FOIA/PA NO: 2016-0135

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The following types of information are being withheld:

Ex. 1: ☐ Records properly classified pursuant to Executive Order 13526
Ex. 2: ☐ Records regarding personnel rules and/or human capital administration
Ex. 3: ☐ Information about the design, manufacture, or utilization of nuclear weapons
☐ Information about the protection or security of reactors and nuclear materials
☐ Contractor proposals not incorporated into a final contract with the NRC
☐ Other_____
Ex. 4: ☐ Proprietary information provided by a submitter to the NRC
☐ Other_____
Ex. 5: ☐ Draft documents or other pre-decisional deliberative documents (D.P. Privilege)
☐ Records prepared by counsel in anticipation of litigation (A.W.P. Privilege)
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☐ Third party PII, including names, phone numbers, or other personal information
Ex. 7(A): ☐ Copies of ongoing investigation case files, exhibits, notes, ROI's, etc.
☐ Records that reference or are related to a separate ongoing investigation(s)
Ex. 7(C): ☐ Special Agent or other law enforcement PII
☐ PII of third parties referenced in records compiled for law enforcement purposes
Ex. 7(D): ☐ Witnesses' and Allegers' PII in law enforcement records
☐ Confidential Informant or law enforcement information provided by other entity
Ex. 7(E): ☐ Law Enforcement Technique/Procedure used for criminal investigations
☐ Technique or procedure used for security or prevention of criminal activity
Ex. 7(F): ☐ Information that could aid a terrorist or compromise security

From: Nicholson, Thomas
Sent: 8 Dec 2015 12:10:00 -0500
To: andrew.Szilagyi@em.doe.gov;Jacoff Adam S.;kamel.saidi@nist.gov;Eason, Chris;? ?;ITO SHINTARO;Shinji KawatsUMA;philip.mattson@hq.dhs.gov;judd@nuvisioneng.com;Knight, Joan B:(GenCo-Nuc);jrenshaw@epri.com;Parrott, Jack;Gifford, Ian;Gilbertson, Anders;Wessels, Steven;Csontos, Aladar;Way, Ralph;Zeng, Zhao Chang;Buckingham, Rob;Bernardo, Robert;Tateiwa, Kenji;Marksberry, Don;michael.serrato@srnl.doe.gov;Stahl, Eric;Rini, Brett;Sangimino, Donna-Marie
Subject: Abstracts received to date an Action items for December 22nd organizational meeting
Attachments: Arahata.TEPCO.abstract.doc, Kondo.TEPCO.Abstract.doc, Oikawa.IRID.RandD.RobotforDecommissioningFukushimaDaiichi.doc, Tsuchida.JAEA.Abstact.docx, Croft.INL_SRNL.Robotic Adaptation.docx, Buckingham.RACE abstract.doc, Croft.INL.Anthropomorphic.PIE.docx, Croft.INL.Yucca Mtn.docx, Graham.OC Robotics - Snake ArmRobots.docx, Hafen.Wälischmiller Engineering.Germany.Rokkasho.abstract.docx, Hara.Wälischmiller Engineering GmbH.German Decommissioning.docx, Harden.LANL.Abstract.pdf, Jenkin.YorkUniversity.abstract.pdf, Mascarenas.LANL..docx, McDaniel.FloridaIntlUniv.Abstract.docx, McGovern.Kinectrics.CANDU.pdf, Mellor. Createc.RISER.docx, Park.ANL.KAERI.abstract.docx, Rinker.PNNL.Experience of deployed Confined Sluicing.pdf, Shackleford.NNLL.Robotic Handling of Legacy Nuclear Waste - BEP.docx, Strati.ChalkRiver.Abstract.docx, Tibrea.SRNL.Abstract.docx, Zic.OPG.UseRoboticsand RemoteMonitoring.Abstract.pdf

Workshop Organizing Committee members and interested parties:

Prior to our December 3, 2015 meeting, we received 23 abstracts. I am providing them to you for your information. We will be discussing them in detail at our next organizational meeting on December 22, 2015 from 9:00 a.m. to noon Eastern Standard Time at the NIST Robot Test Facility.

The four abstracts received for Session 2 are: Arahata.TEPCO; Kondo.TEPCO; Oikawa.IRID; and Tsuchida.JAEA.

One of the abstracts received was considered for Session 5: Croft.INL_SRNL.RoboticAdaptation.

The remaining 18 abstracts (please see the final 18 attached files) are being actively considered for Sessions 3 and 4 by Rob Buckingham, Session 3 co-chair and Laurie Judd, Session 4 co-chair.

We were provided an opportunity to evaluate the 18 abstracts using Laurie's scoring xlxs program. Laurie and Rob are now reviewing the evaluations.

Thank you to those who provided their evaluations to Laurie.

At our organizing committee meeting, we agreed that those not selected for oral presentation in sessions 3 and 4; and session 5 would be provided an opportunity to make poster presentations at the NIST cafeteria on the second day, February 3rd.

I am revising and updating the draft Workshop Program. We hope to finalize it at our next meeting on December 22nd.

Remaining action items are:

- Fully identify the session co-chairs, presenters and panelists.
- Identify the welcoming speakers
- Discuss the workshop logistics for registration, transportation and poster session displays
- Discuss the demonstrations of robot testing at the NIST Robot Test Facility during the late afternoon of February 2nd
- Provide list of standards organizations and participating organizations for inclusion in the draft Workshop Program and NIST Event Webpage.

Please visit the NIST Event Webpage for more details and registration at:

http://www.nist.gov/el/isd/international-workshop-on-the-use-of-robotic-technologies-at-nuclear-facilities.cfm

Thanks ..... Tom

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Deployment of robotics to stabilize the accident at Fukushima Daiichi NPS.

Taichiro ARAHATA, Tokyo Electric Power Company (TEPCO)

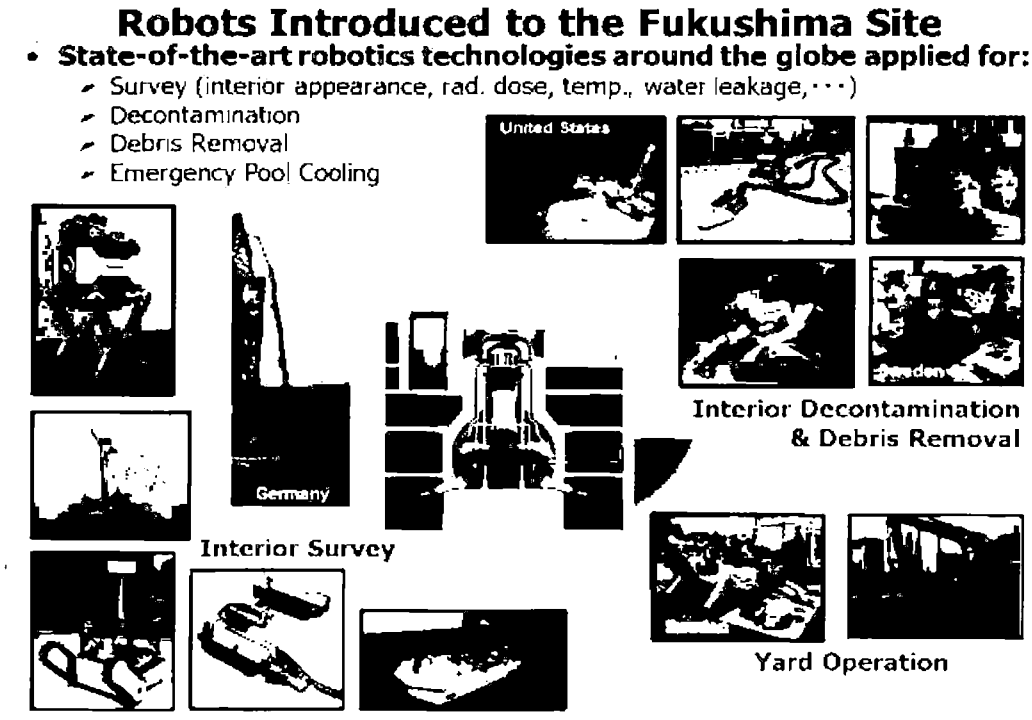
Abstract

Various remote operations using robotics technologies are carried out for stabilization and cleanup of Fukushima Daiichi Nuclear Power Station.

Removal of scattered rubbles is a good example. It takes place on reactor building operating floors, in spent fuel pools, and in the yards using heavy machinery such as remote operated cranes. Emergency backups for spent fuel pool cooling are satisfied by remote operated concrete pumping-up vehicles.

Focus of our discussion is given for remote operated mobile robots in missions under extremely high radiation conditions inside reactor buildings of unit 1,2 and 3, which experienced core melt. Over twenty kinds of robots have been utilized in such missions since April 17, 2011, when two PackBots of iRobot Co. were used for the first time.

Lessons learned from previous missions, information on machinery currently under development, and future plans for robotics application are also included in our discussion. Additionally, topical changes in Fukushima Daiichi site since March 11, 2011 are introduced with expectation for suggestions from external parties.



Robots utilized for stabilization operations starting just after the accident till cold shutdown are introduced first. In this phase, robots are used to know environments inside reactor buildings. They took still images and motion pictures, and measured data such as dose rates and temperatures. These robots performed surveys before human operations under high radiation conditions (>1Sv/h), and reduced the risk of serious troubles in the following operations such as human over exposure.

After the accident, TEPCO received several offers from external parties to use their robots for post-accident stabilization, and put some of them into actual operations. Feedbacks from onsite operations were given from TEPCO to the offered parties for further development. Field of robotic operation was expanded from first floors of reactor buildings to basements (Survey Runner) and top floors (Quince) thanks to these cooperation.
These improvements provided not a small portion of contribution to achievement of cold shutdowns of the three damaged units. The obtained knowledge is also applied for development of robotics technologies in the fuel debris retrieval project.

Challenges for fuel debris retrieval with robotics technologies at Fukushima Daiichi NPS.

Yuichi KONDO, Tokyo Electric Power Company (TEPCO)

Abstract

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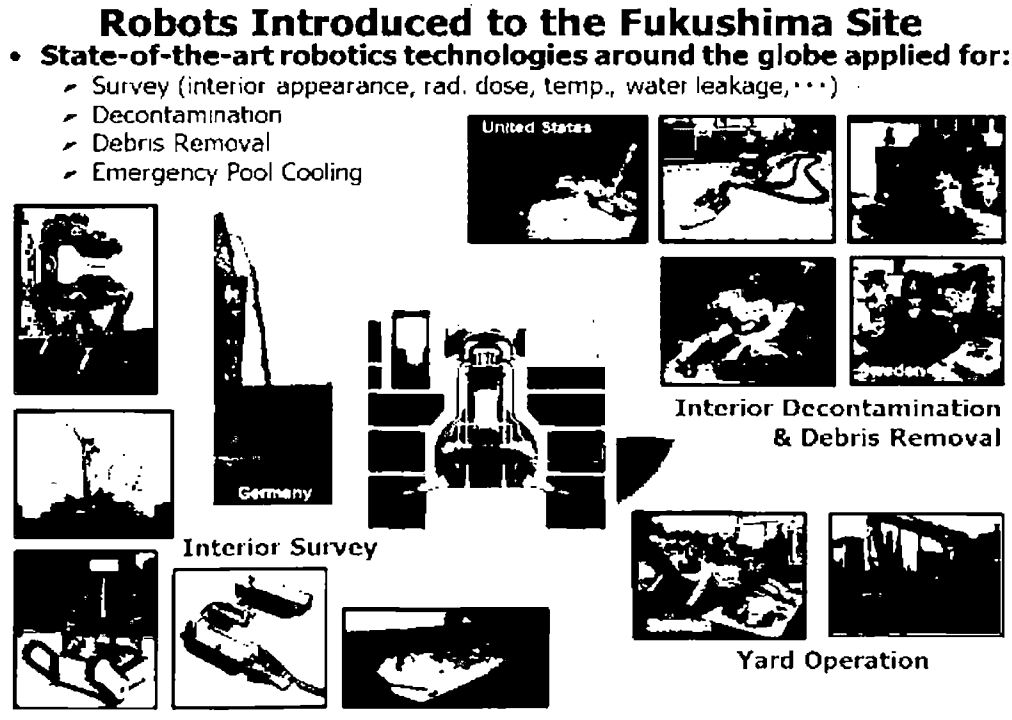

Next topic is about robotics applied for surveys and preparations for fuel debris retrieval project. Preparations such as decontamination inside reactor buildings to reduce dose rate, and surveys such as examination of conditions of pressure containment vessels (PCVs) and related equipment are necessary for future planning. Robotics technology is expected to provide options for these operations. Surveys for high radiation areas such as inside PCVs cannot be carried out without remote controlled robots.

TEPCO has experiences of robotics application inside reactor buildings so far for:

- Removal of scattered rubbles
- Decontamination
- Dose rate areal distribution measurement using a gamma ray camera
- External visual examination
- Ultrasonic measurement of water level inside a suppression chamber
- PCV interior survey

Many of these experiences were obtained as a result of projects ran by International Research Institute for Nuclear Decommissioning (IRID) with a help of government funding.

Details of these robotics applications are introduced, and lessons learned from the applications are discussed. User's expectations to developers of robotics technology are also given.

Title: R&D on Robot for the Decommissioning of Fukushima Daiichi NPS

Kiyoshi OIKAWA, Director
International Research Institute for Nuclear Decommissioning (IRID)

Abstract:

The International Research Institute for Nuclear Decommissioning (IRID) is a technology research association consisting of 18 member corporations that focus on R&D required for decommissioning the Fukushima Daiichi Nuclear Power Station (NPS). We have tied up with TEPCO's Fukushima Daiichi Decontamination and Decommissioning (D&D) Engineering Company to identify the needs of the Fukushima Daiichi site and are engaged in the integrated management on the development of various decommissioning technologies.

In the session, I will introduce some examples of IRID's R&D activities for preparation of fuel debris retrieval that is a core operation of decommissioning. Various kinds of remote controlled equipment and robots have been developed so far for decontamination and investigation inside the reactor building.

In 2012 and 2013, we investigated the dose rate and contamination distribution at each floor of the Units 1-3. Therefore, the conditions inside the reactor buildings are still very severe. We have developed three types of remote decontamination equipment: suction/blast type, high pressure water jet type and dry ice blast type.

Submersion method is the most favorable approach from the standpoint of minimizing radioactive exposure of workers. To realize this method, whole water leakage from the PCV needs to be found and stopped. Although the point to be investigated on the PCV is very hard to access with usual vehicle, we have to have developed various remotely controlled robots for water leakage investigation.

As the most recent example, we have developed a shape changing robot that can go through a penetration to investigate the PCV to grasp the damage situation inside the PCV, and also the location and condition of the fuel debris. We also developed a technology for detection of fuel debris in the reactor. Remote sensing technology utilizing cosmic ray muon is one of the methods to identify location of fuel debris.

The important process by the final stage of robot development prior to the application to Fukushima Daiichi is the evaluation in the mock-up facilities equal to the environment of the application place in the PCV. Not only examining the performance of the robot, but also training the workers to carry out the mission safely and certainly is executed sufficiently.

In the development of technologies for fuel debris retrieval, in addition to the method in which PCV is submerged, we are evaluating retrieval in the air, partial or full in air, as an applicable method. Because the status differs from unit to unit, we should consider the applicability of each method.

As the result of our R&D activities, IRID has acquired some useful outcome, but at the same time, technical challenges toward decommissioning have also becoming clearer. Based on these achievements and challenges, IRID will keep working on technology development necessary to decide the method for fuel debris retrieval in 2018, and contributing to completion of decommissioning at the earliest time.

Title: Startup of Naraha Remote Technology Development Center and Consideration of Deployed Robot Operation for New Standard Test Methods

Yoshihio Tsuchida, Kuniaki Kawabata, Shinji Kawatsuma
Japan Atomic Energy Agency

Abstract:

The Japan Atomic Energy Agency (JAEA) is a general research and development institute of nuclear in Japan, and is now building Naraha Remote Technology Development Center in Naraha, Fukushima-pref. for research and develop of remote controlled technology on the decommissioning of Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company. Naraha Remote Technology Development Center. The facility is equipped full-scale mock-up for equipment to repair/stop leakage in lower part of the PCV, and test apparatus for development of remote controlled equipment and devices. Naraha Remote Technology Development Center is in partially operation and will be in full operation from Apr. 2016.

Development of Standard Test Methods (STM) for nuclear emergency response robots is one of the research theme of Naraha Remote Technology Development Center. STM for response robots are developed by the U.S. National Institute of Standards and Technology, and standardized by ASTM International. STM are utilized for evaluating, purchasing and training with response robots. For instance, the Fire Department of New York City used STM for purchasing robot.

For two year after the accident occurred in Fukushima Daiichi, more than thirty robots have been deployed to the Fukushima Daiichi. In these, five robots could not return and some robots could not complete the mission because of some troubles. If the performance necessary for nuclear emergency response robots were evaluated previously, these troubles might be able to be prevented.

To clarify the functions and requirements to be evaluated for nuclear emergency response robots, it is important to analyze the objective of robot deployment and the reason for the incompletion. The functions and requirements have become clear based on the time analysis and failure analysis of nuclear emergency response robots.

From the time analysis of operation using Quince robot, more than 70% are moving time but 10% is uncertain stop. From the failure analysis, 4 out 5 failed robots are trouble related to communication for robot control.

Some STMs could be used for evaluating the function and requirements. However, additional STMs are to be developed for nuclear emergency response and Fukushima Daiichi decommissioning robots. JAEA is planning to develop the additional STM in Naraha Remote Technology Development Center.

NIST International Workshop on the Use of Robotic Technologies at Nuclear Facilities

Session 5 Abstract Robotic System Adaptation to Existing Nuclear Operational Framework

Authors: Kevin Croft (INL, kevin.croft@inl.gov, 208-526-8276), Cal Christensen (INL), Gretchen Matthern (INL), and Michael Serrato (SRNL)

The DOE Environmental Management (EM) application of Robotics and Remote Handling Systems (RRHS) is potentially the most diverse and wide spread of any application of RRHS within the industry. EM RRHS applications include some of the most challenging of air, ground, and subsea environments in many of the harshest and most difficult applications imaginable. This is especially true when considering environments with high radiation, high radioactive contamination, hazardous chemicals, and difficult physical access barriers. In addition, EM RRHS challenges do not typically require large numbers of platforms, rather, are focused on small numbers of specialty systems, often creating one-of-a-kind and first-of-a-kind systems. Therefore, in addition to unique research, EM RRHS expends a great deal of time, effort, and resources utilizing existing applications, platforms, systems and technologies adapted to meet these unique challenges. In most cases, this approach helps to temper the magnitude of resources required for fielding of these systems. This also allows for the use of systems that, in most cases, have (in some form) already been validated. However, robotic system operational validation requires a vetting process tailored to operational component and facility operational envelop; e.g. design safety basis.

