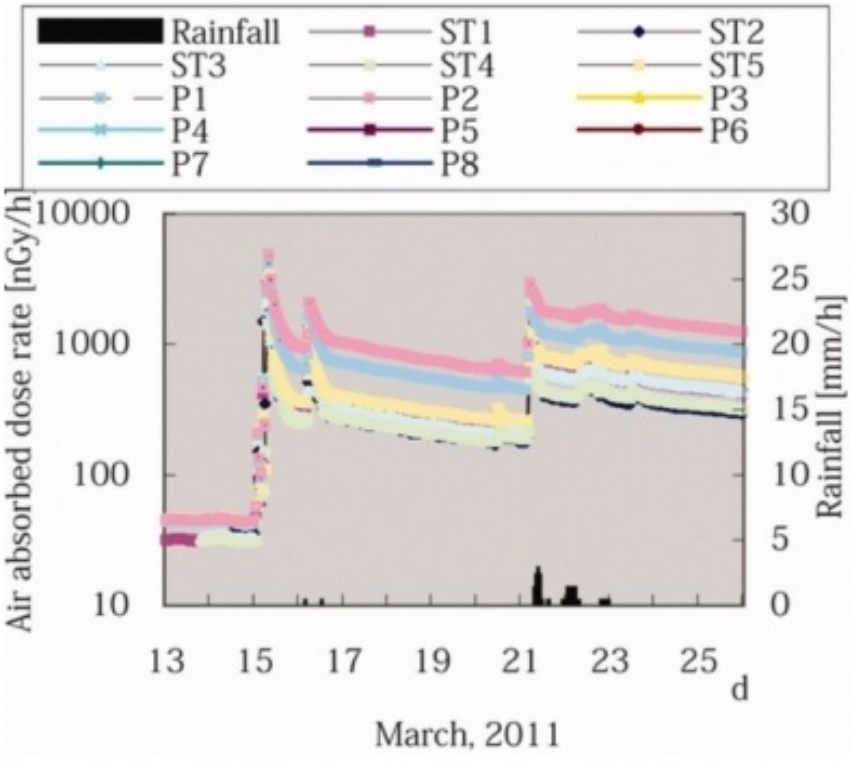
402 unfortunate victimes of of Fukushima DNPP accident.
This lady has lost her eye-sight soon after this photo was taken. Watch the video here.

Although the position of USS Ronald Reagan of March 24 is not on the map, I was curious why these sailors didn't wear any protective gear while working on the deck.

Massive radiation plume includin 239Pu from Unit 4 on March 15 arrived at California on March 24 as discussed in Part Ⅰ. It took 9 days to get there.



There were three waves of radiation plume from Fukushima DNNP and the second wave was the major focuss of the discussion in Part I .



The third plume wave is the theme to discuss here.

	Alaska, U23
1993/9/10	14.9
1993/9/22	5.33
1994/4/5	11.9
1994/4/6	12.7
1994/5/4	21.4
1995/11/6	34.1
1995/11/6	3.56
1995/11/22	4.6
1995/12/8	2.6
1995/12/8	6.09
1996/1/17	6.29
1996/1/23	9.93
1997/8/6	3.36
1997/8/6	14.6
1998/3/24	9.78
1999/1/11	13.3
1999/8/23	9.12
2002/4/22	8.9
2002/4/25	18.3
2002/5/22	8.13
2002/10/24	9.3
2002/11/21	8.48
2005/2/24	28.6
2005/6/6	11
2005/7/25	12.9
2006/10/12	8.9
2009/12/14	6.9
2011/4/1	126
2011/4/1	144

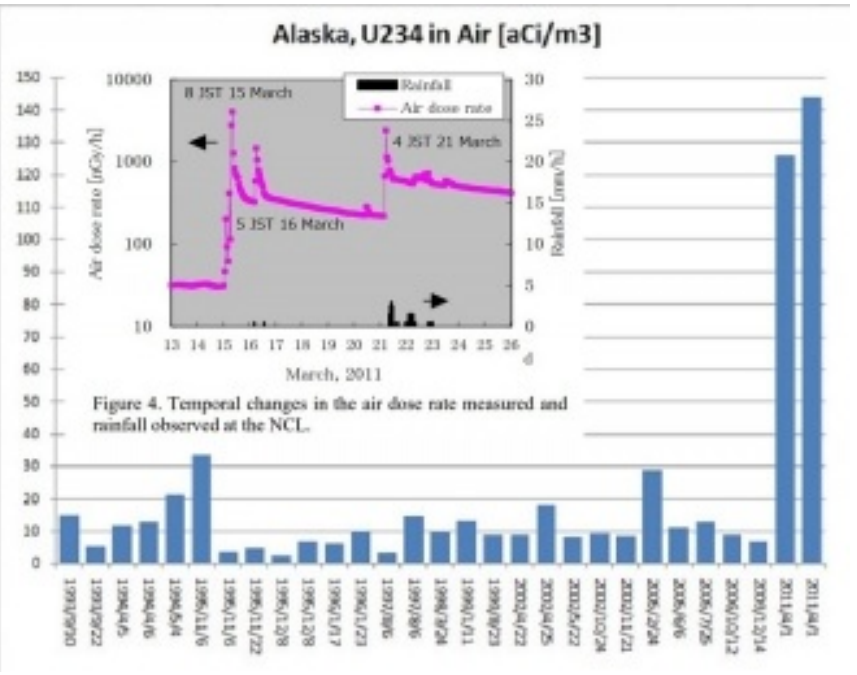


Figure 4. Temporal changes in the air dose rate measured and rainfall observed at the NCL.

The third wave was observed at the IAEA laboratory 100 Km south from Fkushima DNPP on March 21 and the wave reached Alaska on April 1, 11 days later if 234U were a major nuclide of the plume.

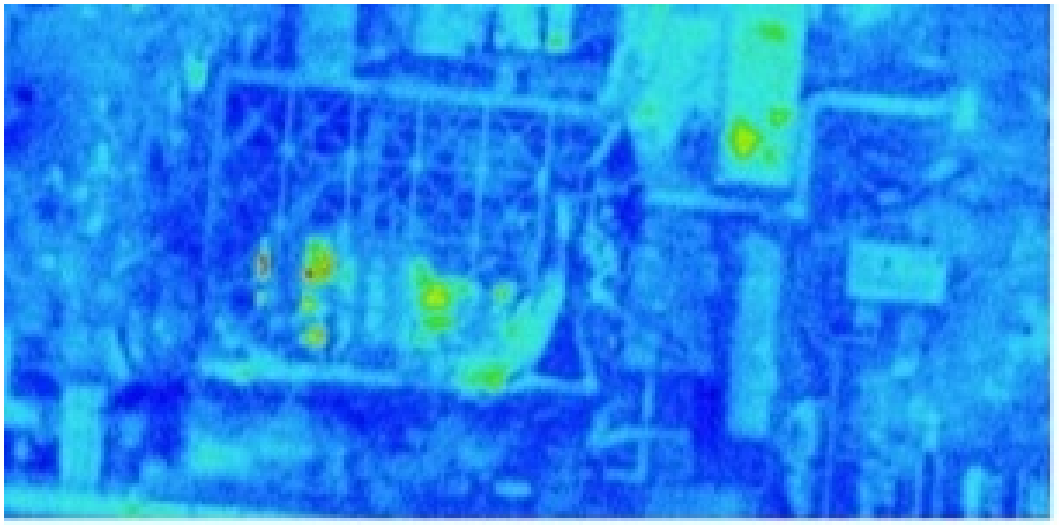
Mystery

2) Where did U234 come from?

Let's take a look again at photographs of that Facebook site partly quoted in the part Ⅰ.

March 18, 2011 fly over. Yellow smoke seen rising up from R4SFP indicating fuel damage in the SFP!