In order to strengthen the applicability and quality of this diverse approach, EM RRHS utilizes and applies standards and guidelines from many areas, applicable to the need. The operational need can display many facets as to where and how the device(s) are to be utilized and for what duration; e.g. short-single application to protracted applications under varied conditions. Where applicable standards and/or guidelines are not available for the specific need, they are researched and developed. However, EM RRHS's focus is not so much on verbatim compliance to standards and guidelines but on the ability to successfully deploy, survive, be maintained, and recover equipment and systems in these unique circumstances. Based upon the very difficult applications being addressed and the conservative operational framework, systems developed to meet these challenges must, as much as is reasonable, be robust and proven. Therefore, the rigor for preparation of this equipment should follow a graded approach to successful validation of requirements satisfaction.

The level of planning, design, mockup, testing, and ultimately validation should be included in the development strategy for any system developed to address specified challenges. Testing and validation of equipment should be based upon vetted written procedures developed to maximize the potential to insure success. By utilizing Test Beds, systems which have been developed, adapted, and/or reconfigured can be demonstrated and capabilities validated in support of solving the unique challenges facing EM RRHS.

Speaker: Dr Rob Buckingham FREng, Director UKAEA, Head of RACE (the UKAEA's centre for Remote Applications in Challenging Environments)

Title: Developing a suite of remote handling tools for fusion experiments

Abstract

It is increasingly recognised within the fusion research community that remote handling will be a 'device defining driver' for a future fusion power plant.

At ITER, the global fusion research experiment that is the step before a demonstration fusion power plant, many $billions will be invested in supplying and then operating remote handling solutions.

Remote handling is needed as a direct consequence of achieving and maintaining fusion conditions. For magnetic confinement fusion (e.g. JET, ITER) these include heating the deuterium/tritium fuel mix to 200millionK under ultra high vacuum contained within a magnetic field. The fusion reaction generates 14 MeV neutrons and 3.6 MeV alpha particles that degrade and activate local materials. In-vessel remote handling systems will need to operate in kGy/hour radiation fields with zero possibility of human intervention. In concepts for a fusion power plant, beyond ITER, the equivalent of the fission fuel rod will be a tritium 'breeding blanket'. Current concepts suggest that ~50 breeding blanket sections weighing ~80 tonnes each will need to be replaced periodically during the reactor's life. These blankets also contain the primary coolant, which may be a lithium-lead eutectic, hence when removing these component it is necessary to cut and remake a series of pipe welds all to nuclear codes.

This presentation will explore three areas of remote handling technology: snake-like robot arms; cutting and welding technologies; and general-purpose inspection devices.

JET's snake-like robot arms are two horizontal planar 7 jointed booms approximately 12m in length. One carries the slave of a force feedback master-slave system that is used to conduct all necessary maintenance within the vacuum vessel. The other carries a tool chest in order to maximise the productivity of the system. In JET this system has more than 30,000 hours of operational use and in a recent campaign was used to replace the complete plasma-facing wall comprising more than 3000 individual tiles. For ITER the same device is called the Multi-Purpose Deployer. It will be longer and is expected to carry a higher payload and, because of the size of the vacuum vessel, it is a spatial device rather than planar.

Some cutting and welding has been conducted within JET, in extremis, but cutting and welding will be routine in ITER. Successful trials in 2015 of the prototype solution for cutting and welding 200mm OD stainless steel pipe using remotely delivered and operated tools show that achieving high quality welds is possible within the space constraints.

This presentation will provide a brief history of the JET Remote Handling System in recent campaigns. It will present initial results of the ITER cutting and welding trials. Finally the paper will identify two types of COTS inspection device that could be used to support remote operations. The first is a UAV and the second is a snake-like arm mounted on an untethered mobile vehicle. These were not developed specifically for the nuclear sector. Increasingly we will need to see shared investment across sectors in order to develop robust, reliable and costs effective products and services for challenging environments.

All aspects of the presentation will be supported by videos of real hardware in operation.

ABSTRACT FOR SESSION 4

ANTHROPOMORPHIC OPERATIONS INSIDE PIE HOT CELLS

By Kevin M. Croft, INL

The objective of this work is to enhance the remote manipulation capabilities in the execution of post irradiation examination (PIE) processes and to reduce the overall costs of a facility. A system for sample manipulation consisting of combined 3-D vision and haptic (force-feedback) arm/hand systems will dramatically enhance PIE processes.

Current PIE technologies and capabilities, throughout the DOE complex, are limited by radiological dose or contamination control requirements. Currently, hostile hot cell environments are mitigated by the use of thick shielded windows and tele-manipulators which allow for viewing and handling radiological objects while being protected from associated biological effects. However, shielded windows are large, heavy, fragile, limit/distort available views, and are very expensive to purchase (@ approximately $12/in^3), install, and maintain. Traditional master-slave manipulators (MSMs) are extremely expensive (at an average of $400K per pair, purchase price), to install, and are maintenance-intensive. Compared with the humans that operate them, MSMs have relatively limited motion, making some tasks to be performed with these devices extremely time consuming and/or impossible.

An electro-mechanical haptic arm/hand (anthropomorphic) system would allow a user to fully utilize the natural dexterity and force sensations within their hand(s) when performing remote manipulation tasks, automate some tasks, and perform some tasks with enhanced performance and ease. Implementation of 3-D vision technology would provide a user with enhanced (close up) appreciation and capability relative to tasks being executed. The very minimal cell wall penetration(s) required by such a combined system would greatly facilitate its application into large cells, portable cells, and transfer ports (to name a few) with minimal, if any, existing facility modifications. Implementation into new facilities could potentially make the overall facility costs less.

Making these systems tolerant to the hostile environment is a technical challenge that needs to be met, as well as the development of the anthropomorphic capabilities of and electric robot (servo-hydraulic systems exist, but the hydraulic component is not typically friendly to hot cell environments).

Abstract for Session 3
Remote Robotics for Material Handling, Welding, and Inspection of Yucca Mountain Storage Canisters

By Kevin Croft and Tim McJunkin, INL

The Industrial and Hot Cell Robotics program at INL develops innovative systems and sensors that enable industrial processes, such as remote material handling, welding, and inspections in hot cells and other challenging conditions.

The Yucca Mountain Waste Package Closure Project, performed by INL, exemplifies the challenges and possibilities of remote systems and robotics in difficult environments. Those responsible for the Yucca Mountain Program chartered the INL team with challenging requirements, including developing robotic material handling and delivery systems, remote welding, and remote non-destructive examination equipment. In a nutshell, the system was comprised of a 2.5 ton (lift) 4-axis gantry robot (with interchangeable end effectors), a linear motor material transfer system, two radiation-hardened robots, a bearing to transport them, sophisticated weld equipment trays for each weld robot, and a suite of environment control and support equipment (inert evacuation/gas purge, weld burnishing, canister cleanup...). The entire system was supported by a unique video system and a sophisticated safety system.

Equipment and systems represented a mix of commercially available hardware and equipment, complimented with modified commercial and unique first of-a-kind equipment and systems. Operation of the overall system was performed remotely from a separate control room.

Briefly, the process included remote receipt of materials (canister lids) from outside the cell, delivery of the materials to the canister/weld area by the gantry robot, robotic placement of the inner lid on the inner canister, remote placement and expansion of a weld ring, tacking the ring, (non-destructive evaluation (NDE) verification of the tacks, then welding the lid, followed by weld NDE. The system included the ability to remotely repair welds (including cleanup). The inner canister was then remotely evacuated and purged with an inert gas. The second lid was then robotically brought into the cell, moved to the canister/weld area and placed on the outer canister. The lid was tack welded, followed by NDE of the tacks. Again, the system included the capability to grind out faulty welds, cleanup debris, and re-weld

to meet weld specifications. Following successful welding, a weld burnishing tool was placed on the canister and burnishing of the exterior weld completed. The process would repeat for subsequent canister sets.

The system was successfully demonstrated to DOE and a number of other interested entities during a comprehensive week-long demonstration in Idaho Falls, Idaho. A 6 minute video is available for viewing an abbreviated operation of the system.

Snake-arm robots for nuclear applications

Authors: Andrew Graham, Technical Director

Adam Mallion, Senior Project Manager

Affiliation: OC Robotics, Bristol, UK

Abstract

OC Robotics is a commercial developer and manufacturer of snake-arm robots, based in Bristol, UK. OC Robotics built its first snake-arm robot in 2000, and remains the world's leading manufacturer of snake-arm robots capable of supporting themselves at full horizontal reach. OC Robotics delivered its first snake-arm robots for nuclear intervention in 2004, for a repair at Ringhals NPP in Sweden and continues to develop for and work internationally in the nuclear industry.

Snake-arm robots are typically long, slender robots, capable of being introduced into confined spaces through small apertures. In a unique motion called "nose-following", snake-arm robots are typically introduced through an aperture or cluttered space under human control, with an operator steering the tip of the snake-arm robot and controlling its forward/backward motion, using a dual joystick arrangement on a hand controller. Software control ensures that the body of the snake-arm robot follows behind the tip and minimises the arm's deviation from the path originally traced in space by the tip of the robot. This motion mode is intuitively obvious to the operator, and enables snake-arm robots to be driven through small apertures, while avoiding collisions, with a minimum of effort. This type of man-in-the-loop functionality is ideally suited to ad hoc operations and operation in ill-defined spaces, for example vaults or cells with pipework for which no accurate CAD models or as-built drawings exist. The robots can also be programmed off-line to reduce operator workload during the execution of complex campaigns.

A number of types of robot have been built to satisfy different requirements. Basic statistics include: cross-sectional dimensions ranging from ½ inch to 10 inch; horizontal reach up to 14 ¾ feet, and; payloads up to 44 lb at full reach. Snake-arm robots can be fitted with rigid extensions at their base to enable long penetrations to be crossed at minimal performance cost, while the articulated section of the snake-arm robot typically possesses 20 or more degrees of freedom. Conventional robots typically possess 6 or 7 degrees of freedom: the difference enables snake-arm robot arms to avoid obstacles and even to be re-positioned to accommodate moving objects while holding the end-effector stationary in space.

This presentation provides an overview of the different snake-arm robots deployed in the nuclear domain to date, the snake-arm robots being developed for new nuclear applications today (including laser cutting for decommissioning, and laser welding for pipework remediation), and snake-arm robot developments for other industries which embody transferrable innovations for the nuclear industry.

Videos of some of these nuclear developments will be presented, including an application of a radiological scanning and mapping sensor system using snake-arm robot mounted sensors, laser welding to join large diameter pipes from the inside, and submerged operation of a large snake-arm robot. A snake-arm robot for aerospace non-destructive evaluation, and an un-tethered, mobile vehicle-based system suitable for exploring human-scale spaces will also be shown.

Decommissioning Experience at Rokkasho; Standing Type Manipulator: A1000S for dismantling tasks

Hubert Hafen *, Jean-Michel Wagner *, Kenji Hara *
* Wälischmiller Engineering GmbH

ABSTRACT

Decommissioning is a technical process which includes various steps and processes from the clean-up of radioactive materials to the progressive demolition of the plant. One of these steps is the cutting of subassemblies, like tanks, pipes or walls in small pieces suitable for the next reprocessing step. Different solutions are offered for this cutting work and can be grouped as following:

- Chip forming - sawing, drilling, milling, turning etc.
- Shearing - punching, stamping, scissoring.
- Abrading - Grinding, lapping, polishing; water-jet.
- Heat - flame cutting, plasma cutting, laser cutting.
- Electro-Chemical - Etching, Electrical discharge machining (EDM).

Each method has its limitations in accuracy, cost, and effect on the material.

In 2013, Wälischmiller Engineering won a contract for two remote handling systems dedicated to the dismantling of cells at Rokkasho Nuclear Fuel Reprocessing Facility in Japan. For this project, Inconel and other metals needed to be cut. The decision was made for use of an angle grinder handled by a robotic arm.

Because the use of the overhead systems (bridges and cranes) was not possible for this installation, it was determined a power manipulator A1000, installed on the floor with a pre-positioning system was the best alternative. The project proceeded to go forward with the adaptation of the standard A1000 with integration of a control system in a Cartesian coordinate frame; resulting in a heavy duty arm; A1000S with 6 degrees of freedom.

The heavy duty power arm A1000S was developed and designed for mechanical cutting with an angle grinder, especially for thick and hard material for example stainless steel and Inconel.

Cutting a thick material with an angle grinder requires repeatable precise linear motion, in order not to damage the disc. The angle grinder should be handled with a manipulator which can cut in all directions in a linear motion, since the objects which should be cut are usually very large and fixed in any direction
For these requirements, the Cartesian control function was added to our standard power manipulator type A1000.

In some cases, the decommissioning work includes repeated access routes or fixed access points that the manipulator arm has to pass repeatedly. For example a fixed point where the waste materials are collected, or repeated transport route that the arm has to go along for each step. For this requirement, the A1000S has been equipped with the "GoTo-Mode". It is a "teach and playback mode" which has been developed especially for remote operating manipulators. Quick direct teach, quick play function and an intuitive touch-panel layout are some of the features. With the GoTo-Mode high working efficiency was achieved.

After rigorous testing at Wälischmiller premises; the manipulator was delivered to JFNL in Rokkasho.

This paper will provide

- A project description
- Presentation of solution process
- Technical description of the A1000S
- Future Applications of the robotic Arm A1000S

Abstract – Experience in Decommissioning of Nuclear Power Plants in Germany

International Workshop on Use of Robotics & their Application at Nuclear Facilities; February 2-4
National Institute of Standards & Technology; Gaithersburg, MD

Presented by Wälischmiller Engineering GmbH – Kenji Hara

Wälischmiller has extensive experience in various aspects of commercial decommissioning of nuclear power plants in Germany. This experience includes manually operated manipulators, semi-automatic approaches, and fully robotic systems. Specific features of this experience include the use of "teach & repeat" functions, and force feedback features for the operator.

Projects have included the use of simple mechanical manipulators including models A100, A200, as well as electric driven power manipulators. Examples of these are A1000 and the Telbot. Within this ability, we accomplish dry cutting, wet cutting and collecting debris up to 1000 pounds. As well as, placement and controlled packing which is essential in this of this type of exact work in high radiation environments.

To further define these capabilities, cutting can be both thermal and mechanical. Thermal technologies include laser, plasma torch, and contact arc metal cutting underwater. Mechanical technologies are mainly shears, cutting discs and nibbling machines.

Specific projects where we have applied these technologies include the decommissioning of the Greifswald, Rheinsberg and Obrigheim nuclear power plants. In addition Wälischmiller has worked on decommissioning programs at Karlsruhe Reprocessing Plant. These projects were of high complexity as the internals of a reactor are very unique geometric design that requires extremely precise motion and for actual cutting. Overall, there have been seven reactors decommissioned.

Determining the tool and method appropriate for each project begins with an assessment of the customer needs, working with our technical team to select the most cost-effective, reliable and safe solution. For all projects the most important aspect begins with the ALARA concept of minimizing worker exposure during the operation. Each project is assessed for the level of robotics required for the specific task; from a small manipulator to a large fully robotic system.

Out of these experiences, we are now able to offer maintenance free, easy to decontaminate electric driven systems. The deployment mechanism for these systems can be varied, including telescopic mast, gantry system, excavator based, or on a free standing platform. We further define appropriate equipment based on necessary reach and payload. Additional analysis is to define the precision necessary, cutting forces required and special environmental requirements like corrosive acid, explosive potential and radiation levels.

The presentation will define the decision-making process and requirements for selecting the best equipment and techniques for each project. Our success in this arena stems from our commitment to understanding all aspects of the customer project and literally "seeing with the customer's eyes". Each and every project is different and our ability to adapt and reinvent our equipment to meet these needs is essential for success.

Automation and Robotics Applications for Nuclear Material Processing at LANL

Troy Harden

There are a number of challenges to effective automation for nuclear material processing in a glovebox environment. Some challenges include limited access, inert atmospheres, particulate contamination, radiation sources, and corrosive chemical operations. These challenges along with the lack of uniformity in a laboratory environment (i.e. most automated systems tend to be one-of-a-kind) have hindered the development of highly automated systems for nuclear material processing in a glovebox environment. Nonetheless, as computers and automated systems have become more prevalent, automation has been gradually applied in glovebox environments. This talk presents several examples where robotics and/or automation has been or soon will be deployed for nuclear material processing in a glovebox environment. Specifically, this talk presents automation that has been developed for the ARIES program, for cleaning spherical containment vessels, for power supply dismantlement, and for several other glovebox lines. In addition to application examples, challenges to successful implementation are also discussed.

Page 21 of 87

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Robotics and Sensing for Nuclear Infrastructure Inspection

David Mascarenas, Eric Flynn

Los Alamos Engineering Institute, Los Alamos, NM

Contact: dmascarenas@lanl.gov

One of the biggest problems facing decision makers responsible for nuclear infrastructure is ensuring that nuclear infrastructure continues to have the structural performance to safety and securely perform the functions for which they are intended. Structural integrity of nuclear infrastructure is a concern across the DOE complex. Examples of such infrastructure include the nuclear material storage tanks at the Hanford site, the Waste Isolation Pilot Plant (WIPP), and the H-canyon nuclear chemical separations plant at Savannah River. A common feature of these facilities is that they are generally not accessed by humans as a result of the dangerous levels of radiation present inside. As a result it is not possible for human inspectors to directly perform structural inspections. In the case of the Hanford tanks and H canyon the infrastructure is quite old and in many cases beyond the anticipated design life. H Canyon recently turned 60 years old and some of the tanks at Hanford site were constructed in the 1940s. WIPP is a much younger facility; however as a result of the chemical release at the site it is necessary to assess the state of the containers at the site as well as the structure itself. In the last decade great advances have been made in structural inspection technologies as well as the robotics field. However these advances have not adequately focused on the structural inspection problems of interest to the DOE because these problems are too niche to be addressed by the commercial sector.

Over the course of the last two years LANL Engineering Institute researchers have developed a number of novel, prototype tools for enabling structural inspection of nuclear facilities using robotics. These tools include a pneumatic device for remotely deploying sensor nodes from an aerial robot, a motor-driven crank-rocker linkage for performing tap-tests of infrastructure, and a delta-machine-based arm for allowing aerial robots to perform repairs and remove debris that is impeding visual inspection. The LANL Engineering Institute has also invested significant effort developing new signal processing and sensing techniques. These include novel techniques for identifying structural dynamics using only imagers, and techniques for rapidly measuring the thickness of plate-like structures over large areas in a stand-off manner. Both of these techniques could be deployed to inaccessible areas using robotic technology and could greatly facilitate assessing the structural performance of nuclear infrastructure.

David D. L. Mascareñas earned his Ph.D. and M.S. in structural engineering at the University of California San Diego, in La Jolla,CA in 2008 and 2006

respectively. He received the B.S. in mechanical engineering at Colorado State University in Fort Collins, CO in 2004.

He worked as a laboratory manager at SAIC/Sullivan International in 2009 to develop systems health monitoring software for ground-based robots. In 2010 he was a Director's funded postdoctoral researcher at Los Alamos National Laboratory. In 2012 he was converted to a technical staff member at the Los Alamos National Laboratory where he currently performs research on cyber-physical systems at the Engineering Institute. He currently performs research on the application of compressive sensing techniques to structural health monitoring, the deployment of wireless sensor networks, standoff experimental mechanics, and the development of techniques to interface humans to data using vibro-tactile interfaces.

International Workshop on the Use of Robotic Technologies at Nuclear Facilities

February 2-4, 2016, Gaithersburg, MD

Robotic Technology Research at Florida International University for the Department of Energy - Environmental Management

Dwayne McDaniel, Leonel Lagos, Hadi Fekrmandi, Anthony Abrahao, Ryan Sheffield, and Erim Gokce
Applied Research Center
Florida International University

Florida International University (FIU) has a number of initiatives in the area of robotic technologies that support the mission of the Department of Energy – Environmental Management (DOE-EM) and the storage, transport and processing of high-level waste. Some of these efforts stemmed from the radioactive waste which was found in the annulus of the AY-102 double-shell tank at the Hanford. This leak has prompted the need for inspection tools that can travel in confined radioactive areas and identify the location and potential cause of the leak. To aid in this effort, FIU is investigating the development of inspection tools that are capable of gaining access to the tank secondary containment, and provide live video feedback. The effort has led to the development of two inspection tools; a magnetic wheeled miniature motorized rover that will travel through the refractory cooling channels under the primary tank, and a pneumatic pipe crawler that will inspect the air supply lines leading to the central plenum of the tank.

The magnetic wheeled miniature tool is a remote controlled rover with four wheels directly driven by independent micro DC motors. The tool is being designed for highly radioactive environments, with no embedded electronics in the rover with the exception of the camera. The inspection tool will be required to enter a refractory channel at the edge of the primary tank and travel through a maze of channels to reach the central plenum. The path includes approximately 40 feet of channels with cross sections as small as 1.5 inches by 1.5 inches, and four 90° turns. Additional challenges are related to debris in the channels from the aging refractory pad. To avoid the debris, the device will travel upside down magnetically attached to the bottom of the primary tank. If successful, the tool will be able to provide visual information regarding the conditions of the tank floor and refractory pad and potentially pinpoint the location of the leak. Current bench scale testing has demonstrated that the tool can navigate through the first 17 feet of channel, but slight design modifications will be needed to make the turns.

The pneumatic pipe crawler is a worm type robot with a modular design, composed of interchangeable cylindrical modules connected with flexible links. The design is an evolution of previous peristaltic crawlers developed at FIU, and uses pneumatic actuators to emulate the contractions of the peristaltic movements, which is suitable for highly radioactive environments

by not requiring embedded electronics. The crawler also has a camera which will supply visual information regarding the air supply lines and the central plenum. To reach the central plenum, the crawler will have to travel through approximately 100 feet of piping including three and four inch diameter pipes and traverse through vertical risers, elbows and reducers. Bench scales tests have demonstrated the crawler's ability to navigate through the necessary pipeline geometries. Future efforts will focus on enhancing the inspection capabilities of both the crawler and the miniature rover, by integrating various sensors into the devices.

The Use of Robotics at CANDU Power Plants

Presenter: Jacqueline McGovern, Department Manager, Inspection & Maintenance Systems, Kinectrics

Nov 11, 2015

The Moderator Relief Duct Inspection Equipment (MORDIE) II is an inch worm robot designed to remotely inspect 20 feet of a complex geometry duct (1.5D and 1D bends), and a secondary 2" balance line that connects to the main duct approximately 16' down. MORDIE II (hereafter referred to as MORDIE) is a delivery system with interchangeable tool heads used to inspect both these pipes/ducts. In order to ensure Foreign Material Exclusion (FME), all systems have redundancy design in and all items that enter the duct are tethered. Furthermore, an FME Bung is installed at the bottom of the duct via MORDIE to ensure no foreign material enters the system. MORDIE has a 1 ½" I.D. flexible conduit running the centre length of the tool to accommodate the FME barrier umbilical and tether. Currently, there are three tool heads for the MORDIE system:

- FME deployment module
- NDE tool head
- 2" balance line deployment module

MORDIE is used to support and position the FME bung deployment tool in the CRD. The FME deployment module delivers the FME bung to the bottom of in the duct. The FME bung has several features including a tether and an umbilical. The umbilical accommodates the seal monitoring system and the vacuum fluid recovery system. A pneumatically powered diaphragm pump is used to continuously remove fluid (cleaning fluid or NDE couplant) that accumulates on top of the FME bung while deployed.

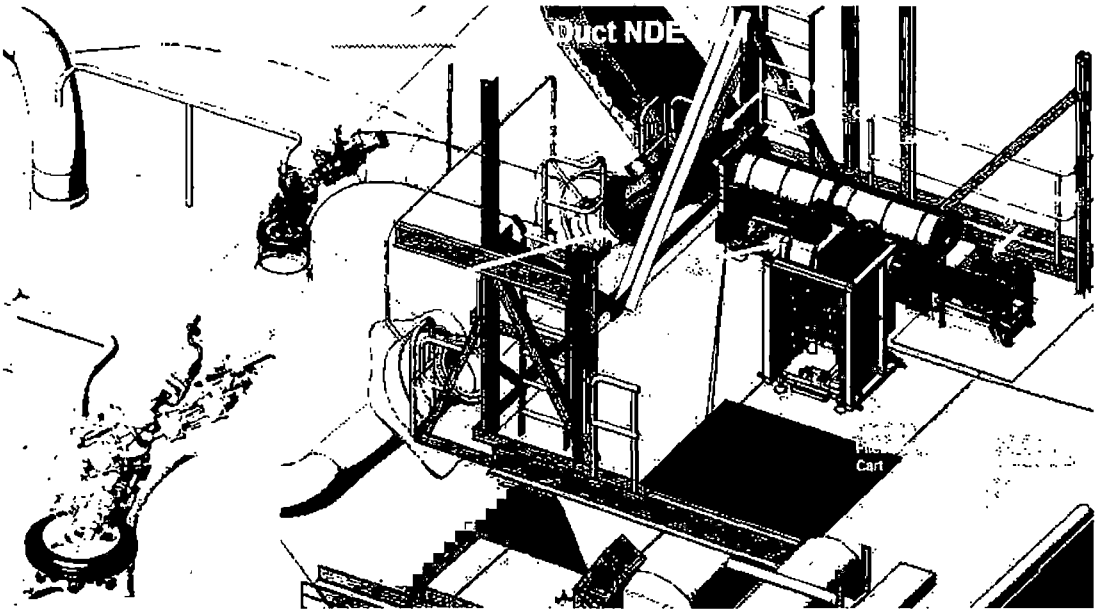
After the FME Bung is installed, MORDIE is used to support and position the NDE tool head in the duct. The NDE tool head consists of two sensors heads with a total of eight Ultrasonic (UT) and Eddy Current (ET) probes to detect and characterize potential flaws in the duct. The sensor heads are mounted on guided pneumatic actuators and can rotate to cover 370°of the duct using the delivery system rotary joint.

Once the NDE inspection of the duct is complete, the 2" balance line deployment module on MORDIE is used to deliver a secondary inspection of the 2" Balance Line with an inspection snake. The snake consists of a fiberscope camera, lighting for navigation, safety tether, and two Eddy Current (EC) probe modules for NDE inspection.

MORDIE is delivered via a launch ramp that is connected to the rupture disc flange of the CRD. The back of the launch ramp incorporates the cable, tether and umbilical management system. In order to operate MORDIE with the various tool heads, the following support carts are required:

- Power cart
- Master control cart
- Master control station
- Pneumatics cart
- Fluid cart

A layout of the entire system is shown in the image below.



MORDIE has been operational since Feb 2014 having completed hundreds of runs in the duct at the Kinectrics' full scale mock-up facility. The mock-up facility fully emulates the equipment arrange, clearances and restrictions that will be found at site. The mock-up set-up with the audio, video and breathing air system enables effective training of personnel to prevent human performance issues during site deployment.

RISER: 3D Contamination Mapping with a Nuclear-Capable Drone.

M. Mellor, Createc

In decommissioning and disaster recovery projects it is often necessary to map and quantify radioactive contamination in areas which are difficult or impossible for people to get to. This is a task is an ideal application for by robotic systems. In particular, the go-anywhere capability of drones appear to offer the promise of a generic solution. However, drones are difficult platforms to use at nuclear sites; they typically rely on GPS for stability and control, which is unreliable or absent near or inside metal clad buildings. It is also far from obvious how the data captured by a drone can be used to provide quantitative measurements of contamination. In this paper, we present RISER a drone developed specifically for building 3D contamination maps at nuclear sites.

RISER solves the access problem by using a lidar navigation system to enable stable autonomous flight in enclosed environments where GPS is unavailable. RISER is also capable of building a 3D contamination map in real-time using its on-board CZT spectrometer and centimetre-accurate positioning system; these data are combined to build a low resolution 3D image of the contamination distribution by building and solving an 'inverse problem' that relates the contamination distribution to the spatial variation in radiation intensity. Combined, these capabilities enable true eyes-off remote robotic mapping of contamination. A by-product of the system is a 3D point cloud model of the surveyed area which can be used to measure as-built or post-damage dimensions and estimate

We present the results of two demonstrations of RISER at Sellafield in the UK, the first at a partially decommissioned reprocessing plant and the second inside a chimney affected by the 1957 Windscale fire. In the reprocessing plant demonstration, indoor flight and real-time 3D mapping were demonstrated under carefully controlled conditions using a human pilot. In the chimney demonstration, access was too limited to enable a human pilot to handle more than the take-off and landing and the flight itself was handled entirely by the autopilot with waypoint navigation commands supplied by the operator.

These demonstrations show the potential for flying robots and robots with a high degree of autonomy in general to aid with decommissioning and disaster recovery.

Current Status of a US-Korea Collaboration on Development of Enhanced Telerobotic Operation Method

Presenter: Young Soo Park, Argonne National Laboratory

Abstract:

This work introduces a US-Korea collaboration in-progress for R&RS technology development for D&D. It leverages the lessons learned from a previous experience of deploying robotic systems for nuclear reactor D&D and subsequent technology enhancements in DOE-EM.

In South Korea and the United States, there is imminent potential liability for decontaminating and decommissioning (D&D) life-ended nuclear reactors and facilities. For dismantling tasks in high-radiation and -contamination areas, use of robotic and remote systems (R&RS) are expected to replace human from the hazardous environment and to improve task performance by borrowing precision and physical strength of robots.

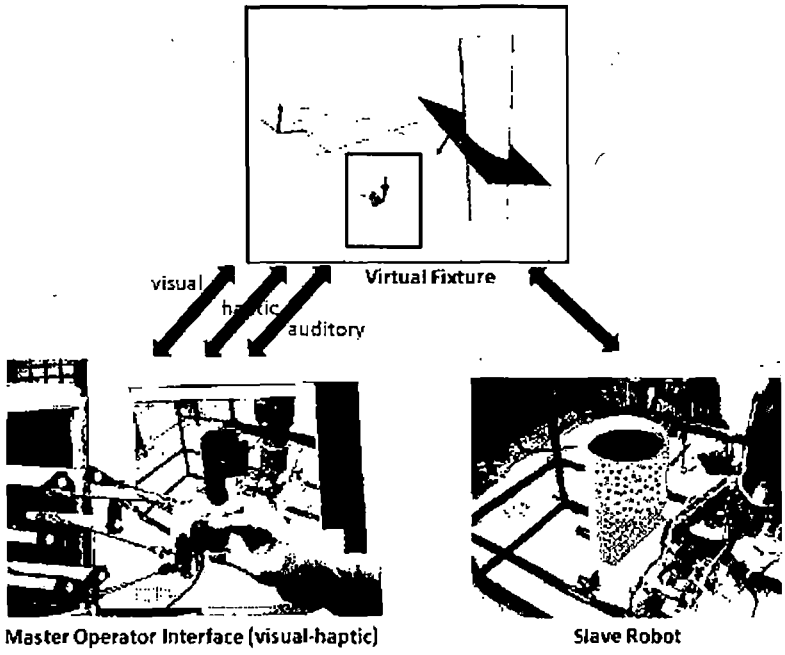
Traditionally the development in R&RS has been focused on enhancing force reflection or adding autonomy. However, practical experience in deployment indicated the pitfalls of such approaches. To achieve high level of autonomy generally require complex robots which are vulnerable to costly breakdown and maintenance. On the other hand, operating the robot with manual teleoperation is difficult, inefficient, and imprecise for complex tasks in unstructured environment. To overcome such difficulties, an enhanced form of teleoperation, namely 'telecollaboration', is proposed. Instead of pursuing autonomy or dexterous force reflection, the proposed teleoperation method is focused on enhancing the operator interface with augmented reality. This enhanced teleoperation method makes it suitable for application to simple equipment while still achieving enhanced performance of teleoperation – efficiency and precision. The development addresses three main components: implementation of multi-modal virtual fixtures, 3D environmental sensing and reconstruction, and testbed implementation with a prototype robot.

Multi-modal Virtual Fixtures: Virtual fixture is by definition 'artificially generated geometric surface overlaid on human operator's perceptual domain in such a way to guide teleoperation". As depicted in the figure below, virtual fixtures lies between and interacts with the master and slave parts of a teleoperation control system, in such a way to provide motion guidance or define forbidden regions. Introduction of virtual fixtures in teleoperation enhances control stability as well as operation performance. Key technologies are presented for generation of virtual geometry and visual-haptic augmentation (i.e. display onto operator percept).

3D Environmental Sensing and Reconstruction: The application of VF in many D&D operations is characterized by contact manipulation. However, a key assumption and bottleneck in this method is the lack of a technology basis for environmental perception, i.e., environmental sensing and reconstruction. The current state-of-the-art environmental perception technology is geared toward mobile robot navigation and thus is inadequate for such robot manipulation applications, mainly due to insufficient accuracy, precision, and processing speed. To this end, an improved 3D sending method is developed with improvements in accuracy of 3D scene reconstruction, and reliability of

tracking moving objects. This work addresses the development of such a perception basis and the conceptual demonstration of its applicability for enhanced teleoperation.

Conceptual Demonstration with Prototype Robot: The component technologies of VF and 3D sensing are integrated into a testbed robot system for conceptual demonstration and improvement. In the subsequent years the collaboration will lead to porting the technology onto a D&D robot system being developed at KAERI.



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Experience of deployed Confined Sluicing/Scarification and Potential Applications at The Hanford Site

Submitted for consideration to The International Workshop on the Use of Robotic Technologies at Nuclear Facilities Session 3: Industry and Government Experiences in Applying Robotic Technologies to Existing Challenges

Authors: Michael Rinker – Pacific Northwest National Laboratory; Karthik Subramanian - Chief Technology Officer at Washington River Protection Solutions; Dr. Barry Burks – Vice Chancellor for Research and Economic Development at North Carolina Agricultural and Technical State University (previously a senior technical researcher at Oak Ridge National Laboratory).

Abstract: This paper and presentation provides an overview of scarifier technology that was developed and deployed with a robotic arm and a remotely operated vehicle at the Oak Ridge Gunite And Associated Tanks in the 1990's and early 2000's. Additionally, it addresses the potential modifications and integration of the technology with the Mobile Arm Retrieval System currently in operations at the Hanford Site.

Scarifying end-effectors were developed in the 1990's by the Pacifica Northwest National Laboratory resulting in a Confined Sluicing End Effector that was tested, integrated, and deployed in the by the Oak Ridge National Laboratory to successfully remove remaining sludge wastes and heels in the Gunite And Associated Tanks at the Oak Ridge Reservation. Lessons learned were collected and documented at the end of the retrieval activities.

The Hanford Site has been operating the Mobile Arm Retrieval System (MARS) to remove residual nuclear waste from the Single Shell Tanks in the C Tank Farm. Lessons learned to date for the use of the MARS have been collected and one of the potential improvements for retrieval at Hanford under consideration is the use of scarifying technology that would be integrated with MARS.

25th November 2015

ABSTRACT

Title: Robotic Handling of Legacy Nuclear Waste: BEP

Stephen Shackleford PhD, BSc(Hons) CChem, MRSC[1], Dr. Jeffrey A. Kuo, C.Eng. MIMechE[1] and Jim Harken BEng (Hons) CEng FIMechE[1], National Nuclear Laboratory Limited[1]

The cost of decommissioning the UK's current nuclear facilities and the associated storage of waste in 2015 is circa £115 billion over the next 100 years [1]. The expected investment in new nuclear build before 2030 is circa £60 billion [2] and the cost of building and operating a geological disposal facility is circa £12 billion [3]. RAS has a significant part to play in each of these programmes with NNL estimating that for decommissioning alone, 20% of the costs of complex projects will be spent on RAS [4].

The UK robotic and nuclear industries' ability to develop and deploy Robotic and Autonomous Systems (RAS) that are able to deliver a step change in risk reduction, safety, reliability, efficiency and cost across the entire nuclear cycle: reactor operations; new nuclear build; medium and long-term waste storage; decommissioning; future reactor designs (Gen IV and SMRs). Until now, robotics has had minimal impact on the nuclear industry, however, the creation, by Sellafield Limited and the National Nuclear Laboratory (NNL) of inactive and active demonstration facilities in west Cumbria means that there is now a clear route through to deployment of robotic technology.

Sellafield is one the most challenging decommissioning environments housing 1200 buildings in 6 sq km, 200 of which hold nuclear inventory, 100 equivalent or greater than a nuclear reactor in terms of hazards and security and finally a large percentage of the ageing infrastructure is over 60 years old. Decommissioning, dismantling and waste management of nuclear infrastructure requires supporting mullti-billion pound clean-up facilities. This is a significant challenge at Sellafield but also worldwide and one which is growing in size as more plants are reaching the end of their operational lives.

The strategy chosen for individual projects varies from the hands-on approach with significant manual intervention using traditional demolition equipment at one extreme to bespoke highly engineered robotic solutions at the other. The degree of manual intervention is limited by the hazards and risks involved, and in some plants are unacceptable.

Robotic remote engineering is often viewed as more expensive and less reliable than manual approaches, with significant lead times and capital expenditure. However, advances in robotics and automation in other industries offer potential benefits for future decommissioning activities, with the high probability of reducing worker exposure and other safety risks as well as reducing the schedule and costs required to complete these activities.

To that end Sellafield Limited contracted NNL to develop a robotic system for the remote handling of legacy nuclear Miscellaneous Beta Gamma Waste with commissioning of the equipment to the Box Encapsulation Plant by 2018. The project aims are:

- Accelerate and reduce the end state delivery of the Sellafield High Hazard and Risk Reduction programme.
- To utilise proven commercial 'off the shelf' robotic technology and develop for nuclear application.
- Prove high reliability of commercial 'off the shelf' robotics in nuclear environment
- Systematic approach to technical development with external LFE adopted. All low TRL research undertaken off line through UK/EU funded research.

[1] *Nuclear Provision: Explaining the Cost of Cleaning Up Britain's Nuclear Legacy*, NDA, 2015, [2] Nuclear Industrial Vision Statement, HM Government, bis-13-629, [3] Frequently Asked Questions for Geological Disposal, NDA, 2015, [4] RAS 2020 Robotics and Autonomous Systems Strategy, Innovate UK.