It was March 15 when more than 1000 mSv/h was detected inside Unit 4 (in Part Ⅰ) and smoke and steam were from spent fuel pool(SFP) as seen on March 18 and March 20, respectively.
And regarding the heat signiture of **March 20** (below), the author says that heat signiture is observed in the core, Equipment pool and SFP but **SEP shows more heat**.



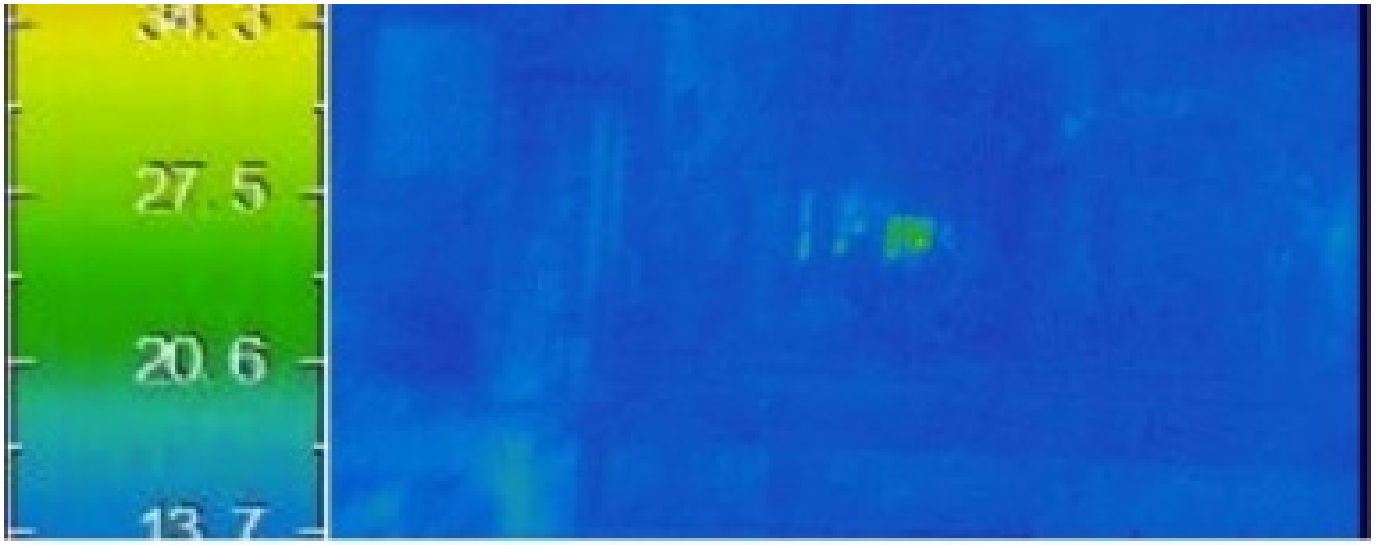
March 20,2011 heat signature from thermographic images show there was more to reactor 4 then the spent fuel pool. The SFP would be on the left and the core in the muddle and the equipment pool on the right all show heat signatures.

The next two photographs are of March 24 to see the steam rising the center but not from SFP.

March 24, 2011 drone fly over of R4 facing west seeing east wall, red swing pump for pumping concrete used for pumping water on R4. See steam rising from centre of R4 building. see molten mass out of the north wall onto vent pipe (right side of building)

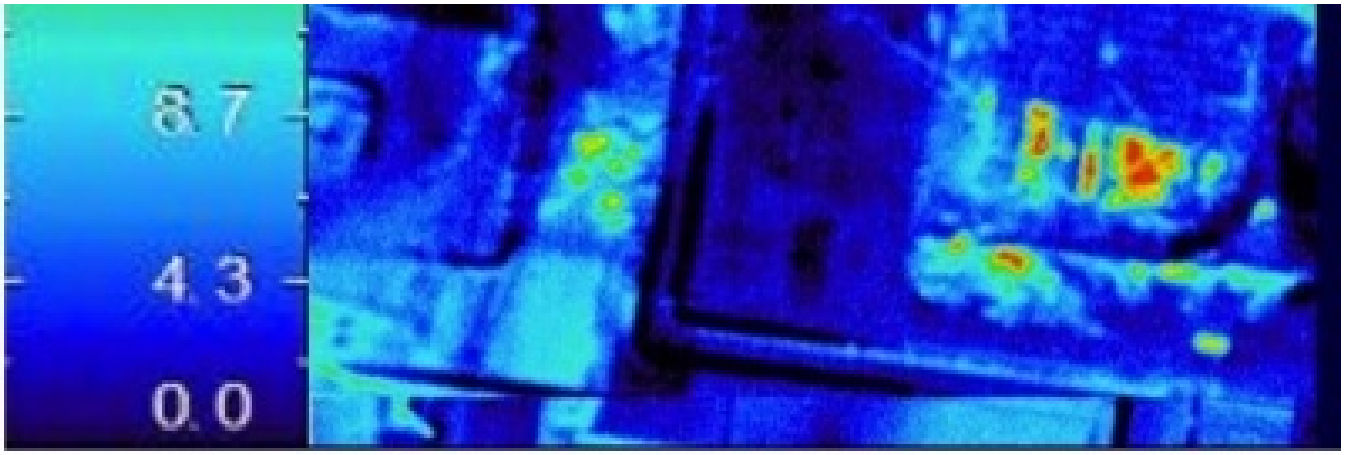
March 24, 2011 drone fly over facing east. Molten mass north wall left of building. steam seen rising from the centre of R4

The heat signiture of the same date to show that the core is the highest heat source.



March 24, 2011 heat signature from thermographic image show R4 (centre pic) with the highest heat source in the centre of the building where the core is located that corresponds with the steam rising from the drone fly overs.

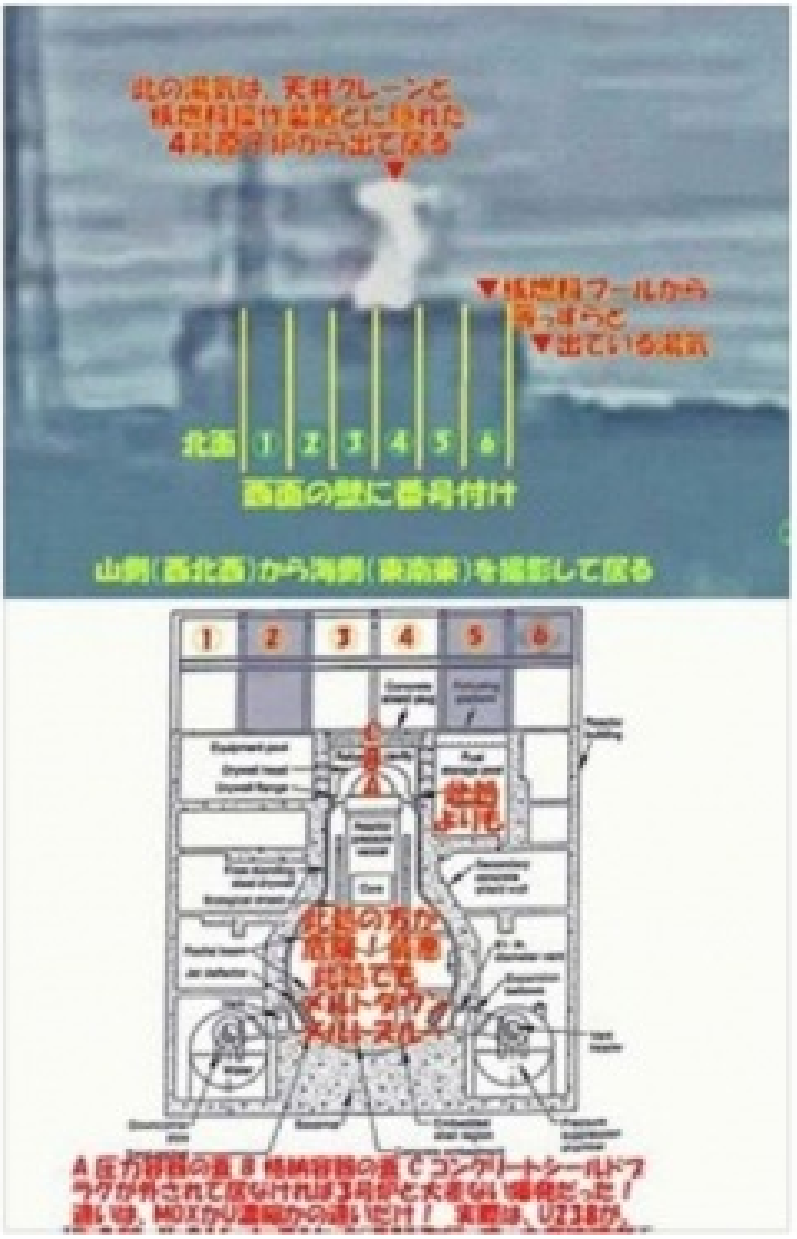
The core, SFP and Equipment pool, all of them show high heat signiture on March 28.



March 28, 2011 heat signature from thermographic images shows high heat source from R4 core, R4SFP and R4EP (Reactor 4 Equipment Pool)

The steam observed at the March 24 photograph is **from the reactor core** but not from SFP in the structural perspective below.

Unit 4 reactor (not fuel pool) spewing steam in 2011:



The web site owner's comment goes;

This picture shows reactor 4 bellowing steam from the centre of the building (Top Pic) where the core is located. The bottom picture shows reactor 4 building lay out sized to the same size as the top picture. We can see the equipment pool on the left of the bottom pic (north) and the spent fuel pool on the right (south) We can also see the the equipment pool is not as deep as the core or the spent fuel pool meaning if low water condition existed the fuel in the equipment pool would burn and meltdown first. This would explain the molten mass out the north wall of R4, it would also explain why R4 north wall is pushed out and caved in at the top.

R3 exploded before R4 and R4 north wall was not pushed in then it had to of happened from the high heat of a fire when the equipment pool melted down and left the building which caused reactor

four hydrogen to build up and explode.

There is no question I think, TEPCO and the nuclear industry are lying about Reactor 4. Is the SFP all burned up? I don't think it all is... but its defiantly damaged and defiantly lost some fuel. Pictures show steam so that means water and current 2013 images show intact fuel so it could not have gone completely dry as there would not be such intact fuel assemblies as we see now.
Did the equipment pool go dry? well it looks like it
Did the core burn? well it looks like it
Did the R4SFP burn? well it looks like it did partially not fully.

It is a mystery if there was a specific reason for US EPA monitorerd **234Uranium** as a target compound because 234Uranium occurs as an indirect decay product of uranium-238, but it makes up **only 0.0055%** (55 parts per million) of the raw uranium.

Hypothesis

The answer is not known but IAEA Technical Report page 119 states;

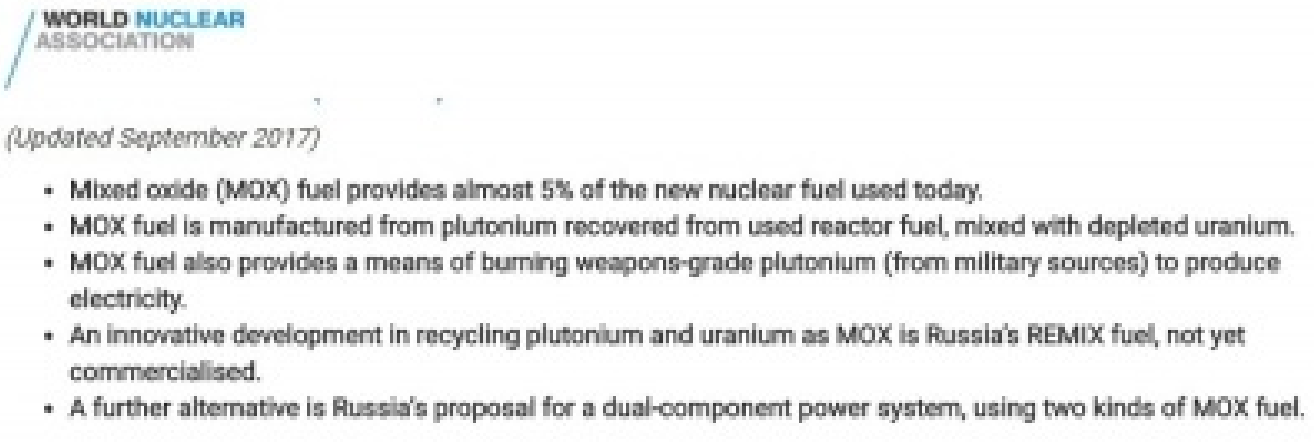
Unit 4 had been shut down for the planned refuelling outage since 30 November 2010. The reactor was disassembled, with the head removed at the time of the earthquake. The cavity gates were installed, isolating the SFP from the upper refuelling pools. All fuel assemblies had been transferred from the core to the SFP. In total, 1331 spent fuel assemblies and **204 new fuel assemblies** were stored inside the SFP, having an estimated decay heat of 2.26 MW by 11 March. The SFP temperature was 27°C at the time of the earthquake.

Let's take the statement as it is but no public information is available about **204 new fuel assemblies** because IAEA Report says as discussed in Part Ⅰ that they **didn't consider core invenories of Unit 4 at all** and SFPs of Unit 1 to 3.

Let's proceed the discussion with a **hypothesis** that those **204 new fuel assemblies were new type of MOX fuel**.

3) 234U from Depleted Uranium for MOX fuel?

There are some **grounds for this hypothesis**;
1) 239Plutnium released from Unit 4 is the main component of weapon grade plutonium and 2) MOX fuel development using weapon grade plutonium mixing with depleted uranium has been the popular agenda as read in the bold text of the capure of World Nuclear Association.


WORLD NUCLEAR ASSOCIATION

(Updated September 2017)

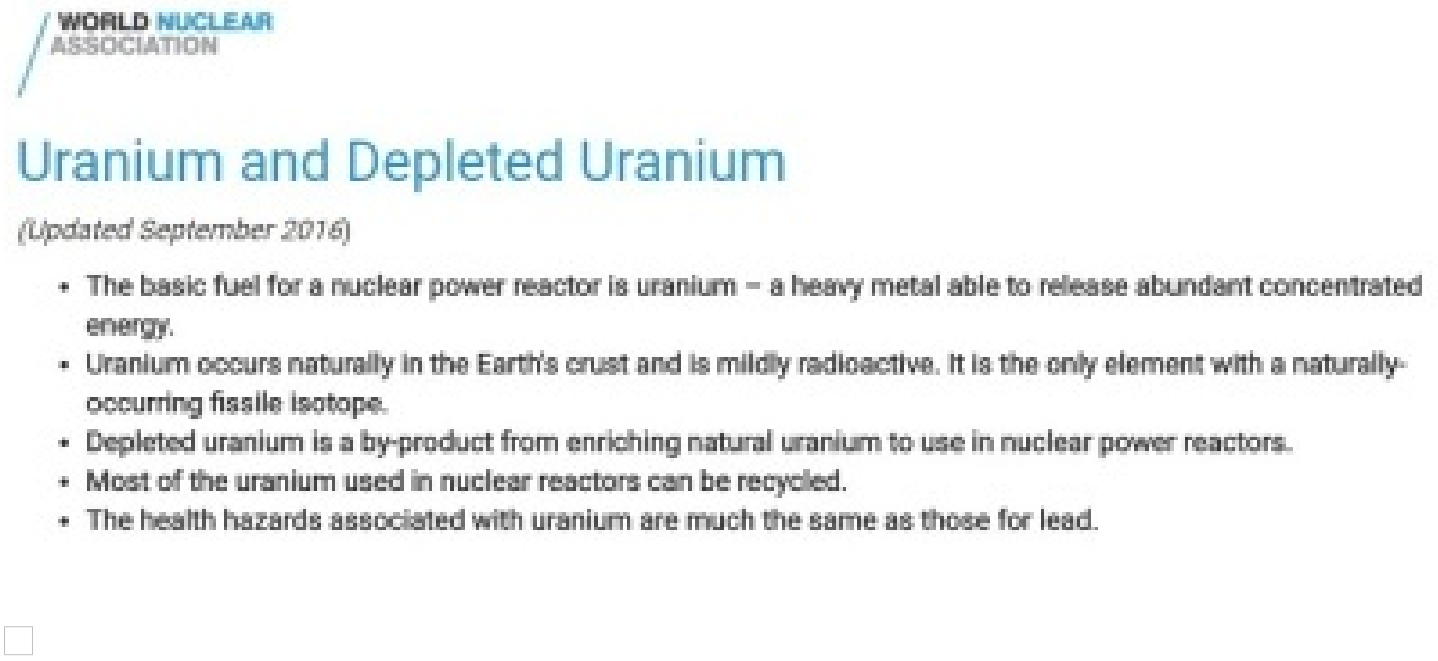
- Mixed oxide (MOX) fuel provides almost 5% of the new nuclear fuel used today.
- MOX fuel is manufactured from plutonium recovered from used reactor fuel, mixed with depleted uranium.
- MOX fuel also provides a means of burning weapons-grade plutonium (from military sources) to produce electricity.
- An innovative development in recycling plutonium and uranium as MOX is Russia's REMIX fuel, not yet commercialised.
- A further alternative is Russia's proposal for a dual-component power system, using two kinds of MOX fuel.