Radiation and Robotics Systems Research and Development at Canadian Nuclear Laboratories

Gina L. Strati, Nick Simpson, Ahmed Khalifa, Paul Rochefort
Research and Development, Canadian Nuclear Laboratories, Limited,
Chalk River Laboratories, Chalk River, Ontario (Canada)

Canadian Nuclear Laboratories Ltd. (CNL), located in Chalk River, Ontario, Canada, features a diverse range of challenges that calls for remote visual inspection, hazard characterization and object manipulation. The site is marked by a rich research and development history in nuclear power dating back to the 1940's and legacy waste concerns combined with continuing site operations, offer many opportunities to deploy robots to address challenges. Radiation and radioactive contamination are the unique hazards facing the nuclear industry. Unmanned systems, be they ground, underwater or aerial vehicles, can be and have been exploited at CNL to increase personnel safety, often as the only system capable of the task. These remote and robotic systems must overcome not only the conventional hazards for which they had been designed, but also the unique hazards of nuclear facilities.

A multi-faceted research project at CNL investigates the use of robotics, electronics, and measurement devices in conditions subject to radiation. Emergency response to nuclear events, in addition to inspection and operational requirements at generating stations, are subject to extreme radiation hazards which require the use of a remote system. Key requirements for future robotic response systems for these situations have been identified, informed by the fleet of robots developed in response to the event at the Fukushima Daiichi Nuclear Power Generating Station. CNL has produced demonstrator ground vehicle units; for both low and high fields and doses of radiation, with feedback devices and visualization technologies. Multiple robotic platforms have been acquired as a base for this research and a testing program for feedback devices, onboard electronics and power sources is being conducted using CNL's various irradiation facilities. The performance and operational life of these items is essential information when planning for radiation work. Different types of commercially-available video cameras, both analog and digital, and technologies, such as CMOS, CID, and CCD, were irradiated until failure, the highest dose being 1 Mrad. Image degradation and the failure mechanisms varied considerably, highlighting the difficulty in predicting radiation effects for video cameras and electronic components. Additionally, novel tools to characterize radiation hazards and to aid in robot navigation are being developed. The first is a visual imaging device for gamma radiation. The radiation intensity distribution data from the device will be overlaid on a visual image to identify hazards and to minimize risk to operators during work. The second is a system to produce a 3D map of the robots surroundings from stereoscopic camera feedback to assist with work planning. In parallel, unmanned aerial vehicles have been acquired to perform radiation surveys of waste management areas and to conduct visual inspections of plant buildings.

This presentation will summarize the current results of CNL's robotic research and highlights specific robotic devices used in nuclear applications.

DOE National Laboratory Robotic System Applications for Nuclear Facilities Operations and Legacy Cleanup

Steven L. Tibrea, PhD

Director, R&D Engineering

Savannah River National Laboratory

Savannah River Site, Aiken, SC

The US Department of Energy Office of Environmental Management (DOE-EM) is charged to execute the safe cleanup of facilities and stabilization of material as a result of the legacy from seventy plus years of nuclear weapons development and government-sponsored nuclear energy research. Robotic and remote systems have played a key role over the years in dealing with hazardous materials. Many of the aging nuclear facilities are transitioning into an environmental legacy cleanup status requiring decontamination and decommissioning (D&D) which is ripe with applications for robotics. Robotic platforms are ideal for reducing worker fatigue, addressing technical uncertainty, and minimizing both programmatic and nuclear worker risk levels. As a result, robotic systems remain an essential tool in the legacy cleanup effort of DOE-EM.

The DOE National Laboratories were pioneers in early remote manipulation and remain involved in the cutting edge of robotic systems being used in nuclear facilities in the complex today. The National Lab contributions range from early development of Master Slave Manipulators widely used in hot cells to fully autonomous robots. However, there is still a higher comfort level with systems controlled by a human (tele-operated) in nuclear facilities.

Examples of robotic technologies successfully deployed by National Labs include: Savannah River National Laboratory's Reactor Tank Inspection Program that deployed a robotic arm for Ultrasonic Testing/Magnetic Particle Testing of reactor tank walls for nondestructive examination (NDE). Oak Ridge National Laboratory's dual arm manipulator system was used for D&D of Argonne National Laboratory's CP-5 reactor, and a system for waste retrieval for its Gunite tank took advantage of several remote devices. Pacific Northwest National Laboratory's Mobile Arm Retrieval System (MARS) for tank waste removal is capable of accessing the entire tank interior from a single location. Idaho National Laboratory's Yucca Mountain Waste Package Closure Project demonstrated a complete robotic system to package waste into a double (nested) canister waste package. This is just a small sample of the robotic activities through the National Laboratories that resulted in safer working conditions protecting workers from dangerous exposure.

Recent research has focused on more robust and capable robot control systems to provide for more intelligent operations potentially eliminating human errors in operation. Less expensive standardized robotic platforms that are practically disposable and can be adapted for different missions should be a focus due to the challenges of decontaminating such devices. Another area

of focus that would be beneficial for wider use in DOE facilities is standardization in robot development. This applies to both nuclear facility requirements and safety related automation controls for high consequence environments. Industry organization participation is need to promote robotics integration, technical collaboration, and application standardization; e.g. American Nuclear Society, Robotics and Remote Systems Division and the American Society for Testing and Materials, International.

Gloveboxes are widely used for handling and processing nuclear material. Although this has been an effective approach in executing the DOE mission, there have been a number of contamination, hand puncture and uptake incidents from sharps in the glove box. Automating these operations would minimize or eliminate these incidents. Introducing robotics to the glovebox application will significantly reduce risk to the workers.

Facility life extension through material and structural surveillance is a perfect application for remote vehicles which can position cameras for visual inspection or a probe for NDE. All of the described uses for robotic systems contribute to worker safety by limiting human exposure and fatigue. Although there are numerous examples of successful robotic deployments in DOE facilities, robotics technology has not been fully integrated into environmental clean-up strategic planning process.

Use of Robotics and Remote Monitoring Equipment for Reducing Dose and Risk Associated with Radiological Work at Ontario Power Generation

Zic, Josip; Glover, Christopher; Thrasher, Julie; Greenland, Lindsay; Hamilton, Tony; Andrade, Angie

Ontario Power Generation (OPG) has implemented a series of robots that it uses to reduce risk and dose associated with radiological work at its stations. In particular, a series of four custom made robots were utilized to remove high activity debris from boiler drain lines at the Pickering Nuclear Generating station. During an outage on Unit 4, Radiation Protection staff identified elevated dose rates, in an Access Controlled Area under Boiler 6, of 500 rem/h (5 Sv/h) at a distance of 12" (30 cm). Further inspections identified that the primary component of the high activities debris within the drain lines was 35 Ci of Cobalt-60. A locked restricted high radiation area was set up to control access until a plan could be developed to remove the source of the elevated dose rates. Robotics were designed and implemented to capture the high activity debris and deposit it into a shielded flask for transfer and disposal. The functions of the primary robot was to apply an ice plug on the line, cut out the portion containing the debris, and then take the 1' section of pipe to a transfer container to be placed into a shielded flask. The primary robot was supported by a robot for performing radiological surveys and visual inspections, another robot for cutting off cladding that held insulation in place, and a final multipurpose robot that assisted with insulation removal. A full scale mock-up of the high activity debris removal was performed prior to work execution. Dual 10,000 rem/h (100 Sv/h) high range detectors on the inspection robot triangulated the debris location at 2.6" (65 mm) from the bend in the drain line. The robots allowed the full execution of this work to take place remotely and with minimal dose to the robot operators and support staff. Similar robotics have been deployed to perform high risk activities like leak searches in Access Controlled Areas of on-power units, with general dose rates in excess of 40 rem/h (0.4 Sv/h). These robots have the ability to climb stairs and are fitted with gamma detectors, PTZ inspection camera's, and thermal camera's. OPG has also deployed Unmanned Aerial Vehicles (UAVs) for performing inspections of containment structures. Upcoming 2016 UAV projects include emergency response radiological surveys of the site near boundary and performing automated reactor face radiological surveys.

From: Nicholson, Thomas
Sent: 19 Aug 2015 19:35:51 -0400
To: 'Jacoff, Adam S.';andrew.Szilagyi@em.doe.gov;Gilbertson, Anders;Marksberry, Don;Parrott, Jack;Abu-Eid, Boby;Burton, Thomas;philip.mattson@hq.dhs.gov;Tateiwa, Kenji;? ?;Rini, Brett;Sangimino, Donna-Marie;Cruz, Holly;Holonich, Joseph;kamel.saidi@nist.gov;'Buckingham, Rob';jrenshaw@epri.com;Zeng, Zhao Chang;Bernardo, Robert
Cc: Correia, Richard;Coyne, Kevin;West, Steven;Stahl, Eric;English, Lance;Fehst, Geraldine;Arrisueno, Gladys L (gladys.arrisueno@nist.gov)
Subject: Approval for final draft of Workshop Prospectus
Attachments: WorkshopProspectus.final.Aug 19-2015.docx

Adam, Andy and company:

This afternoon, Kam Saidi, NIST; Anders Gilbertson, NRC and myself reviewed and incorporated NIST's edits in the attached, final draft of the Workshop prospectus.

We consider the attached as the final copy.

We plan to circulate it to IAEA, OECD/NEA and others (e.g., EPRI, NEI, etc.) via our NRC official points of contact next week.

If you have any objections to its circulation, please send me an e-mail by Friday, August 21st indicating why you cannot approve its distribution.

I greatly appreciate everyone's assistance in developing the attached prospectus.

Our scheduled meeting at NIST on Monday, August 24th needs to be rescheduled due to NIST's program with firefighters.

Kam and Adam will inform us of the new date and time.

Thanks ..... Tom

****

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International Workshop on the Use of Robotics and their Application at Nuclear Facilities

February 2, 2016, 1:00 p.m. – 6:00 p.m. (EST)

February 3 & 4, 2016, 9:00 a.m. – 5:00 p.m. (EST)

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DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

U.S. DEPARTMENT OF HOMELAND SECURITY

UK Atomic Energy Authority

Workshop Information

The U.S. Nuclear Regulatory Commission's (NRC's) Office of Nuclear Regulatory Research (RES); National Institute of Standards and Technology (NIST); U.S. Department of Energy (DOE); U.S. Department of Homeland Security (DHS); United Kingdom Atomic Energy Authority (UKAEA); and the Canadian Nuclear Safety Commission (CNSC) are convening the "International Workshop on the Use of Robotics and their Application at Nuclear Facilities." This workshop addresses the use of robotics at nuclear facilities during operation, emergency response, and routine and post-accident decommissioning.

Audience: Designers, developers, operators, and users of robotic technologies at nuclear facilities and other challenging and hazardous environments and robotic engineers from industry, academia, research institutes, and government agencies.

Workshop Objectives

The purpose of the workshop is to inform, discuss, and assess past, present, and anticipated future uses of robotics at nuclear facilities. Technical exchange of experiences using mobile and stationary robots in challenging environments such as extraterrestrial exploration, deep-sea surveys, and adverse and hazardous conditions for humans are sought. The specific objectives are:

- Facilitate the sharing of information between government agencies, industry, and academia on the present use of robotic technology for monitoring, sampling, and other surveillance functions for a range of air, water, and material conditions within critical infrastructures.
- Seek ideas and insights on possible ways to develop robotics to execute complex tasks for assessing severe nuclear accidents and reporting conditions within critical infrastructures.
- Identify strategies for using robotics to detect, examine, and recover radioactive materials such as fuel rods from damaged nuclear facilities.
- Adapt current robotic technologies used in non-nuclear applications to nuclear facility applications.
- Establish realistic plans to test both the robots and their operators for a range of nuclear facility scenarios.
- Discuss the development of standards for evaluating the performance of robots, their implementation, and their integration with systems at nuclear facilities.
- Identify ground-breaking opportunities to facilitate the use of robotics in the nuclear industry.

The workshop is designed to facilitate technical exchange of lessons learned from historic nuclear applications and experiences (e.g., Three-Mile Island and Fukushima Daiichi); ongoing research; and other relevant applications (e.g., NASA's Martian Exploration Rovers – Spirit, Opportunity, and Curiosity).

Key Outcomes Sought

- **Knowledge:**
  - Information on the current use of robotic technologies at nuclear facilities
  - A better understanding of the state of robotics and remote systems and their potential applications at nuclear facilities
  - Introduction to existing databases or compendiums of robots and remote systems for nuclear applications
  - Ideas or strategies for enhancing existing databases or compendiums with quantifiable and verifiable performance data

- **Development, Testing and Evaluation:**
  - Proposed approaches for using consensus standard test methods to assess performance in order to guide development, procurement, and training for nuclear applications
    - Host competitions, challenges, and technology incubators;
    - Identify best-in-class contributing technologies (e.g., sensors for non-destructive evaluation, mobility platforms, manipulators, material samplers or other tools);
    - Iterate proposed solutions through validated simulations of standard test methods and mockups;
    - Conduct comprehensive testing with standard test methods to establish reliability and gain confidence in robotic performance;
    - Deploy proposed solutions into physical mockups and test beds

- **Adoption and Implementation:**
  - A proposed end-user strategy for setting thresholds of capabilities (measured within standard test methods) necessary for deployment
  - A proposed regulatory approach for technical review of strategies for integrating technology, standards, training, and regulations to address implementation

- **Summary of the key insights drawn from presentations and panel discussions**

Workshop Structure

The workshop will be divided into five sessions (afternoons and mornings). Each session will focus on a technical theme. The proposed themes and questions to be addressed are:

Session 1: Overview of Challenges and Opportunities for the Use of Robotic Technologies at Nuclear Facilities

Co-Chairs: Andrew Szilagyi, DOE and Adam Jacoff, NIST

Presentations are being sought to address the following questions:

- What is the current state-of-the-practice in applying robotic technologies to challenges at nuclear facilities and other hazardous environments?
- What are the opportunities to use robotic technologies for enhanced outcomes?

- What are the possible future uses of robotics at nuclear facilities?
- What are the potential applications for using test methods from consensus standards to assess robotic performance in order to guide development, procurement, and training?
- What are some established or developing databases of robotic technologies and their application, and how have the databases been integrated into successful monitoring and remediation programs?

At the end of the session, there will be demonstrations of the databases and example robotic testing exercises at the NIST Robot Test Facility (http://www.nist.gov/el/isd/ms/roboticsbldg.cfm).

Session 2: Lessons Learned Related to Robot Deployment at Fukushima Daiichi

Co-Chairs: to be determined

Presentations are being sought to address the following questions:

- What robotic applications have been developed and deployed to survey and assess challenging conditions within the damaged reactors and auxiliary support structures (e.g., Fukushima Daiichi)?
- What lessons were learned in developing and applying these robotic technologies, and what successes were achieved?
- How were complex conditions and challenging environments negotiated by the adaptive robotic technologies?
- How were cleanup objectives, including worker safety, met by using these robotic technologies?

Session 3: Industry and Government Experiences in Applying Robotic Technologies to Existing Challenges

Co-Chairs: to be determined

Presentations are being sought to address the following questions:

- What were the challenges (e.g., high-levels of radiation) encountered in identifying and applying robotic technologies?
- What insights and lessons were learned in the development and application of these robotic technologies (e.g., Three-Mile Island and Sellafield clean-ups)?
- How were complex conditions and challenging environments negotiated by adaptive robotic technology?
- What challenges (e.g., design of radiation shielding) remain for applying robotic technologies at nuclear facilities and other hazardous environments?

Session 4: Ground-Breaking, Innovative Technologies, and New Developments

Co-Chairs: to be determined

Presentations are being sought to address the following questions:

- What are the ground-breaking, innovative technologies and new developments that could enhance the functionality of robotics at nuclear facilities?
- What are the complex conditions and challenging environments that need to be negotiated by adaptive robotic technologies?
- What are the challenges for further development of new robotic strategies and tools, over the next five to ten years, to meet nuclear facility needs?

Session 5: Robotic Technology Testing, Operator Training and Certification, and Regulatory Standards Development

Co-Chairs: Phil Mattson, DHS (and other to be determined)

Presentations are being sought to address the following questions:

- Where and how are robots tested?
- Where and how are robot operators trained?
- How can these testing and training programs be incorporated into a certification program recognized by industry and government?
- How do industry-developed standards (e.g., ASTM International, American Society of Mechanical Engineers, etc.) gain regulatory acceptance?
- What are the procedural and regulatory challenges that need to be addressed?

Each session will have two co-chairs. The sessions will begin with a keynote presentation followed by contributed presentations. At the end of sessions 2 through 5, there will be panel discussions moderated by the session co-chairs. Each panel will consist of the presenters and invited experts who will answer questions from the audience on lessons learned in robotic applications, identified databases, and possibilities for future nuclear applications.

The workshop organizing committee is seeking lessons learned from a wide range of international applications at nuclear facilities such as the Three-Mile Island, Chernobyl, Sellafield, and Fukushima Daiichi focusing on decontamination and decommissioning activities.

The workshop will be open to the public to encourage industry participation.

Workshop Registration Information and Contacts:

Workshop Registration and Logistics: NIST Conference Coordinator
Gladys Arrisueno at 301-975-5220; gladys.arrisueno@nist.gov

Web link: NIST Events web page: http://www.nist.gov/allevents.cfm will provide registration procedures; workshop agenda; and information on hotel accommodations; shuttle bus service to and from the identified hotel to NIST; shuttle bus service to and from the METRO to NIST; and the NIST map with driving instructions.

Registration: All attendees must complete and submit a registration form and pay a $71 registration fee, two weeks prior to the workshop. This form will become available in early January 2016 on the NIST Public Conference web site: https://www-s.nist.gov/CRS/ under "International Workshop on the Use of Robotics and their Applications at Nuclear Facilities."

Workshop Co-Chairs: Thomas Nicholson, NRC/RES at Thomas.Nicholson@nrc.gov
Andrew Szilagyi, DOE-EM at Andrew.Szilagyi@em.doe.gov
Adam Jacoff, NIST at adam.jacoff@nist.gov

Organizing Committee Members: Thomas Nicholson, Don Marksberry, Anders Gilbertson, Boby Abu-Eid, Jack Parrott, Robert Bernardo and Thomas Burton, U.S. NRC; Andrew Szilagyi, DOE-EM; Adam Jacoff and Kamel Saidi, NIST; Laurie Judd, NuVision Engineering; Takashi Hara, TEPCO; Rob Buckingham, UKAEA -RACE; Philip Mattson, DHS; and Zhao Chang Zeng, CNSC.