Here are their explanation;

The plutonium, as an oxide, is then mixed with **depleted uranium** left over from an enrichment plant to form fresh mixed oxide fuel (MOX, which is UO2+PuO2). MOX fuel, consisting of about 7-11% plutonium mixed with depleted uranium, is equivalent to uranium oxide fuel enriched to about 4.5% U-235, assuming that the plutonium has about two-thirds fissile isotopes. **If weapons plutonium is used (>90% Pu-239), only about 5% plutonium is needed in the mix. The plutonium content of commercial MOX fuel varies up to 10.8% depending on the design of the fuel, and averages about 9.5%.** Fuel in an EPR with 30% MOX having less than 10.8% plutonium is equivalent to 4.2% enriched uranium fuel. An EPR with 100% MOX fuel can use a wider variety of used fuel material (in relation to burn-up, initial enrichment, plutonium quality) than with only 30% MOX.

Recovered uranium from a reprocessing plant **may be re-enriched on its own for use as fresh fuel. Because it contains some neutron-absorbing U-234 and U-236, reprocessed uranium must be enriched significantly (*e.g.* one-tenth)** more than is required for natural uranium**.** Thus reprocessed uranium from low-burn-up fuel is more likely to be suitable for re-enrichment, while that from high burn-up fuel is best used for blending or MOX fabrication.
http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/fuel-recycling/mixed-oxide-fuel-mox.aspx

Then, read about **Depleted Uran munition regarding U-234** produced **in the process of Uranium enrichment** below the capture.


WORLD NUCLEAR ASSOCIATION

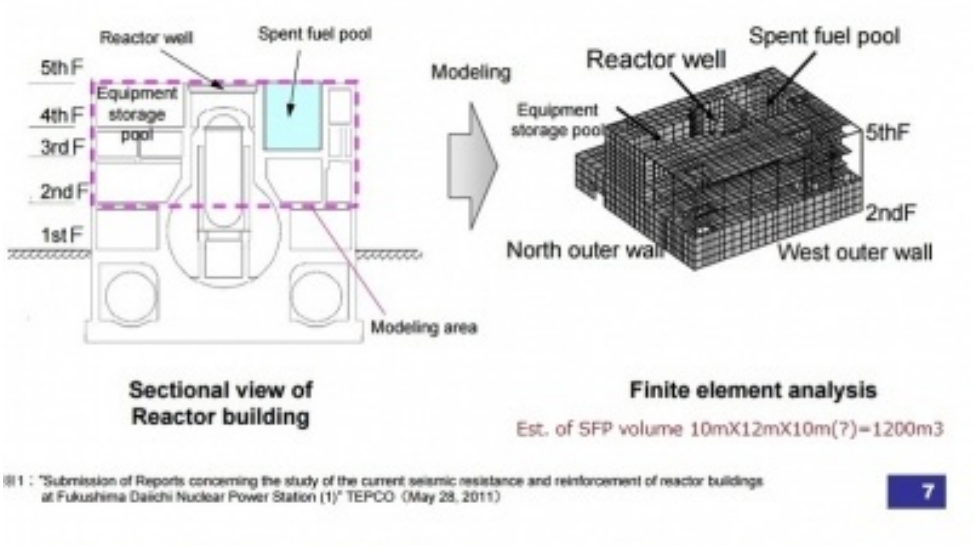
Uranium and Depleted Uranium

(Updated September 2016)

- The basic fuel for a nuclear power reactor is uranium – a heavy metal able to release abundant concentrated energy.
- Uranium occurs naturally in the Earth's crust and is mildly radioactive. It is the only element with a naturally-occurring fissile isotope.
- Depleted uranium is a by-product from enriching natural uranium to use in nuclear power reactors.
- Most of the uranium used in nuclear reactors can be recycled.
- The health hazards associated with uranium are much the same as those for lead.

Like most radionuclides, it is not known as a carcinogen, or to cause birth defects (from effects *in utero*) or to cause genetic mutations. **Radiation from DU munitions depends on how long since the uranium has been separated from the lighter isotopes** so that its decay products start to build up**.** Decay of U-238 gives rise to Th-234, Pa-234 (beta emitters) and **U-234 (an alpha**

emitter)m. On this basis, in a few months, DU is weakly radioactive with an activity of around 40 kBq/g quoted. (**If it is fresh** from the enrichment plant and hence fairly pure, the activity is 15 kBq/g, compared with 25 kBq/g for pure natural uranium. **Fresh DU** from enriching reprocessed uranium has U-236 in it and **more U-234 so is about 23 kBq/g.)**
http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/uranium-resources/uranium-and-depleted-uranium.aspx



If the thermographic picture is genuin, there was high heat signiture in the core and equipment pool beside SFP, which means that **there were something to generate heat** even if "All fuel assemblies had been transferred from the core to the SFP"asthe IAEA Technical Report states.
What is something?

According to the heat signiture of **March 20**, SFP shows more heat than the core and equipment pool.
But there were heat source in the core and equipment pool.
What are the heat sources?

Depleted Uranium

As IAEA Technical Report says that water injection into SFP of Unit 4 began on March 22, it seems that something very bad happend either in the core or equipment pool, or both perhaps just before March 21.

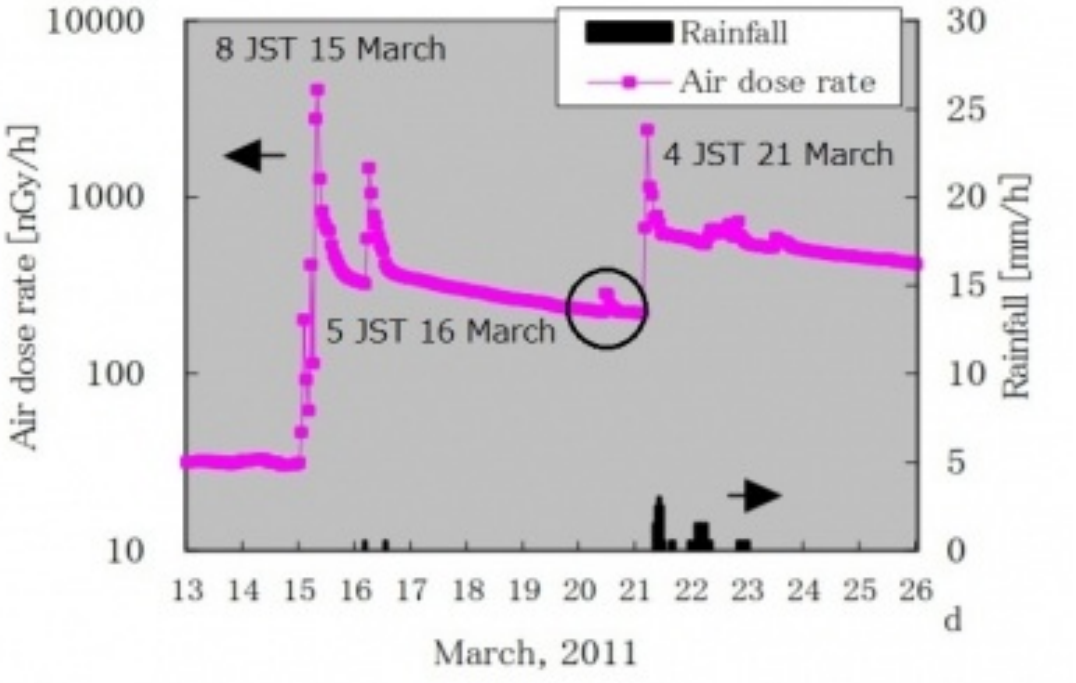
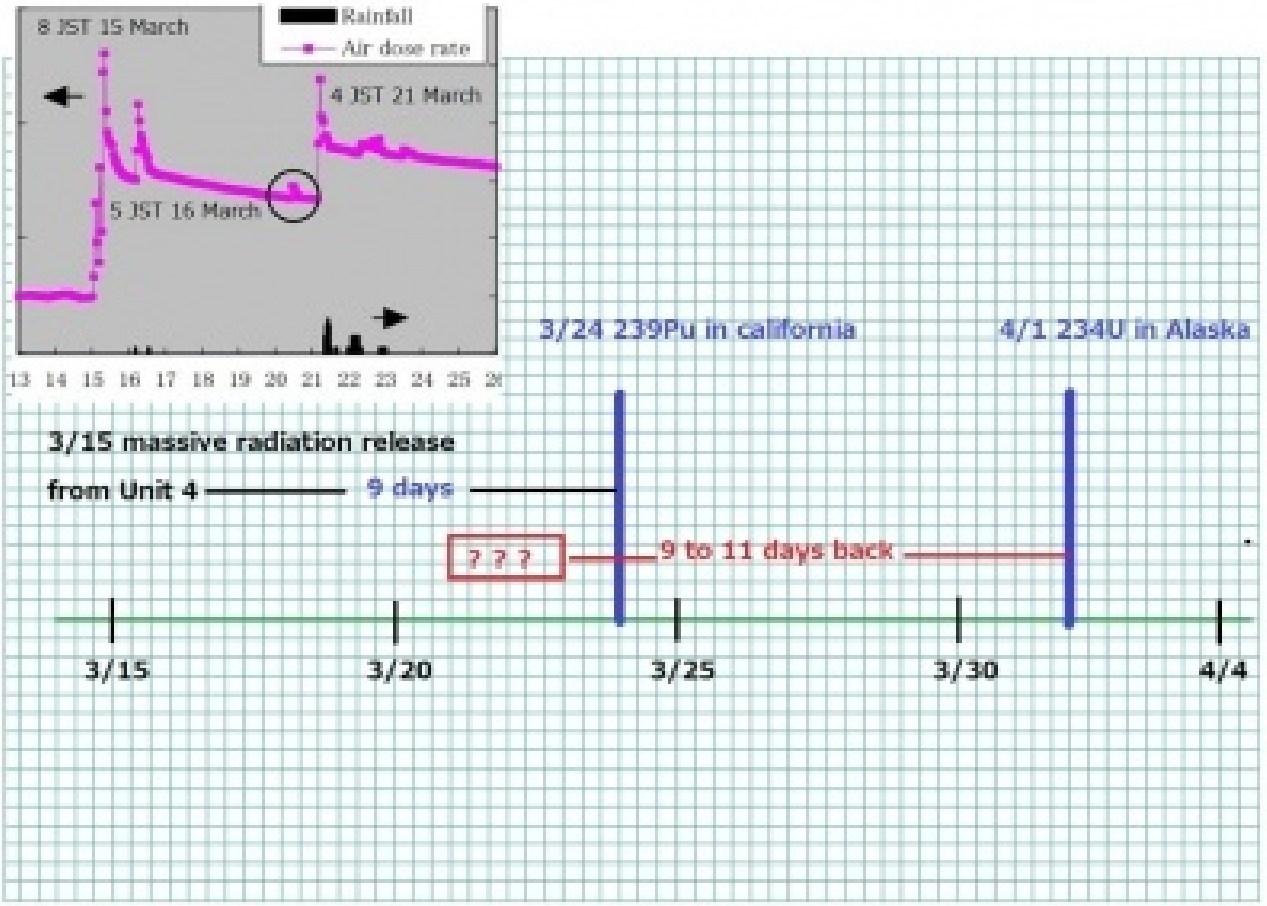


Figure 4. Temporal changes in the air dose rate measured and rainfall observed at the NCL.

The plume dispersion speed analysis may provide some insight about extremely high radiation levels inside Unit 4 detected on March 15 that its source was most likely from SFP but neither from the core nor from equipment pool.