Page 44 of 87

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Page 45 of 87

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Page 46 of 87

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Outside of Scope

From: Nicholson, Thomas [mailto:Thomas.Nicholson@nrc.gov]
Sent: Wednesday, August 26, 2015 7:23 AM
To: andrew.Szilagyi@em.doe.gov; 'Jacoff, Adam S.'; Gilbertson, Anders; Zeng, Zhao Chang; judd@nuvisioneng.com; 原 貴; Tateiwa, Kenji; philip.mattson@hq.dhs.gov; 'Buckingham, Rob'; Marksberry, Don; Abu-Eid, Boby; Parrott, Jack; Bernardo, Robert; Burton, Thomas
Cc: West, Steven; Correia, Richard; Coyne, Kevin; Stahl, Eric; Sangimino, Donna-Marie; Rini, Brett; Holonich, Joseph; Cruz, Holly
Subject: Issuance of Workshop Prospectus

Andrew, Adam, Anders, Charles, Laurie, Takashi, Kenji, Phil, Rob, Don, Boby, Jack, Robert and Tom:

Today, the attached Workshop prospectus went official. We have sent it to NRC staff and management, and will be sending it out to a variety of external parties. We have developed a communication plan to help coordinate the contacting of various international and U.S. entities. Andrew Szilagyi and I discussed it this morning.

Our next task is to identify co-chairs for all of the sessions. Laurie Judd has made recommendations and suggested possible presenters. Mr. Ito from the Science Center at the Japanese embassy in Washington, DC contacted me to learn more about our thoughts on Session 2. I called him and we briefly discussed Session 2, and the various Japanese organizations who may be interested in the questions listed in the Workshop prospectus.

By August 31st, I will draft and send to you a tentative workshop agenda with Laurie's suggestions. Please consider making suggestions as well, so that I can incorporate them into the tentative agenda.

Adam Jacoff and Kam Saidi, NIST will inform us what date and time are good for our next meeting at NIST. The topic will be the development of the workshop agenda.

Thanks so much for your cooperation.

Thanks ..... Tom

****
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****

Page 49 of 87

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of the Freedom of Information and Privacy Act

Outside of Scope

Thank you for inviting DOE and EPA to the seminar.
It would be beneficial for TEPCO to understand what their interests and concerns are.

Have a nice weekend.

All the best,
Kenji

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Page 51 of 87

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Page 52 of 87

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Page 53 of 87

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Page 55 of 87

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Page 56 of 87

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From: Nicholson, Thomas [mailto:Thomas.Nicholson@nrc.gov]
Sent: 8/20/2015 6:10 PM
To: 'Jacoff, Adam S.' <adam.jacoff@nist.gov>; andrew.Szilagyi@em.doe.gov; Gilbertson, Anders <Anders.Gilbertson@nrc.gov>; Marksberry, Don <Don.Marksberry@nrc.gov>; Parrott, Jack <Jack.Parrott@nrc.gov>; Abu-Eid, Boby <Boby.Abu-Eid@nrc.gov>; Burton, Thomas <Thomas.Burton@nrc.gov>; philip.mattson@hq.dhs.gov; Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>; 原 貴 <takashi.hara@tepco.co.jp>; Rini, Brett <Brett.Rini@nrc.gov>; Sangimino, Donna-Marie <Donna-Marie.Sangimino@nrc.gov>; Cruz, Holly <Holly.Cruz@nrc.gov>; Holonich, Joseph <Joseph.Holonich@nrc.gov>; kamel.saidi@nist.gov; 'Buckingham, Rob' <Rob.Buckingham@RACE.ukaea.org.uk>; Renshaw, Jeremy <jrenshaw@epri.com>; Zeng, Zhao Chang <Zhaochang.Zeng@cnsc-ccsn.gc.ca>; Bernardo, Robert <Robert.Bernardo@nrc.gov>
Cc: Correia, Richard <Richard.Correia@nrc.gov>; Coyne, Kevin <Kevin.Coyne@nrc.gov>; West, Steven

<Steven.West@nrc.gov>; Stahl, Eric <Eric.Stahl@nrc.gov>; English, Lance <Lance.English@nrc.gov>; Fehst, Geraldine <Geraldine.Fehst@nrc.gov>; Arrisueno, Gladys L (gladys.arrisueno@nist.gov) <gladys.arrisueno@nist.gov>
Subject: Request approval of final Workshop prospectus

Adam, Andy and company:

This afternoon, Andrew Szilagyi, DOE provided edits to yesterday's draft which have been incorporated by Anders Gilbertson, NRC into the attached, final Workshop prospectus.

We plan to circulate the attached copy to IAEA, OECD/NEA and others (e.g., EPRI, NEI, etc.) via our NRC official points of contact next week.

We have approvals from NRC, DOE, NIST and CNSC.

If you have any objections to circulating the attached Workshop prospectus, please send me an e-mail by Friday, August 21st indicating why you cannot approve its distribution.

I greatly appreciate everyone's assistance in developing the attached prospectus.

As mentioned in my e-mail yesterday, the organizing committee meeting previously scheduled at NIST for Monday, August 24th is being rescheduled.

I have requested Kam and Adam to inform us when they can host the next organizing meeting which will focus on development of the workshop agenda.

Thanks ..... Tom

****
Thomas J. Nicholson, Senior Technical Advisor
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Outside of Scope

From: Nicholson, Thomas
Sent: Friday, August 14, 2015 12:39 PM
To: 'Jacoff, Adam S.' <adam.jacoff@nist.gov>; andrew.Szilagyi@em.doe.gov; kamel.saidi@nist.gov; judd@nuvisioneng.com; 'Buckingham, Rob' <Rob.Buckingham@RACE.ukaea.org.uk>; philip.mattson@hq.dhs.gov; 'Zeng, Zhao Chang' <Zhaochang.Zeng@cnsc-ccsn.gc.ca>; 原 貴 <takashi.hara@tepco.co.jp>; Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>; Marksberry, Don <Don.Marksberry@nrc.gov>; Gilbertson, Anders <Anders.Gilbertson@nrc.gov>; Burton, Thomas <Thomas.Burton@nrc.gov>; Parrott, Jack <Jack.Parrott@nrc.gov>; Abu-Eid, Boby <Boby.Abu-Eid@nrc.gov>; Parrott, Jack <Jack.Parrott@nrc.gov>; Bernardo, Robert <Robert.Bernardo@nrc.gov>; jami.schwartz@nist.gov; Arrisueno, Gladys L (gladys.arrisueno@nist.gov) <gladys.arrisueno@nist.gov>
Cc: Stahl, Eric <Eric.Stahl@nrc.gov>; Sangimino, Donna-Marie <Donna-Marie.Sangimino@nrc.gov>; English, Lance <Lance.English@nrc.gov>; Fehst, Geraldine <Geraldine.Fehst@nrc.gov>; West, Steven <Steven.West@nrc.gov>; Coyne, Kevin <Kevin.Coyne@nrc.gov>; Correia, Richard <Richard.Correia@nrc.gov>
Subject: approval of final draft of Workshop Prospectus

Organizing members and NIST staff:

Please review and approve the attached subject prospectus. I have incorporated edits provided on the previous draft.

I need your review and approval as soon as possible.

We need to send the final out to IAEA, OECD-NEA and other interested parties.

Thanks ..... Tom

****
Thomas J. Nicholson, Senior Technical Advisor
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E-mail: Thomas.Nicholson@nrc.gov
****

International Workshop on the Use of Robotics and their Application at Nuclear Facilities

February 2, 2016, 1:00 p.m. – 6:00 p.m. (EST)
(Check-in from 11:30 a.m. to 12:45 p.m. EST)
February 3 & 4, 2016, 9:00 a.m. – 5:00 p.m. (EST)

National Institute of Standards and Technology
Green Auditorium, Building 101
100 Bureau Drive, Gaithersburg, MD, 20899

Organizational Sponsors

NIST

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
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DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

U.S. DEPARTMENT OF HOMELAND SECURITY

UK Atomic Energy Authority

Workshop Information

The U.S. Nuclear Regulatory Commission's (NRC's) Office of Nuclear Regulatory Research (RES); National Institute of Standards and Technology (NIST); U.S. Department of Energy (DOE); U.S. Department of Homeland Security (DHS); United Kingdom Atomic Energy Authority (UKAEA); and the Canadian Nuclear Safety Commission (CNSC) have developed this prospectus for convening the "International Workshop on the Use of Robotics and their Application at Nuclear Facilities." This workshop addresses the use of robotics at nuclear facilities during operation, emergency response, and routine and post-accident decommissioning.

Audience: Designers, developers, operators, and users of robotics at nuclear facilities and other challenging and hazardous environments and robotic engineers from industry, academia, research institutes, and government agencies.

Workshop Objectives

The purpose of the workshop is to inform, discuss, and assess past, present, and anticipated future uses of robotics at nuclear facilities. Technical exchange of experiences using mobile robots in challenging environments such as extraterrestrial exploration, deep-sea surveys, and adverse and hazardous conditions for humans will be sought. The specific objectives will be:

- Facilitate the sharing of information between Federal agencies, industry, and academia on the present use of mobile robotics for monitoring, sampling, and other surveillance functions for a range of air, water, and material conditions within critical infrastructures.
- Seek ideas and insights on possible ways to develop robotics to execute complex tasks for assessing severe nuclear accidents and reporting conditions within critical infrastructures.
- Identify strategies for using robotics to detect, examine, and recover radioactive materials such as fuel rods from damaged nuclear facilities.
- Adapt current mobile robotics used in non-nuclear applications to nuclear facility applications.
- Establish realistic plans to test both the robots and their operators for a range of nuclear facility scenarios.
- Discuss the development of standards for evaluating robots, strategies, their implementation, and operating systems for robotics at nuclear facilities.
- Identify ground-breaking opportunities to facilitate the use of robotics in the nuclear industry.

The workshop is designed to facilitate technical exchange of lessons learned from historic nuclear applications and experiences (e.g., Three-Mile Island and Fukushima Daiichi); ongoing research; and other relevant applications (e.g., NASA's Martian Exploration Rovers – Spirit, Opportunity, and Curiosity).

Key Outcomes Sought

- **Knowledge:**
  - A better understanding of the state of robotics and remote systems and their potential applications at nuclear facilities
  - Introduction to existing databases or compendiums of robots and remote systems for nuclear applications
  - Ideas or strategies for enhancing existing databases or compendiums with quantifiable and verifiable performance data
  - Potential applications for using test methods from consensus standards to assess robotic performance in order to guide development, procurement, and training

- **Development, Testing and Evaluation:**
  - Proposed approaches for using consensus standard test methods to assess performance in order to guide development, procurement, and training for nuclear applications
    - Host competitions, challenges, and technology incubators;
    - Identify best-in-class contributing technologies (e.g., sensors for non-destructive evaluation, mobility, manipulators, material samplers or other tools);
    - Conduct comprehensive testing with standard test methods to establish reliability and gain confidence in robotic performance;
    - Iterate proposed solutions through validated simulations of standard test methods and mockups;
    - Deploy proposed solutions into physical mockups and test beds

- **Adoption and Implementation:**
  - A proposed end-user strategy for setting thresholds of capabilities (measured within standard test methods) necessary for deployment
  - A proposed regulatory approach for technical review of strategies for integrating technology, standards, training, and regulations to address implementation

- **Summary of the key insights drawn from presentations and panel discussions**

Workshop Structure

The workshop will be divided into five sessions (afternoons and mornings). Each session will focus on a technical theme. The proposed themes and questions to be addressed are:

Session 1: Overview of Challenges and Opportunities for the Use of Robotic Technologies at Nuclear Facilities

Co-Chairs: Andrew Szilagyi, DOE and Adam Jacoff, NIST

Presentations to address the following:

- What is the current state-of-the-practice in applying robotic technologies to challenges at nuclear facilities and other hazardous environments?

- What are the opportunities to use robotic technologies for enhanced outcomes?
- What are the possible future uses of robotics at nuclear facilities?
- What are the potential applications for using test methods from consensus standards to assess robotic performance in order to guide development, procurement, and training?

Contributed presentations to inform the audience on established or developing databases of robotic technologies and their applications, and how those databases have been integrated into successful monitoring and remediation programs.

At the end of the session, there will be demonstrations of the databases and example robotic testing exercises at the NIST Robot Test Facility (http://www.nist.gov/el/isd/ms/roboticsbldg.cfm).

Session 2: Lessons Learned Related to Robot Deployment at Fukushima Daiichi

Co-Chairs: to be determined

Presentations to address the following questions:

- What robotic applications have been developed and applied to survey and assess challenging conditions within the damaged reactors and auxiliary support structures?
- What lessons were learned in developing and applying these robotic technologies?
- How were complex conditions and challenging environments negotiated by the adaptive robotic technologies?
- How were cleanup objectives, including worker safety, met by using these robotic technologies?

Contributed presentations to provide examples of the challenges encountered and successes achieved during the deployment of robots at Fukushima Daiichi.

Session 3: Industry and Government Experiences in Applying Robotic Technologies to Existing Challenges

Co-Chairs: to be determined

Presentations to address the following questions:

- What were the challenges (e.g., high-levels of radiation) encountered in identifying and applying robotic technologies?
- What insights and lessons were learned in the development and application of these robotic technologies (e.g., Three-Mile Island and Sellafield clean-ups)?
- How were complex conditions and challenging environments negotiated by adaptive robotic technology?
- What challenges (e.g., design of radiation shielding) remain for applying robotic technologies at nuclear facilities and other hazardous environments?

Contributed presentations to provide examples of the challenges encountered and adaptations for applying robotic technologies.

Session 4: Ground-Breaking, Innovative Technologies, and New Developments

Co-Chairs: to be determined

Presentations to address the following questions:

- What are the ground-breaking, innovative technologies and new developments that could enhance the functionality of robotics at nuclear facilities?
- What are the complex conditions and challenging environments that need to be negotiated by adaptive robotic technologies?
- What are the challenges for further development of new robotic strategies and tools, over the next five to ten years, to meet nuclear facility needs?

Contributed presentations to provide examples of the ground-breaking, innovative technologies and emerging robotic technologies.

Session 5: Robotic Technology Testing, Operator Training and Certification, and Regulatory Standards Development

Co-Chairs: Phil Mattson, DHS (and other to be determined)

Presentations to address the following questions:

- Where and how are robots tested?
- Where and how are robot operators trained?
- How can these testing and training programs be incorporated into a certification program recognized by industry and government?
- How do industry-developed standards (e.g., American Society for Testing and Materials) gain regulatory acceptance?
- What are the procedural and regulatory challenges that need to be addressed?

Contributed presentations to provide examples of the robotic technology testing, operator training and proposed regulatory acceptance criteria.

Each session will have two co-chairs. The session will begin with a 30-minute keynote presentation followed by 20-minute contributed presentations. At the end of sessions 2 through 5, there will be panel discussions moderated by the session co-chairs. Each panel will consist of the presenters and invited experts who will answer questions from the audience on lessons learned in robotic applications, identified databases, and possibilities for future nuclear applications.

The workshop organizing committee is seeking lessons learned from a wide range of international applications at nuclear facilities such as the Three-Mile Island, Chernobyl, Sellafield, and Fukushima Daiichi focusing on decontamination and decommissioning activities.

The workshop will be open to the public to encourage industry participation.

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Workshop Registration and Logistics: NIST Conference Coordinator
Gladys Arrisueno at 301-975-5220; gladys.arrisueno@nist.gov

Web link: NIST Events web page: http://www.nist.gov/allevents.cfm will provide registration procedures; workshop agenda; and information on hotel accommodations; shuttle bus service to and from the identified hotel to NIST; shuttle bus service to and from the METRO to NIST; and the NIST map with driving instructions.

Registration: All attendees must complete and submit a registration form and pay a $71 registration fee, two weeks prior to the workshop. This form will become available in early January 2016 on the NIST Public Conference web site: https://www-s.nist.gov/CRS/ under "International Workshop on the Use of Robotics and their Applications at Nuclear Facilities."

Workshop Co-Chairs: Thomas Nicholson, NRC/RES at Thomas.Nicholson@nrc.gov
Andrew Szilagyi, DOE-EM at Andrew.Szilagyi@em.doe.gov
Adam Jacoff, NIST at adam.jacoff@nist.gov

Organizing Committee Members: Thomas Nicholson, Don Marksberry, Anders Gilbertson, Boby Abu-Eid, Jack Parrott, Robert Bernardo and Thomas Burton, U.S. NRC; Andrew Szilagyi, DOE-EM; Adam Jacoff and Kamel Saidi, NIST; Laurie Judd, NuVision Engineering; Takashi Hara, TEPCO; Rob Buckingham, UKAEA -RACE; Philip Mattson, DHS; and Zhao Chang Zeng, CNSC.

Outside of Scope

----------Tom,

Thank you for inviting DOE and EPA to the seminar.
It would be beneficial for TEPCO to understand what their interests and concerns are.

Have a nice weekend.

All the best,
Kenji

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(b)(6)

Outside of Scope

Please inform us if you plan to attend. We need to list you in our Visitor Information Profile system. Please arrive at the visitor's entrance security desk in the One White Flint North building across from the White Flint METRO station at 11555 Rockville Pike by 9:00 a.m. Please bring your EPA security badge, and driver's license for security screening.

Please share this announcement with your EPA colleagues.

Thanks ..... Tom

****

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E-mail: Thomas.Nicholson@nrc.gov
****

Outside of Scope

From: Nicholson, Thomas
Sent: Thursday, July 30, 2015 08:54 PM
To: Zeng, Zhao Chang <Zhaochang.Zeng@cnsc-ccsn.gc.ca>; judd@nuvisioneng.com <judd@nuvisioneng.com>; 'Buckingham, Rob' <Rob.Buckingham@RACE.ukaea.org.uk>; andrew.Szilagyi@em.doe.gov <andrew.Szilagyi@em.doe.gov>; kamel.saidi@nist.gov <kamel.saidi@nist.gov>; Jacoff, Adam S. <adam.jacoff@nist.gov>; Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>; Gilbertson, Anders; Marksberry, Don; Abu-Eid, Boby; philip.mattson@hq.dhs.gov <philip.mattson@hq.dhs.gov>
Cc: West, Steven; Correia, Richard; Coyne, Kevin; Sangimino, Donna-Marie; Parrott, Jack; Bernardo, Robert
Subject: July 30th draft of Workshop Prospectus (corrected version)

Kenji, Lorie, Rob, Charles, Andy, Adam, Kam, Anders, Don and Boby:

It appears that we have settled on a new date of February 2 – 4, 2016 for our international workshop.

Rob Buckingham, UK AEA Race has agreed to be our first international sponsor.

Please follow-up with the other possible sponsors, and request their logos.

Attached for your review is today's draft (corrected version for UK AEA). Please inform me if the identified co-chairs have concurred in being co-chair. If they have not, please let me know who to not list at this time.

Please review and send me any edits by Monday, August 3rd.

Thanks ..... Tom

****
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Rockville, MD 20852
Tel: (301) 415-2471
Fax: (301) 415-6671
E-mail: Thomas.Nicholson@nrc.gov
****

Outside of Scope

From: Nicholson, Thomas
Sent: Friday, February 06, 2015 1:59 PM
To: Tateiwa, Kenji; andrew.Szilagyi@em.doe.gov; Norton, Charles
Cc: adam.jacoff@nist.gov; elizabeth.moylan@nist.gov; @emsus.com; elena.messina@nist.gov
Subject: FW: Possible Dates to visit NIST Robotics Laboratory

Kenji, Andrew and Chuck:

How about a visit to NIST on Thursday, February 19th @10:00 a.m.?