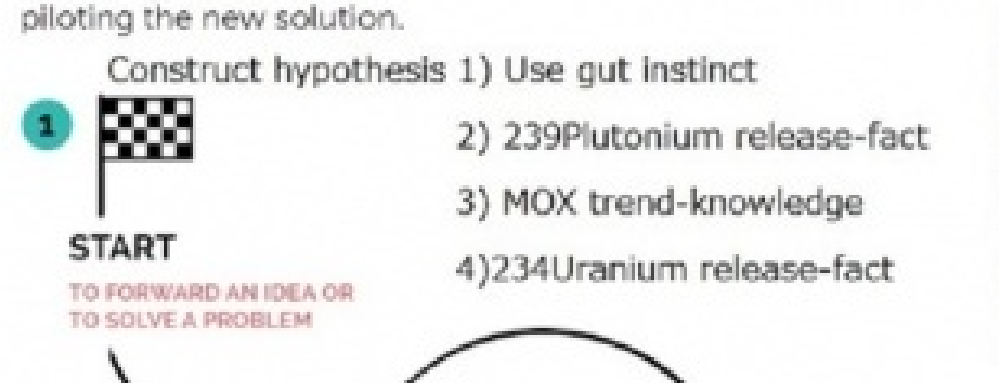


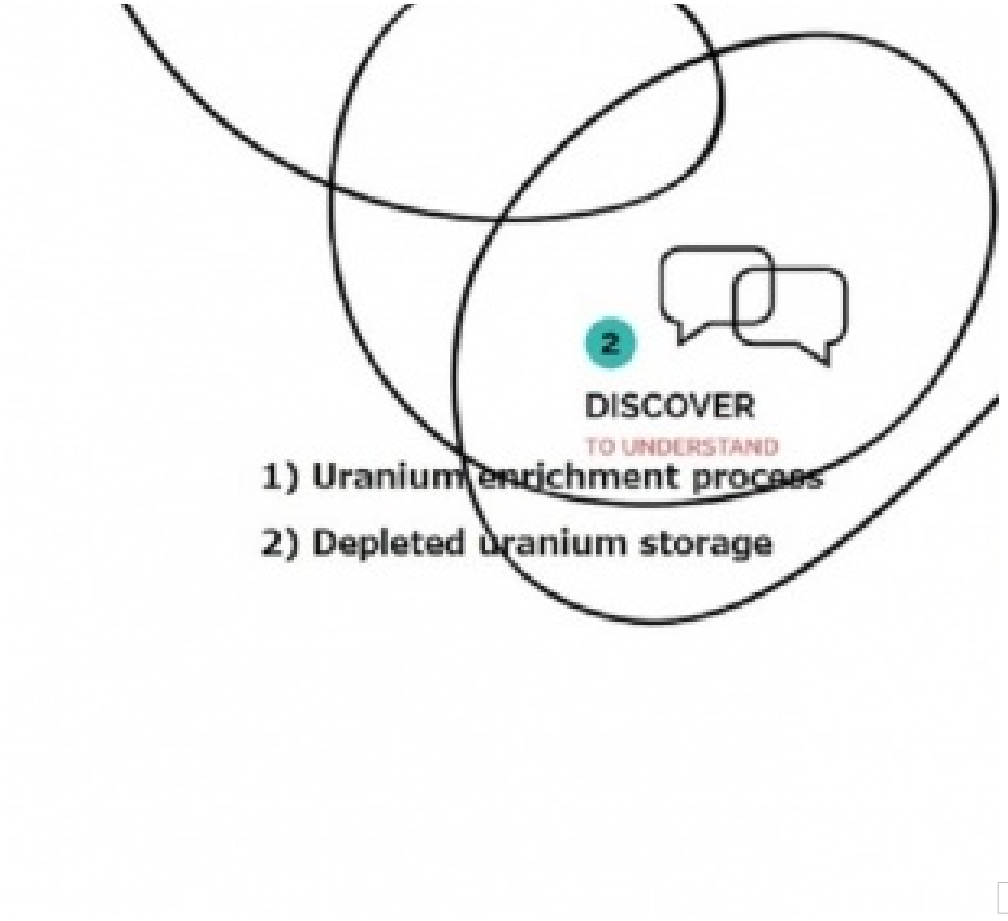
The discussion from various angles so far leads to the strong doubt that 234Uranium was released from the **Fresh Depleted Uranium** made from enrichment of reprocessed uranium in storage in the equipment pool and/or the product in process in the core.

Let's review the thought process whether this strong doubt is the result of cherry picking or not.

4) Uncertainty

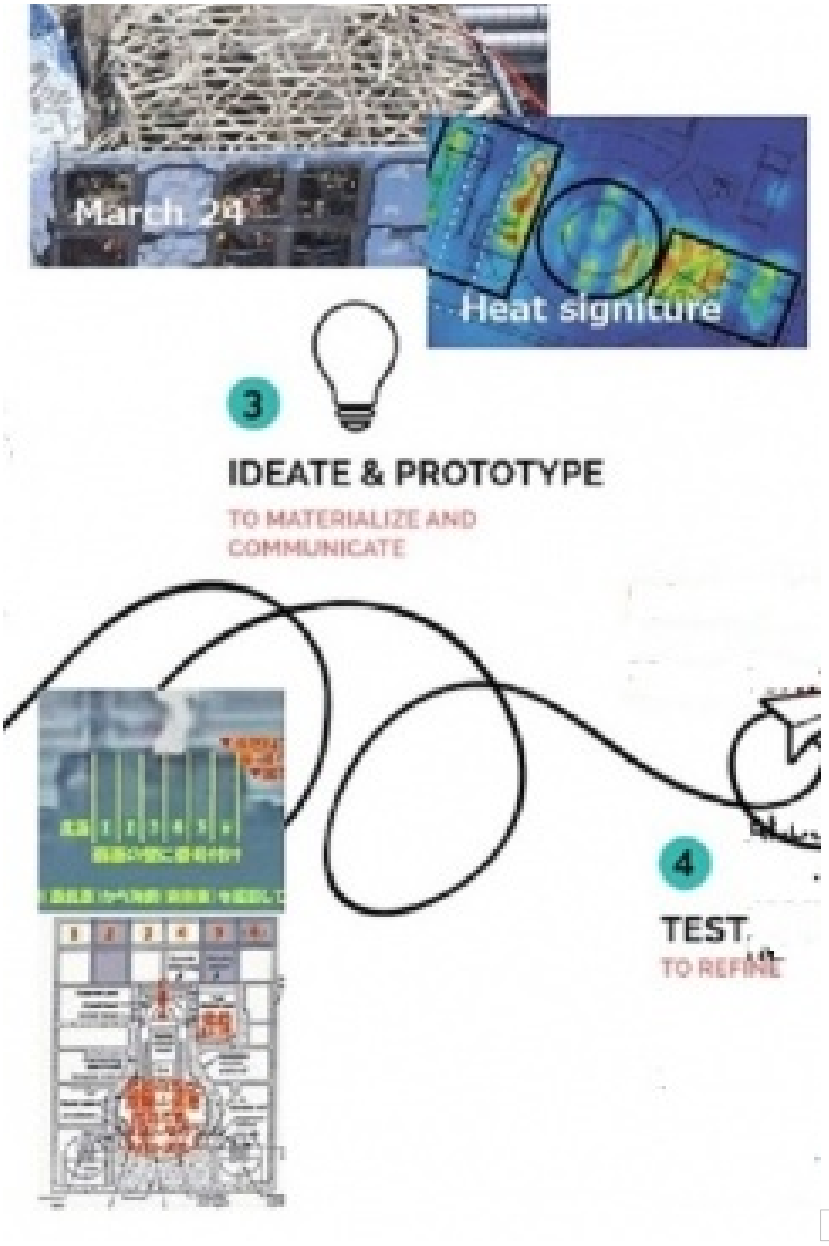
Start with Hypothesis based on some facts and general knowledge to lead to find out specific questions for further investigation on 1) Uranium enrichment process and 2) Depleted uranium storage.

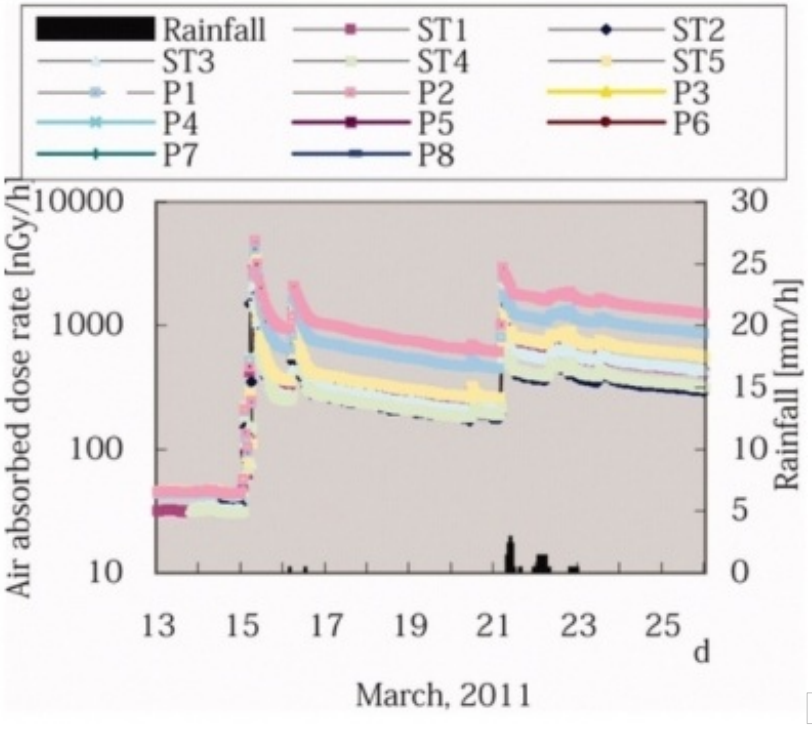




Spent fuel pool has nothing to do with the U enrichment or depleted uranium storage?
Wait. DP storage may do with Equipment pool.
Nuclear core, IAEA Report says, was empty but there is heat signiture. U enrichment took place there? I don't know.
U234 release seemed four or five days after the massive radiation release from Unit 4 on March 15 which is obvious and true.
And the tail of the third wave is long and radiation level is high.

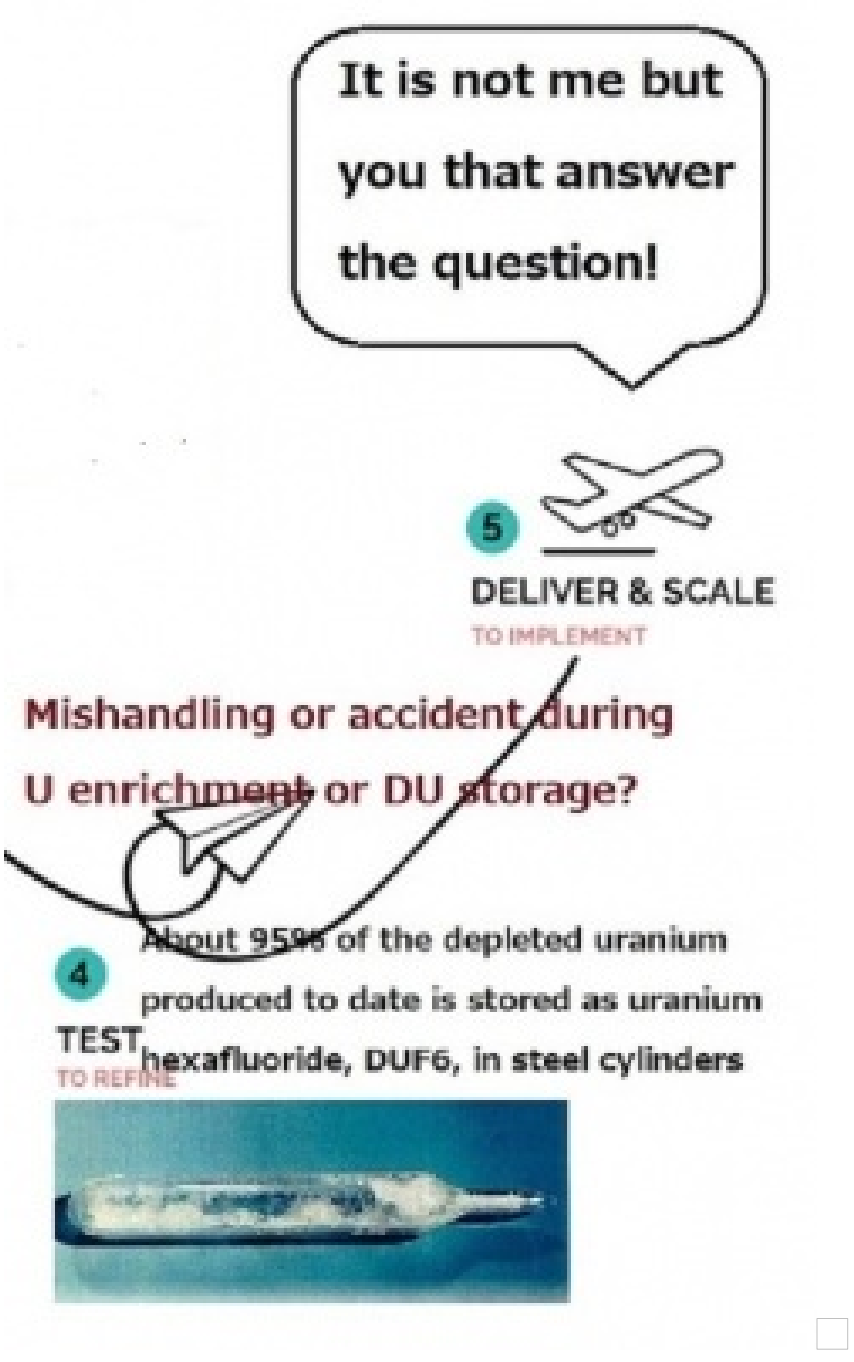
No one has ever discussed the third wave.


March 24
Heat signature
3
IDEATE & PROTOTYPE
TO MATERIALIZE AND COMMUNICATE
4
TEST.
TO REFINE


Rainfall
ST1
ST2
ST3
ST4
ST5
P1
P2
P3
P4
P5
P6
P7
P8
Air absorbed dose rate [nGy/h]
10000
1000
100
10
30
25
20
15
10
5
0
Rainfall [mm/h]
13
15
17
19
21
23
25
d
March, 2011

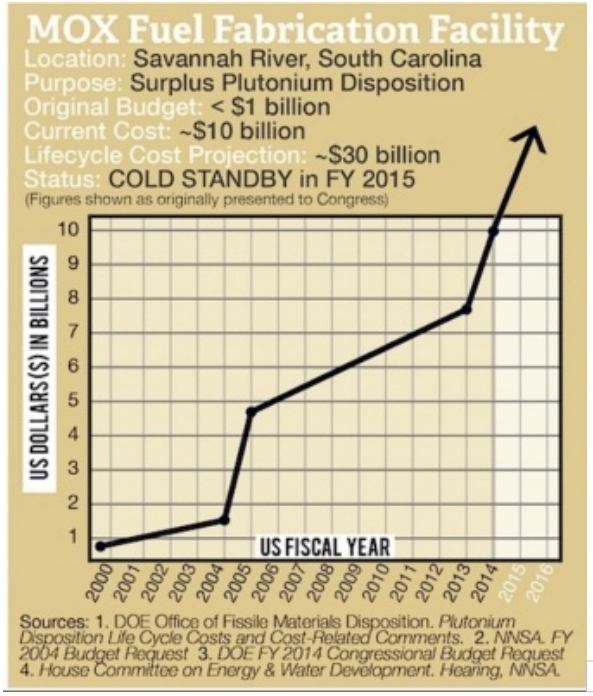
The journey of thought process starting with the hypothesis has taken us to the most likely conclusion as the natural flow of logic.
There is no cherry picking here.
And more importantly, this logical thinking process provides us very specific questions to ask for the engineers or scientists working on the project to develop MOX fuel in question.

Take notice that it is the very engineers only who can answer those questions.



This is a tentative answer to "The question why so much 239Pu and very unnatural 234U were released from Fukushima DNPP remains but a logical corollary is possible to be discussed some other time soon." stated in Part Ⅰ.

There is some other factors to have taken into concideration for this corollary but it is not the issue for the imminent need for the Class Action.



Ready to go

I can't help shivering with the fright that those sailors were exposed to both 239Pu from the second plume wave and 234Uranium from the third plume wave. Both are deadly alpha emitters.

I assume that the next question will arise if there was weapon grade plutonium in Unit 4.
The answer is yes but as it may be unnecessary to push back the decision about the venure in San Diego, further discussion on this matter is put hold.
Rather, it is deemed critical and imminent how to proceed the Class Action from now on after the judge accepted the counterargument.

5) Suggestions

Let me make sure that two important premises before discussing strategy framing.

1) I don't think the "sympathy or empathy" kind of approach will work for this case. That is why the entire discussion made so far is based on scientific papers and general information from open source to make the argument objective as much as possible.

2) It is an individual victim or sailor that fights against injustice and unfairness. If each one of plaintiff understand and agree with this scientific and comprehensive approach to find the truth of Fukushima DNPP, it would be much easier to frame the strategy because there are many things plaintiff can do for the implementation of the strategy. They are the core to move this difficult challenge forward.

Assuming that these premises were agreed, the next step would be;

① Saylors make utmost efforts to disseminate Part Ⅰ and Part Ⅱ to get public understanding of the reality of alpha emitters, while discussing the trial strategy with lawyers.

② If the lawyers agree with the suggested approach, the team of voluntary scientists will have to be formed to support lawyers in the technical perspective. Expertise required ranges from fluid dynamics, particle kinetics, radiation toxicology to respiratory mechanism. This is to counter against possible counterargument at the court.