Attached is the NIST visitor form we need to fill-out and send to Adam Jacoff, NIST.

Please fill it out and send it directly to Adam.

Thanks ..... Tom

Outside of Scope

Outside of Scope

From: <Nicholson>, Thomas <Thomas.Nicholson@nrc.gov>
Date: Friday, February 6, 2015 at 11:55 AM
To: "andrew.Szilagyi@em.doe.gov" <andrew.Szilagyi@em.doe.gov>, "Adam S. Jacoff" <adam.jacoff@nist.gov>, "Norton, Charles" <Charles.Norton@nrc.gov>, "Tateiwa, Kenji" <tateiwa.kenji@tepco.co.jp>
Cc: "West, Steven" <Steven.West@nrc.gov>, "Madden, Patrick" <Patrick.Madden@nrc.gov>, "Correia, Richard" <Richard.Correia@nrc.gov>, "Rini, Brett" <Brett.Rini@nrc.gov>
Subject: Possible Dates to visit NIST Robotics Laboratory

Adam and Andrew:

Below is Kenji's availability. I suggest February 19th as a good date.

Please let us know your availability.

Thanks ..... Tom

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, February 05, 2015 6:40 PM
To: Nicholson, Thomas
Subject: Re: Follow-Up to Discussions on Robotics at Nuclear Facilities

Tom,

Thank you for your call today regarding a visit to NIST.

I am available all day on the following dates (preferably in the morning):
Thu, Feb. 19
Fri, Feb. 20
Thu, Feb. 26

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

Outside of Scope

Page 74 of 87

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Page 75 of 87

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Outside of Scope

Outside of Scope

From: Nicholson, Thomas
Sent: Thursday, May 22, 2014 06:13 PM
To: tateiwa.kenji@tepco.co.jp <tateiwa.kenji@tepco.co.jp>; Norton, Charles
Cc: Aird, David; West, Steven; Fuhrmann, Mark; Oxenberg, Tanya; VonTill, Bill; Moyer, Carol; Jimenez, Manuel; Arlt, Hans; Figueroa, Gladys; Tadesse, Rebecca; Madden, Patrick; Correia, Richard; Shaffer, Vered; Rini, Brett; Ott, William; Nakoski, John; Reed, Wendy; Reed, Phil; Philip, Jacob; Tiruneh, Nebiyu; Cook, Christopher; Barnhurst, Daniel
Subject: Questions in support of the RES Seminar on Tackling Water Issues at Fukushima Daiichi

Kenji:

As we corresponded, I am sending you the attached set of questions for your use in preparing your RES Seminar presentation.

This afternoon, your RES Seminar has been announced and posted on the internal RES Website at: http://www.internal.nrc.gov/RES/ .

We greatly appreciate your willingness to prepare and present a seminar on this very important topic to our staff.

Thanks ..... Tom

****

Thomas J. Nicholson, Senior Technical Advisor
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop CSB 2-A07
11555 Rockville Pike
Rockville, MD 20852
Tel: (301) 251-7498

Fax: (301) 251-7422
E-mail: Thomas.Nicholson@nrc.gov
****

From: Nicholson, Thomas
Sent: 20 Aug 2015 18:09:45 -0400
To: 'Jacoff, Adam S.';andrew.Szilagyi@em.doe.gov;Gilbertson, Anders;Marksberry, Don;Parrott, Jack;Abu-Eid, Boby;Burton, Thomas;philip.mattson@hq.dhs.gov;Tateiwa, Kenji;? ?;Rini, Brett;Sangimino, Donna-Marie;Cruz, Holly;Holonich, Joseph;kamel.saidi@nist.gov;'Buckingham, Rob';jrenshaw@epri.com;Zeng, Zhao Chang;Bernardo, Robert
Cc: Correia, Richard;Coyne, Kevin;West, Steven;Stahl, Eric;English, Lance;Fehst, Geraldine;Arrisueno, Gladys L (gladys.arrisueno@nist.gov)
Subject: Request approval of final Workshop prospectus
Attachments: WorkshopProspectus.final.Aug 20-2015.docx

Adam, Andy and company:

This afternoon, Andrew Szilagyi, DOE provided edits to yesterday's draft which have been incorporated by Anders Gilbertson, NRC into the attached, final Workshop prospectus.

We plan to circulate the attached copy to IAEA, OECD/NEA and others (e.g., EPRI, NEI, etc.) via our NRC official points of contact next week.

We have approvals from NRC, DOE, NIST and CNSC.

If you have any objections to circulating the attached Workshop prospectus, please send me an e-mail by Friday, August 21st indicating why you cannot approve its distribution.

I greatly appreciate everyone's assistance in developing the attached prospectus.

As mentioned in my e-mail yesterday, the organizing committee meeting previously scheduled at NIST for Monday, August 24th is being rescheduled.

I have requested Kam and Adam to inform us when they can host the next organizing meeting which will focus on development of the workshop agenda.

Thanks ..... Tom

****
Thomas J. Nicholson, Senior Technical Advisor
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop TWFN 10-A12
11555 Rockville Pike
Rockville, MD 20852
Tel: (301) 415-2471
Fax: (301) 415-6671
E-mail: Thomas.Nicholson@nrc.gov
****

From: Tateiwa, Kenji
Sent: 12 Aug 2015 06:58:04 +0900
To: Stahl, Eric
Cc: kazuhiko_kishioka@nsr.go.jp
Subject: [External_Sender] RE: TEPCO Inquiry on Aircraft Intrusion Prevention Measures

Dear Eric,
Thank you for your note.
I completely understand.
I will ask my colleagues how they would like to proceed.
Hope all is well with you.
All the best,
Kenji

From: Stahl, Eric [mailto:Eric.Stahl@nrc.gov]
Sent: Tuesday, August 11, 2015 11:11 PM
To: 'tateiwa.kenji@tepco.co.jp'
Cc: 'kazuhiko_kishioka@nsr.go.jp'
Subject: TEPCO Inquiry on Aircraft Intrusion Prevention Measures

Dear Kenji –
As you can appreciate, the NRC's aircraft impact assessment information is considered sensitive information. As a result, to share this type of information, we must work through our official arrangements with our partner countries – in this case NRA. If TEPCO is interested in acquiring NRC information in this area, please coordinate the request through NRA. Thank you for understanding our position. Please let me know if you have any questions or need any additional information.
Kind regards,
Eric

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Monday, July 13, 2015 4:21 AM
To: Norton, Charles
Cc: '大山 嘉博'
Subject: [External_Sender] Inquiry on Aircraft Intrusion Prevention Measures

Chuck,
Oyama-san,
TEPCO is considering various options to prevent aircraft impact to our nuclear power plant.
In addition to hardening the facility and preparing for mitigating actions in case of aircraft impact, are you aware of any intrusion prevention measures the NRC imposes on aircrafts, such as nullifying the GPS from setting nuclear facilities as destinations?
Any information would be appreciated, but we understand if you cannot answer due to security issues.
All the best,
Kenji
(Please ignore the "Undelivered" message you might receive from my DC office email account that has been disabled.)

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku

Tokyo, Japan
office: +81-3-6373-4751
(b)(6)
tateiwa.kenji@tepco.co.jp

From: Tateiwa, Kenji
Sent: 12 Jul 2015 16:05:14 +0900
To: Stahl, Eric
Subject: [External_Sender] RE: [Transition from DC to Tokyo] New Role in Decommissioning Safety

Eric,
Thank you for your very kind note.
Apologies for the extreme delay in my response.
I started working at TEPCO's Tokyo HQ on June 30 and have been working non-stop since then.
It is an incredibly tough job but worth spending all the energy and passion that I have for nuclear.
It has been a great pleasure working with you and your colleagues at the NRC.
I look forward to keeping in touch.
All the best,
Kenji
(Please ignore the error message you might receive from my DC office email account that has been disabled.)

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6)
tateiwa.kenji@tepco.co.jp

From: Stahl, Eric [mailto:Eric.Stahl@nrc.gov]
Sent: Monday, June 29, 2015 9:14 AM
To: 'Tateiwa, Kenji'
Subject: RE: [Transition from DC to Tokyo] New Role in Decommissioning Safety

Dear Kenji –
Best of luck in your new position. As I mentioned at the BBQ last weekend, you have been a tremendous asset to the NRC during your time in Washington. I look forward to continuing NRC's engagement with you, so please keep in touch!
Kind regards,
Eric

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Friday, June 26, 2015 7:55 PM
To: tateiwa.kenji@tepco.co.jp
Subject: [External_Sender] [Transition from DC to Tokyo] New Role in Decommissioning Safety

Dear Friends and Colleagues,
Today will be my last day working out of the Washington DC Office of TEPCO.
After spending 4 productive years in DC, I will be departing the U.S. on Sat, June 27 and start working at TEPCO's Tokyo HQ on July 1 as Safety Engineering Group Manager of Fukushima Daiichi Decontamination & Decommissioning Engineering Company.

Thank you for your continued support to TEPCO after the Fukushima Daiichi accident in March 2011.
We could not have made it thus far without all your support.
For your information, you can find my latest interview on the online Nuclear Plant Journal describing the current status of Fukushima Daiichi.
http://digitaleditions.nuclearplantjournal.com/MJ15/#32
Feel free to contact me should you have any questions related to Fukushima.
I look forward to keeping in touch.
All the best,
Kenji
p.s.
Please forgive my slow response in emails for the next few weeks while I make my transition back to Japan.

Kenji Tateiwa
email: tateiwa.kenji@tepco.co.jp
LinkedIn: https://www.linkedin.com/in/ktateiwa
----------]
(From Sep. 2011 to June 2015)
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
(From July 2015)
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
tel: +81-3-6373-4751

From: Stahl, Eric
Sent: 20 Mar 2015 19:35:54 +0000
To: Tateiwa, Kenji
Cc: Yamamoto, Masayuki;田村図公一;?? ??
Subject: RE: [NRC Chairman Visit to 1F] Tue, April 7, 2015

Dear Colleagues –

I wanted to double-check to make sure you do not need any additional information from NRC related to our visit to Fukushima-Daiichi on Tuesday, April 7. If you have a proposed, draft itinerary for the tour and discussions, please let me know.

We are looking forward to our visit.

Kind regards,
Eric

From: Stahl, Eric
Sent: Wednesday, February 18, 2015 10:42 AM
To: '?? ??'; 'Tateiwa, Kenji'
Cc: 'Yamamoto, Masayuki'; '田村　公一'
Subject: RE: [NRC Chairman Visit to 1F] Tue, April 7, 2015

Dear NRA and TEPCO Colleagues –

I wanted to let you know that three additional NRC representatives plan to participate in the visit to Fukushima-Daiichi on April 7:

- Eliot Brenner, Director, Office of Public Affairs;
- Scott Moore, Deputy Director, Office of Nuclear Material Safety and Safeguards; and
- Marlayna Vaaler, Project Manager, Reactor Decommissioning Branch, Office of Nuclear Material Safety and Safeguards

I hope increasing the size of the NRC delegation does not create any major hardships. Please let me know if you have any questions or concerns.

Kind regards,
Eric

From: Stahl, Eric
Sent: Tuesday, February 03, 2015 11:24 AM
To: '?? ??'; Tateiwa, Kenji
Cc: Yamamoto, Masayuki; 田村　公一
Subject: RE: [NRC Chairman Visit to 1F] Tue, April 7, 2015

Dear Kazuhiko –

Thank you for agreeing to facilitate the NRC visit to Fukushima-Daiichi on Tuesday, April 7. The tentative list of NRC visitors will be:

- Stephen Burns - Chairman
- Jason Zorn – Chief-of-Staff, Office of Chairman Stephen G. Burns
- Nader Mamish – Director, Office of International Programs
- Eric Stahl – International Relations Officer, Office of International Programs

At this point, the NRC delegation is flexible for the timing and duration of the visit. Since we will plan to spend the night of Monday, April 6 in Iwaki, it may be best to coordinate the visit for the morning and early afternoon of Tuesday. Following the visit, the NRC delegation will plan to travel back to Tokyo that afternoon/evening.

Chairman Burns has no specific requests for things to see during the visit. A similar tour to what the NRC's Executive Director for Operations, Mark Satorius, received in December 2014,would be excellent, since that tour provided a great overview of activities at the site. If there are any specific facilities or activities that TEPCO would like to highlight, then we defer to them. In addition, it would be good for Chairman Burns to have an opportunity to drive through Tomokia to observe the destruction from the tsunami.

Thank you again for all of your efforts to support the NRC!

Kind regards,
Eric

Outside of Scope

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Tuesday, February 03, 2015 8:09 AM
To: 岸岡 一彦; Stahl, Eric
Cc: Yamamoto, Masayuki; 田村　公一
Subject: [NRC Chairman Visit to 1F] Tue, April 7, 2015

Dear Eric,

Per your request, I have inquired our headquarters regarding Chairman Burns' visit to Fukushima Daiichi (1F). TEPCO would be pleased to have Chairman Burns and the NRC team visit 1F on Tue, April 7, 2015.

If it is acceptable to you, we would like to have Kishioka-san contact Tamura-san of our headquarters to coordinate the details in Japanese.

(Pardon my Japanese below.)

岸岡様

お世話になります。
東京電力ワシントン事務所の立岩と申します。

4月のバーンズ委員長の福島第一訪問につきましては、今後弊社本店原子力コミュニケーションGの田村(tamura.kimikazu@tepco.co.jp)と、各種ロジ関係の調整をしていただけますでしょうか。

お手数をおかけしますが、どうぞよろしくお願い致します。

All the best,
Kenji

東京電力(株) ワシントン事務所
立岩 健二
Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Stahl, Eric
To: tateiwa.kenji@tepco.co.jp
Cc: kazuhiko_kishioka@nsr.go.jp
Sent: Thursday, January 29, 2015 4:04 PM
Subject: NRC Chairman Visit to Japan - April 2015

Dear Kenji–

The NRC's new Chairman, Stephen Burns, will be traveling to Japan during the week of 6-10 April, 2015, to hold a number of meetings with his Japanese counterparts. While his in Japan he is eager to visit the Fukushima-Daiichi Nuclear Power Station, so he can glean first-hand perspectives from ongoing activities at the site. Can you inquire with your colleagues if TEPCO could support a visit to the site on Tuesday, 7 April (our first choice) or Thursday, 9 April? The NRC delegation would likely include 4-5 people total. We know that supporting visits from international officials is a burden and takes a great deal of resources, but we're hopeful that Chairman Burns has an opportunity to observe the impressive work and numerous successes at the site. TEPCO has been very generous in hosting visits from NRC in the past and we are extremely grateful for your organization's time and efforts.

I have copied my contact at NRA, Kazuhiko Kishioka, who is already aware of the Chairman's visit. Please let me know if you have any questions or need any additional information.

Kind regards,
Eric

Eric Stahl
U.S. Nuclear Regulatory Commission
Office of International Programs
Tel: 301-415-8705
(b)(6)
eric.stahl@nrc.gov

Tackling Water Issues at Fukushima Daiichi NPS

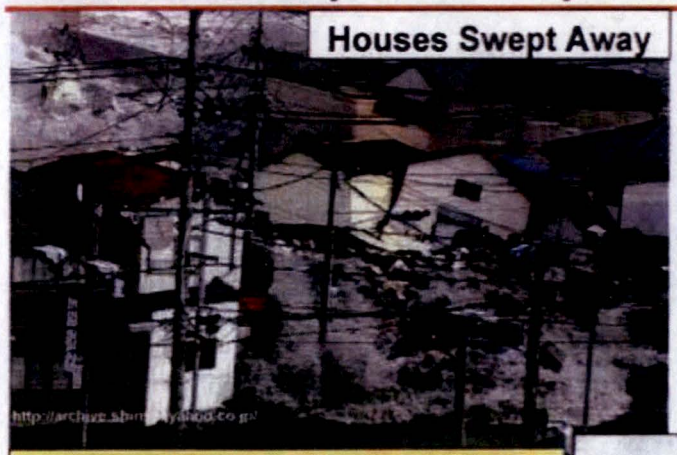
U.S. Nuclear Regulatory Commission
RES Seminar

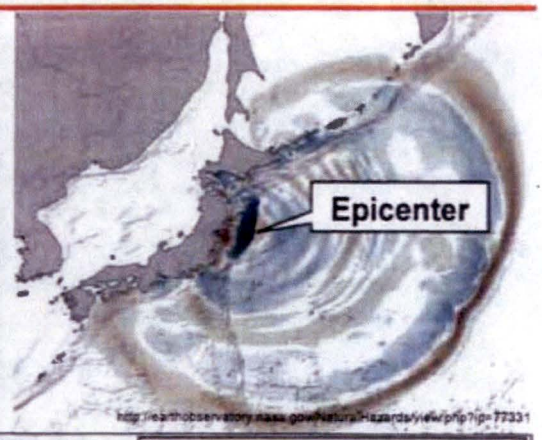
Rockville, Maryland

June 30th, 2014

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company, Washington Office
tateiwa.kenji@tepco.co.jp