Just memo to find out appropreate and voluntary professionals by the area of expertise;

Condensation nuclei - Tiny particles invisible to the human eye, such as dust, dirt, and pollutants, that provide surfaces on which water molecules can condense and gather into water droplets.

Electrostatic dispersion of fine particles in the air

The paper studied the method of keeping fine particles from aggregating in the air by electrostatic dispersion. The effects of electrode voltage, diameter, humidity and rest time, as well as van der Waals forces, electrostatic forces and liquid bridge forces between particles on electrostatic dispersion of powder were discussed. It was shown that optimal electrostatic dispersion effect of calcium carbonate and talcum particles can be achieved with corona voltage of 29 kV, particle size of 2–25 μm, and proper rest time of 48 h. Criteria for electrostatic dispersion were put forward on the basis of experimental results. Theoretical calculation indicated that the criteria for electrostatic dispersion were in good agreement with experimental results.

Uncertainty in Particulate Deposition for 1 µm AMAD Particles in an Adult Lung Model

ABSTRACT – The ICRP 66 lung model may be used to determine dose estimates for members of the public via the inhalation pathway. A significant source of uncertainty in internal dosimetric modeling is due to particulate deposition in regions of the respiratory tract. Uncertainties in estimates of particulate deposition are present because model input parameters have their own

inherent variability. These sources of uncertainty need to be examined in an effort to better understand model processes and to better estimate doses received by individuals exposed through the inhalation pathway. An improved understanding of the uncertainty in particulate deposition will further guide research efforts and improve our ability to quantify internal dose estimates. The ICRP 66 lung deposition model is most sensitive to breathing rate when 1 μm AMAD particles are inhaled by members of the public. Uncertainties in deposition fractions are shown to span an order of magnitude with their distributions varying by gender for a particular lung region. The largest fractional deposition occurs in the deep lung alveolar and extrathoracic regions.

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Estimation of dry deposition velocities of radionuclides released by the accident at the Fukushima Dai-ichi Nuclear Power Plant

On the basis of environmental radiation monitoring results at the Nuclear Fuel Cycle Engineering Laboratories, Japan Atomic Energy Agency, following the Fukushima Dai-ichi Nuclear Power Plant accident, the dry deposition velocities of radionuclides on the ground were estimated. As a result, the estimated dry deposition velocities for Iodine-131, Cesium-134, Cesium-136 and Cesium-137 were in the order of 1 mm/s, and were the same order of those estimated in other studies. The estimated dry deposition velocities varied according to the variations of the ratios of the particulate and gaseous forms of their radionuclides and meteorological conditions such as wind speed.

·

Emission of spherical cesium-bearing particles from an early stage of Fukushima nuclear accident

The Fukushima nuclear accident released radioactive materials into the environment over the entire Northern Hemisphere in March 2011, and the Japanese government is spending large amounts of money to clean up the contaminated residential areas and agricultural fields. However, we still do not know the exact physical and chemical properties of the radioactive materials. This study directly observed spherical Cs-bearing particles emitted during a relatively early stage (March 14–15) of the accident. In contrast to the Cs-bearing radioactive materials that are currently assumed, these particles are larger, contain Fe, Zn, and Cs, and are water insoluble. Our simulation indicates that the spherical Cs-bearing particles mainly fell onto the ground by dry deposition. The finding of the spherical Cs particles will be a key to understand the processes of the accident and to accurately evaluate the health impacts and the residence time in the environment.

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^{169}Yb as tracer for plutonium（EPA)

Plutonium Uptake by Plants From Soil Containing Plutonium 238 Dioxide Particles

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Biological_effects_of_inhaled_PuO2-Pu-238_in_beagles

Beagle dogs exposed to 238PuO2 aerosols (136 dogs, 13-22 per group, mean initial lung depositions of 0.0, 0.13, 0.68, 3.1, 13, 52 and 210 kBq) were observed throughout life to determine

tissues at risk and dose-effect relationships. The pulmonary retention of 238Pu was represented by the sum of two exponentially decreasing components of the initial lung deposition; about 84% cleared with a 174-day half-time; the half-time of the remainder was 908 days. The average percentages of final body burden found in lung, skeleton, liver and thoracic lymph nodes in the 30 longest-surviving dogs (mean survival 14 years) were 1, 46, 42 and 6%, respectively. Of 116 beagles exposed to plutonium, 34 (29%) developed bone tumors, 31 (27%) developed lung tumors, and 8 (7%) developed liver tumors. Although lungs accumulated a higher average radiation dose than skeleton, more deaths were due to bone tumors than to lung tumors. Deterministic effects included radiation pneumonitis, osteodystrophy, hepatic nodular hyperplasia, lymphopenia, neutropenia and sclerosing tracheobronchial lymphadenitis. Hypoadrenocorticism was also observed in a few dogs. Increased serum alanine aminotransferase, indicative of liver damage, was observed in groups with > or =3.1 kBq initial lung deposition. Estimates of cumulative tissue dose in a human exposed to airborne 238PuO2 for 50 years at a rate of one annual limit on intake each year were derived based on a comparison of the data on metabolism for humans and beagles. The 50-year dose estimates for humans are an order of magnitude lower than doses at which increased incidence of neoplasia was observed in these dogs, whereas the projected doses to humans from 50-year exposure at the annual limit of intake are of similar magnitude to those at which deterministic effects were seen in the beagles.

Biological effects of inhaled (PuO2)-Pu-238 in beagles | Request PDF . Available from: https://www.researchgate.net/publication/13888172_Biological_effects_of_inhaled_PuO2-Pu-238_in_beagles [accessed Feb 12 2018].

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Stochastic effect

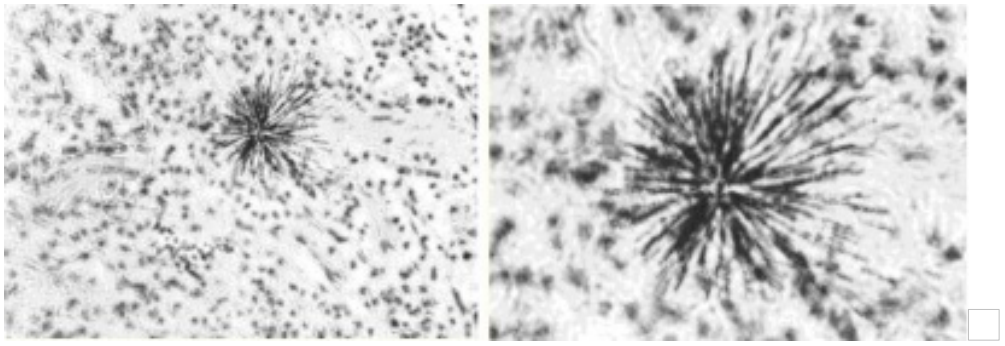
In a stochastic effect, increasing the dose increases the probability of damage, but the severity of the effect is independent of the dose. Cancer induction and genetic effects are stochastic effects. Stochastic effects are governed by probability. A particular gene in the DNA is or is not damaged. There is no middle ground. The results of a lottery drawing are similar to a stochastic event. Buying more tickets (higher dose) increases the chances of winning but does not increase the prize.

https://radiologykey.com/9-radiation-effects-on-tissues-and-organs/

.

Microscopic analysis of tissue section may be possible?

The black star shows the tracks made over a 48 hour period by alpha rays emitted from a radioactive particle of plutonium lodged in the lung tissue of an ape (the particle itself is invisible). In living lung tissue, if one of the cells adjacent to the particle is damaged in a certain way, it can become a cancer cell later on, spreading rapidly through the lung, causing almost certain death.



http://www.ccnr.org/alpha_in_lung.html

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Example of prevailing report of Fukushima accident by Kyoto Univ.

(Nothing about Unit 4, which is the reality in Japan.)

Radiation Monitoring and Dose Estimation of the Fukushima Nuclear Accident

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Ready to go!