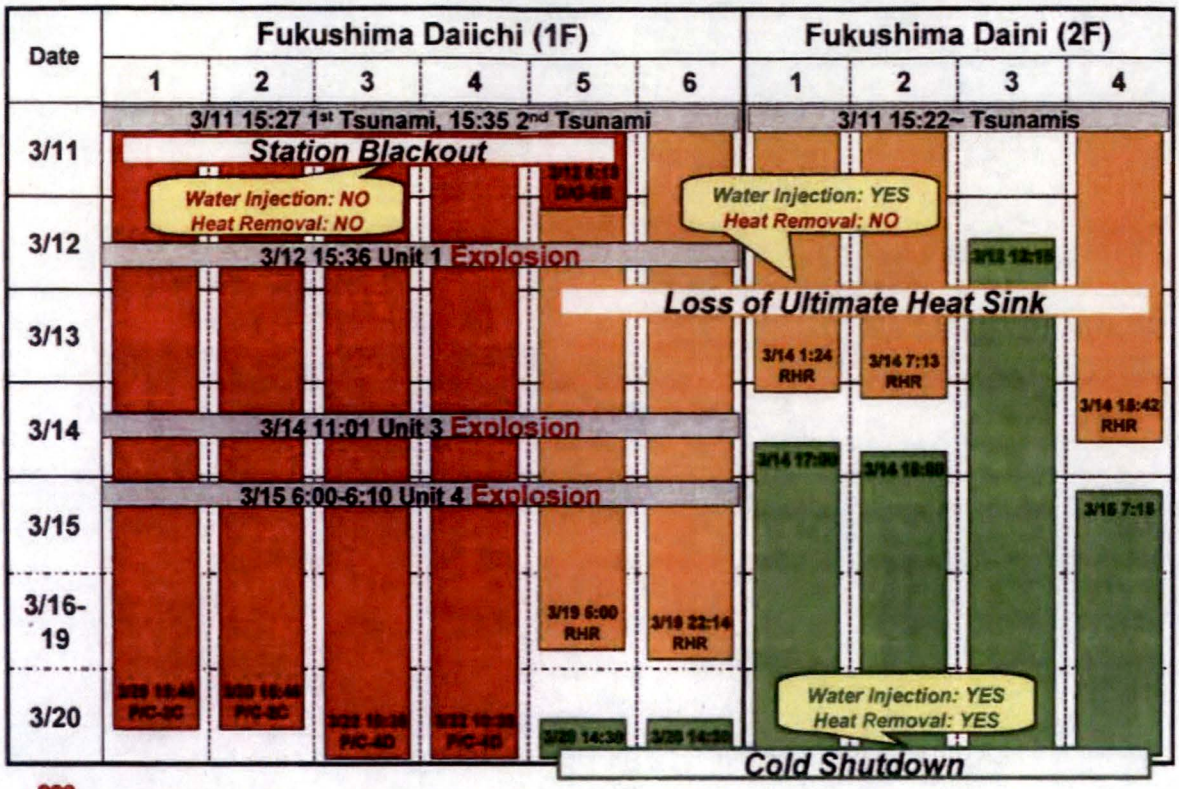
Great East Japan Earthquake



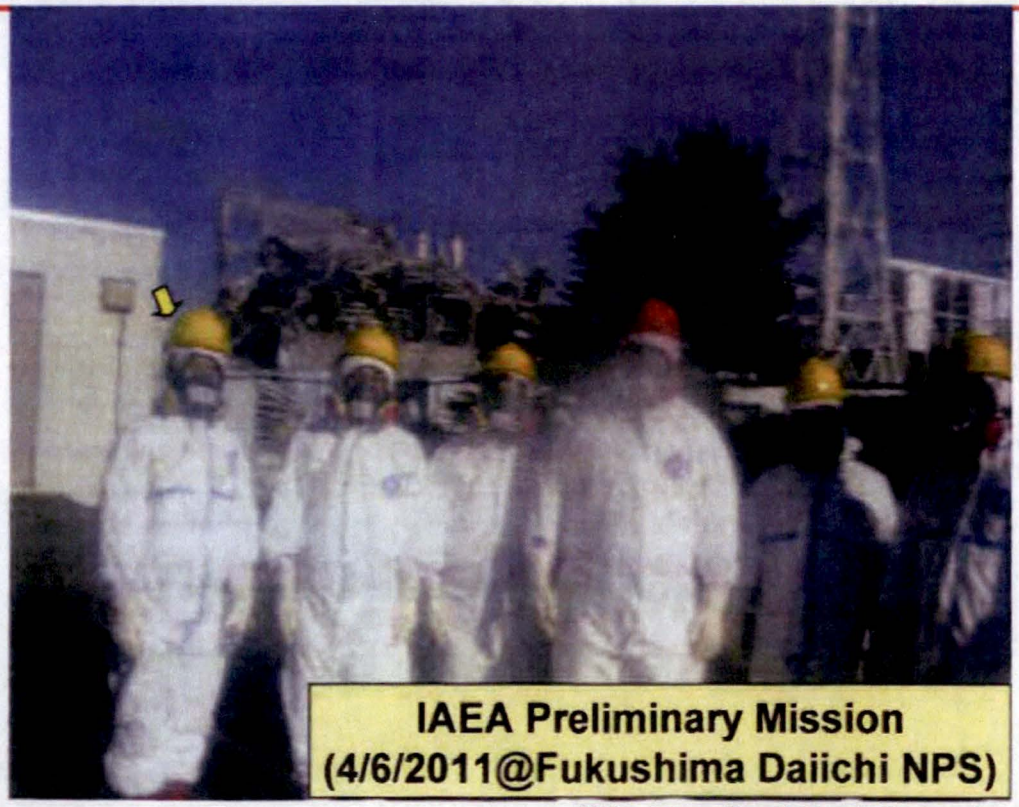


- ***Largest* earthquake (M9.0) and tsunami (M9.1) in recorded history of Japan**
- ***20+ m* tsunami run-up in coast line spanning *200 km***
- ***560 km² flooded (10x Manhattan)***
- ***19,000 dead/missing***

Overview of the 10-Unit Simultaneous Accidents



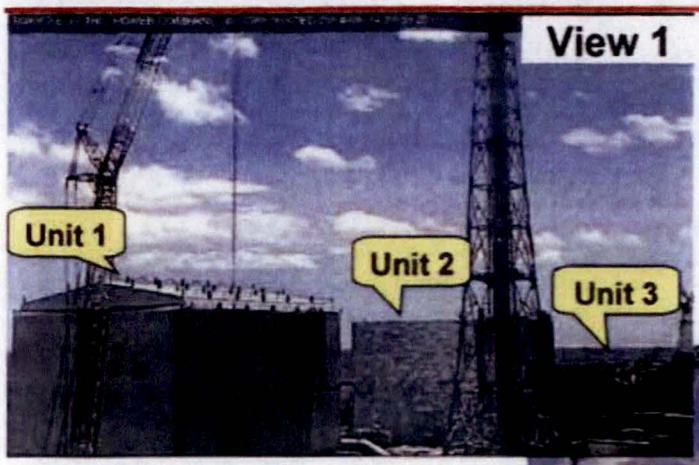
My Post-Accident Activities

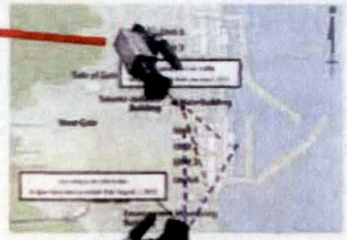


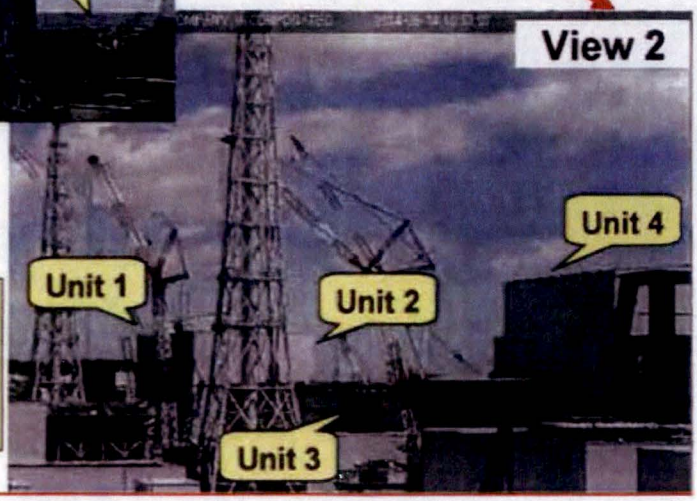
IAEA Preliminary Mission
(4/6/2011@Fukushima Daiichi NPS)

IAEA: International Atomic Energy Agency

Current Status of Fukushima Daiichi (1F)





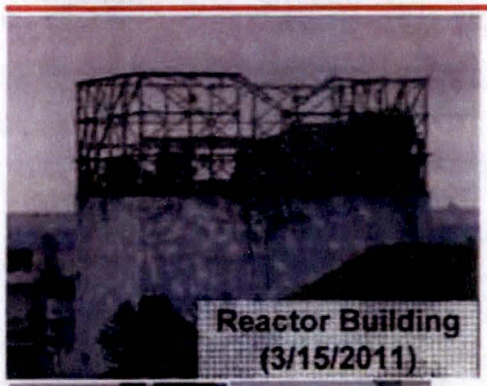


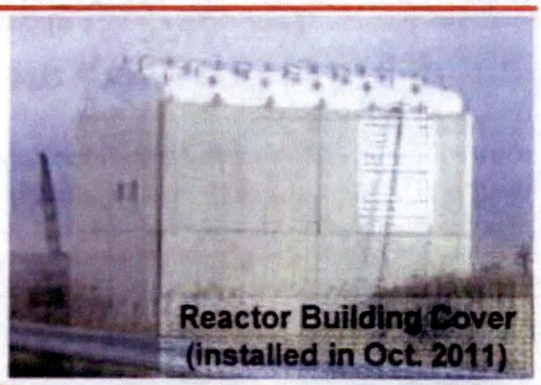
Live Camera View (as of 6/14/2014)

http://www.tepco.co.jp/en/nu/f1-np/camera/index2-e.html
http://www.tepco.co.jp/en/nu/f1-np/camera/index-e.html

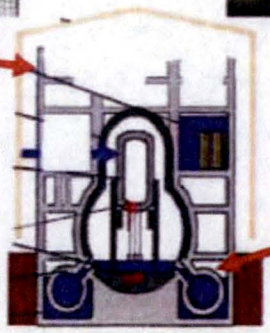
TOKYO ELECTRIC POWER COMPANY

Progress Made at 1F Unit 1





Torus Room (11/13/2013)

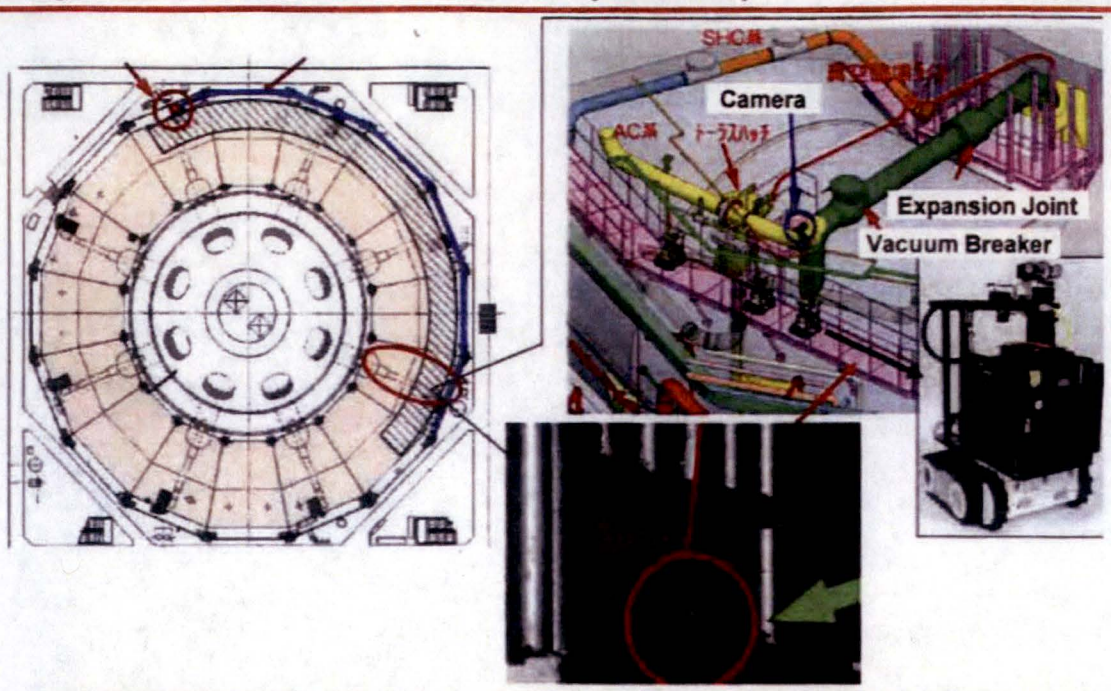


Torus Room (5/27/2014)

Remote-operated boat and robot identified leakage locations in torus room

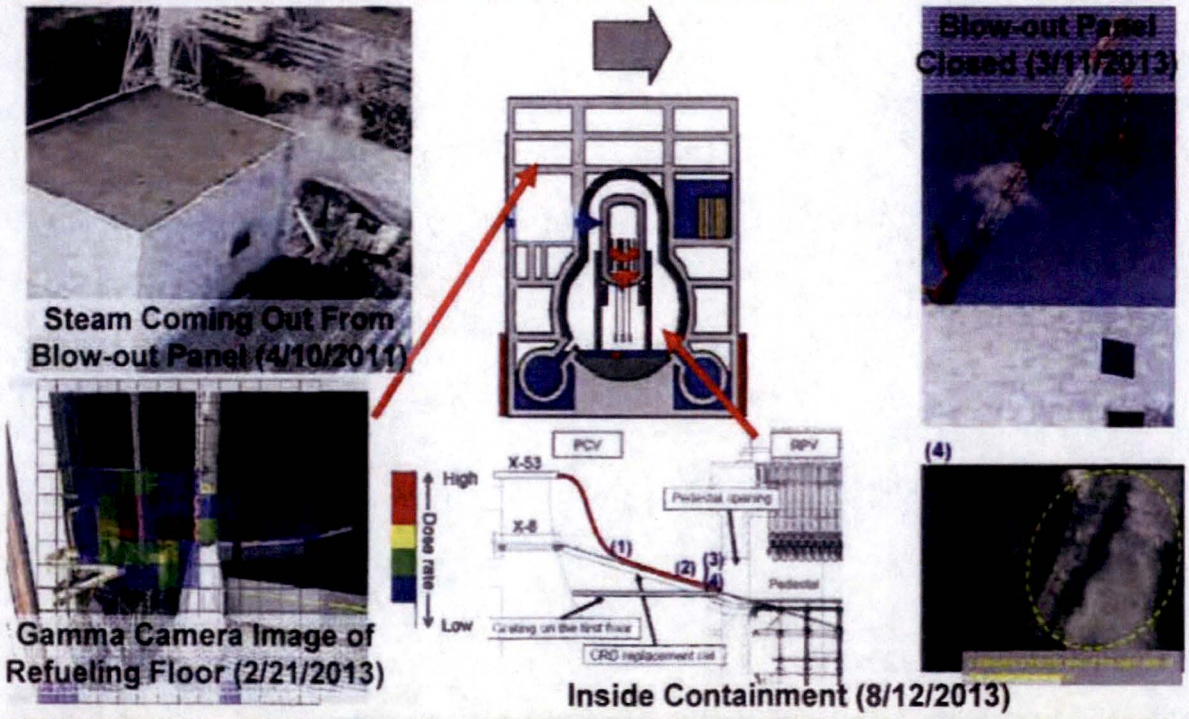
TOKYO ELECTRIC POWER COMPANY

Progress Made at 1F Unit 1 (cont'd)



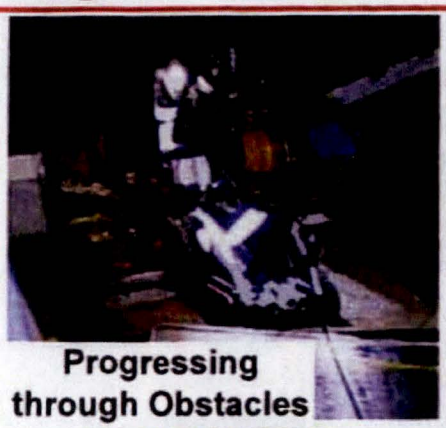
Robot identified leakage from expansion joint of vacuum breaker piping (5/27/2014)

Progress Made at 1F Unit 2



Video images obtained inside primary containment

Progress Made at 1F Unit 2 (cont'd)



Progressing through Obstacles

Core Sampling of the Floor

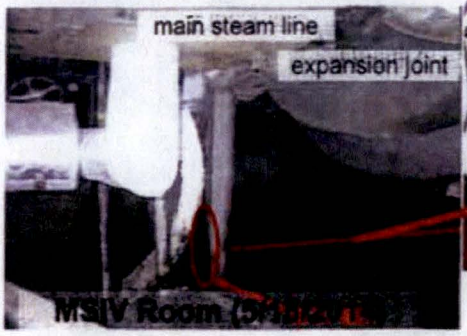
Maneuverability Testing

Robot retrieved core samples from refueling floor (3/21-22/2014)

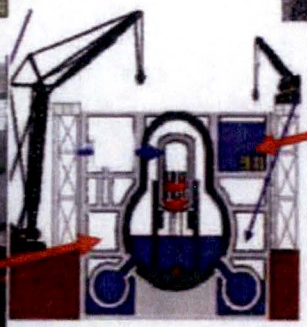
Progress Made at 1F Unit 3

Crippled Reactor Building (3/15/2011)

Large Rubble Removed (10/11/2013)



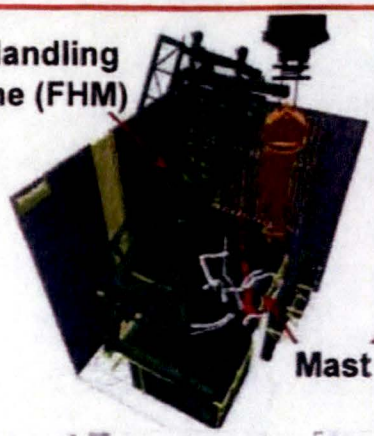
MSIV Room (5/

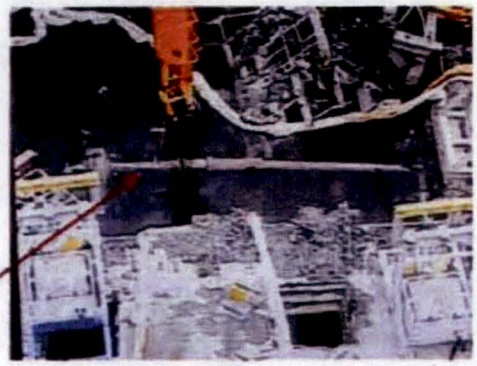


Spent Fuel Pool (Feb. 2013)

Robot found leakage location in reactor building

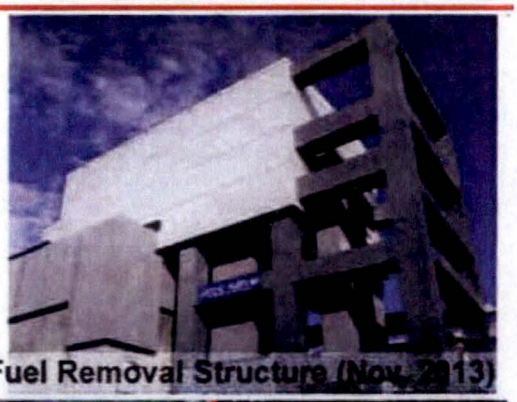
Progress Made at 1F Unit 3 (cont'd)

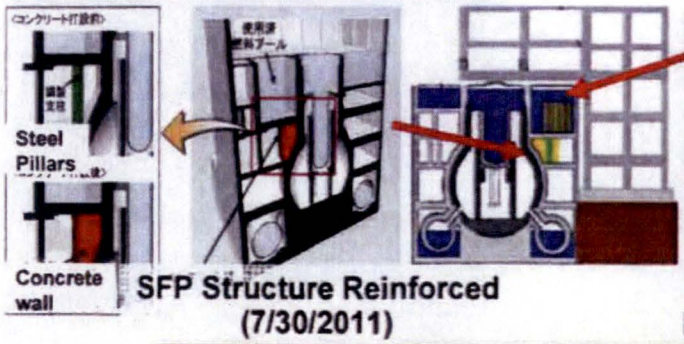




Rubble in spent fuel pool being removed by remote operation

Progress Made at 1F Unit 4

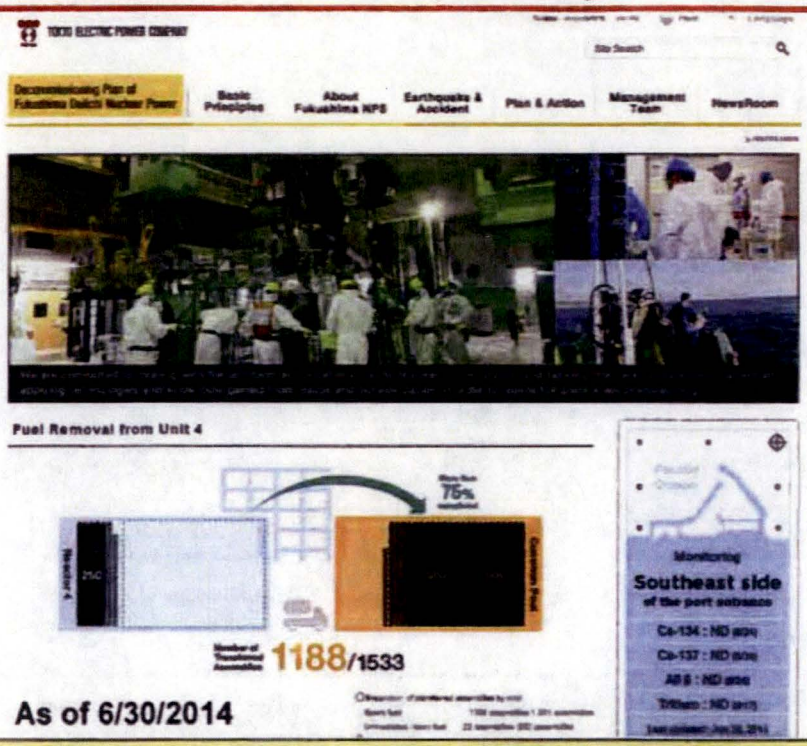




SFP Structure Reinforced (7/30/2011)

75% of fuel bundles in the SFP transferred to common pool (as of 6/30/2014)

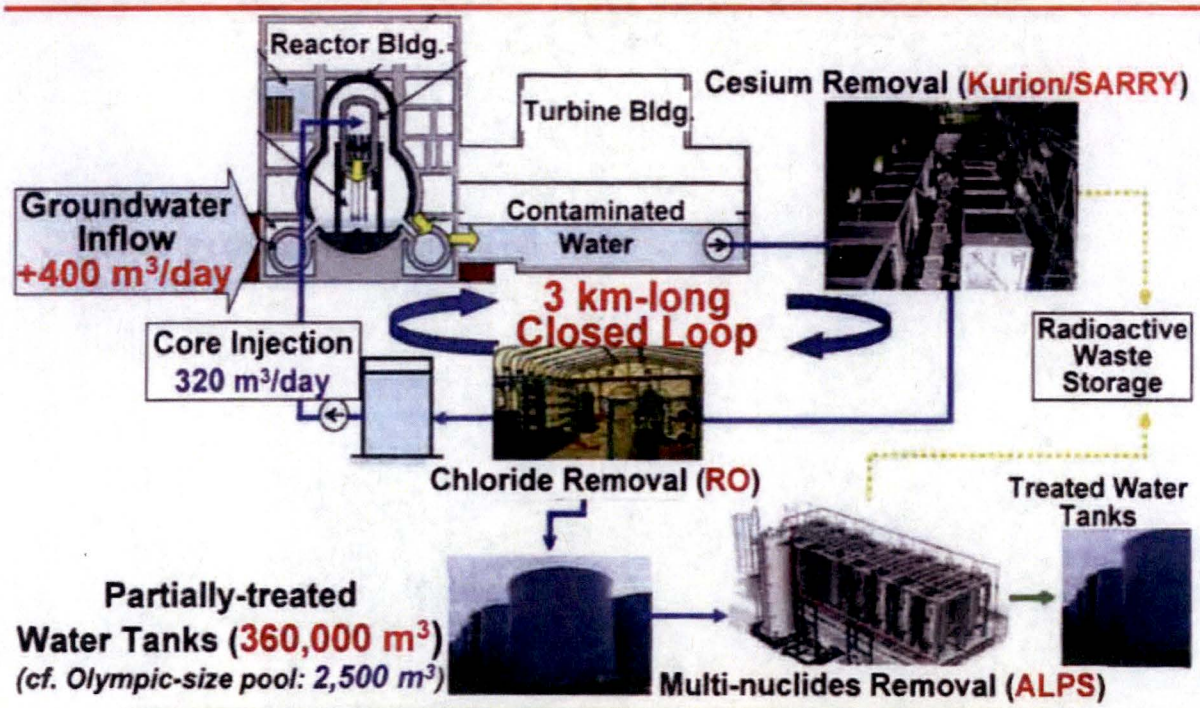
Progress Made at 1F Unit 4 (cont'd)



As of 6/30/2014

Update posted on TEPCO's website
http://www.tepco.co.jp/en/decommision/index-e.html

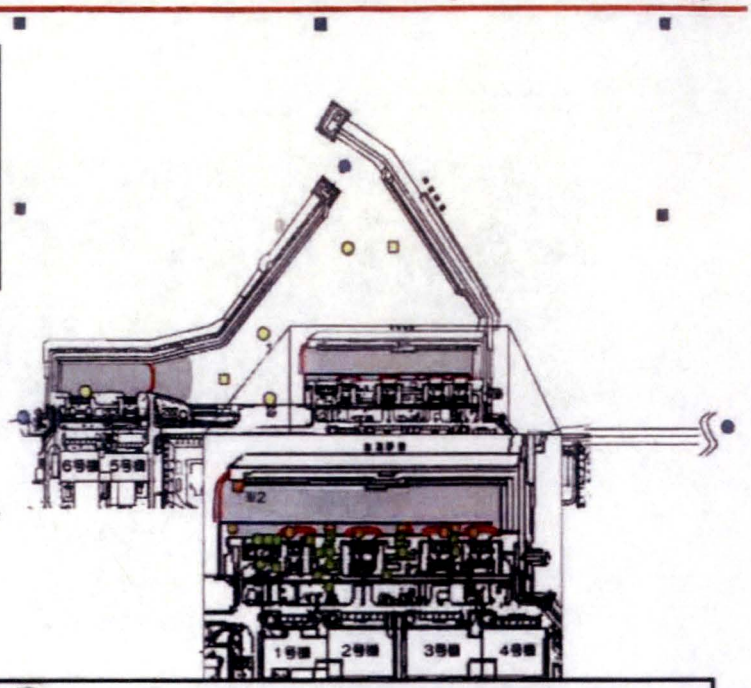
Circulating-Water Core Cooling System at 1F



- All reactor cores stably cooled
- Increasing water inventory posing challenge

Sea Water and Ground Water Radioactivity Monitoring

- Outside of Port
- Inside of Port
- Inside of Silt Fence
- Ground Water Near Intake Structure

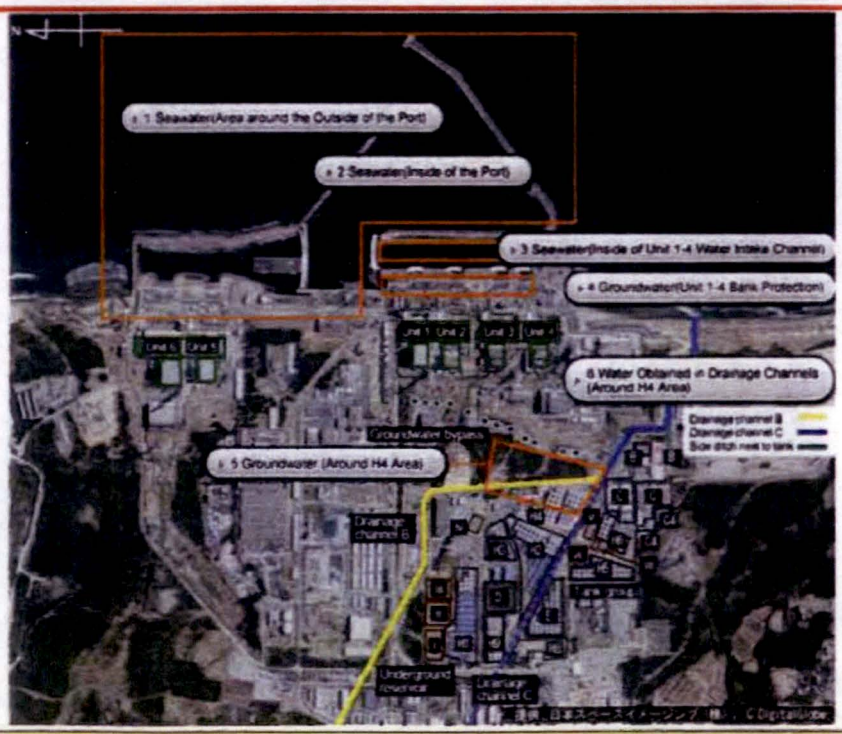


Monitoring Interval

- Gamma-nuclides: weekly
- Gross-beta: weekly
- Tritium: weekly
- Sr-90: monthly

- ND or below regulatory limit
- Exceeding regulatory limit at some location depending on nuclide

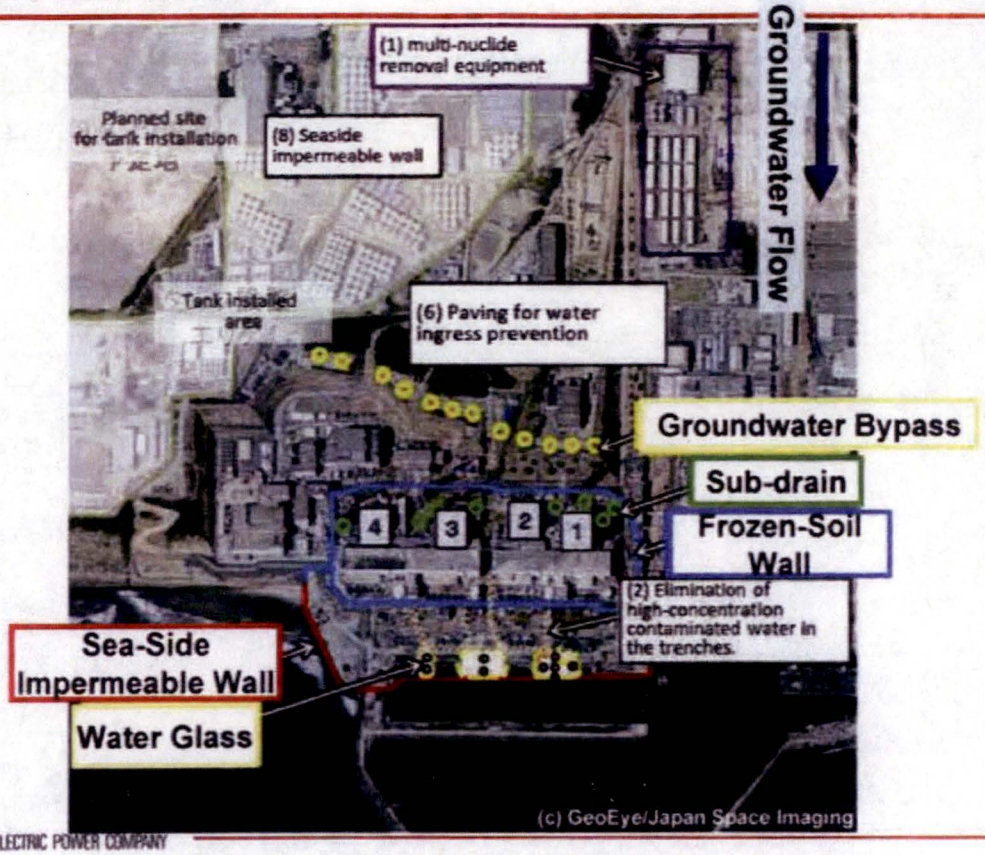
Sea Water and Ground Water Radioactivity Monitoring (cont'd)



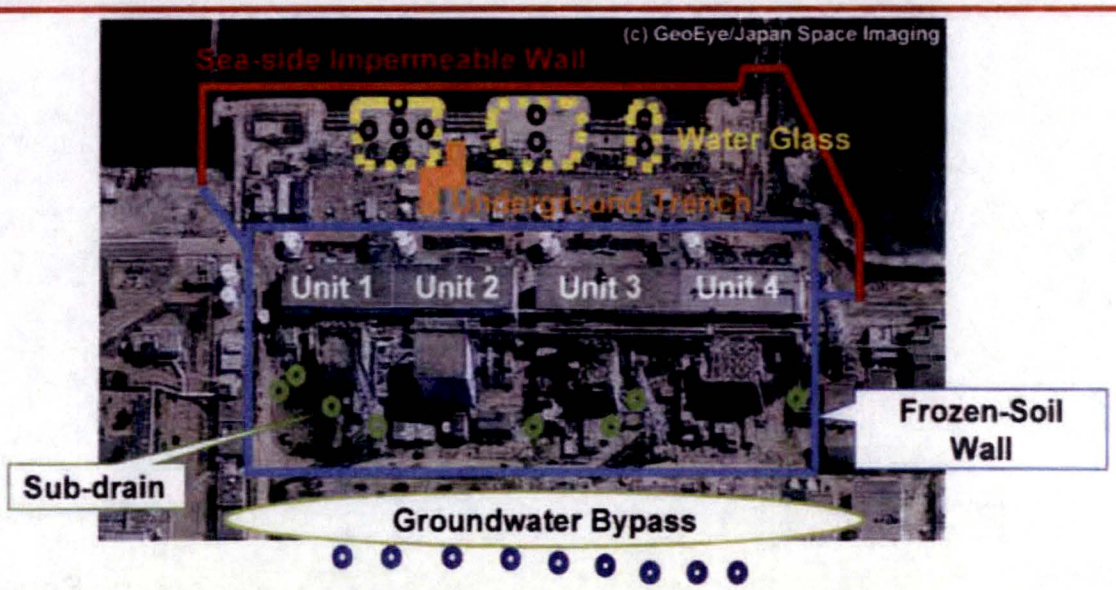
Update posted on TEPCO's website

http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/index-e.html

Aerial View of 1F



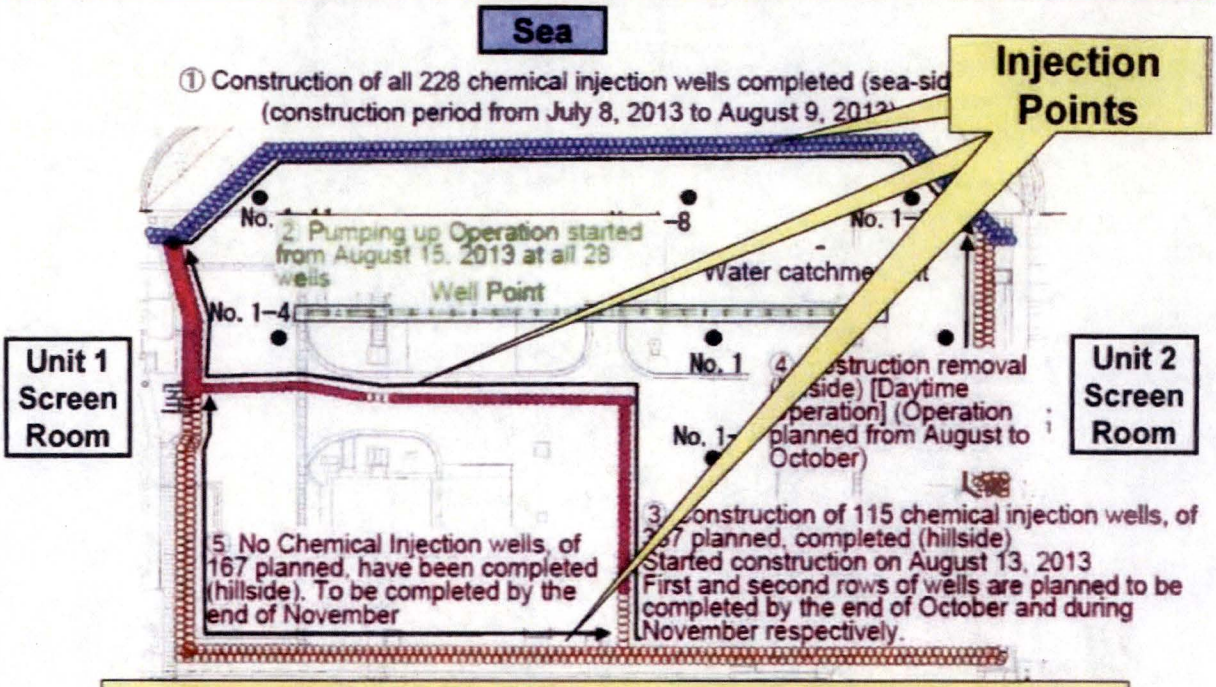
Emergency and Fundamental Measures on Water Issues



Emergency and fundamental measures taken to:

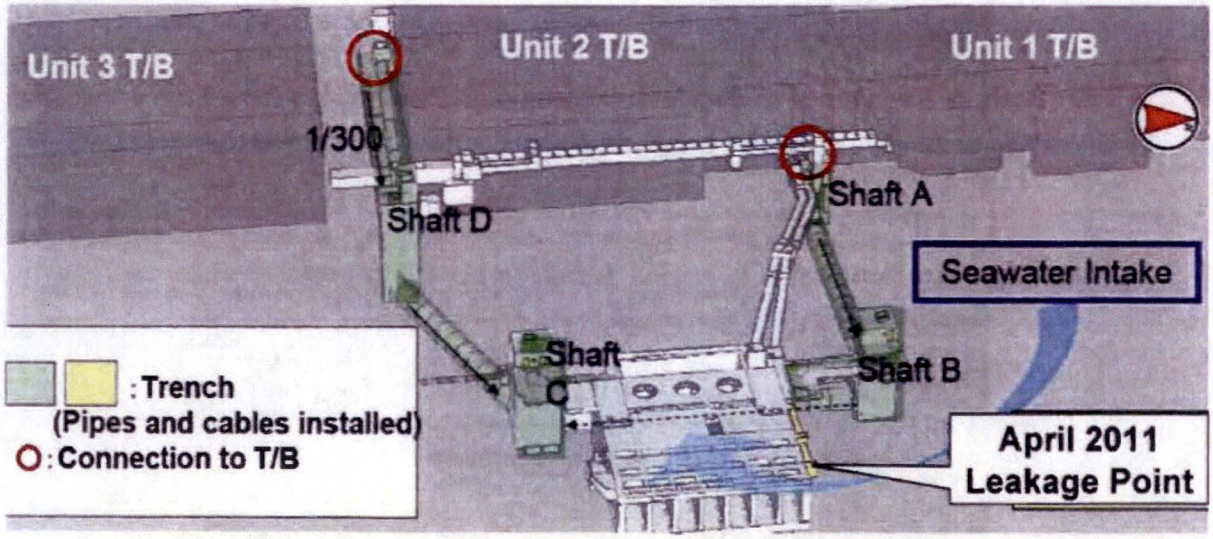
- **Prevent groundwater from being contaminated**
- **Prevent contaminated groundwater from flowing into sea**
- **Reduce groundwater inflow into buildings**

Emergency Measure 1: Soil Improvement



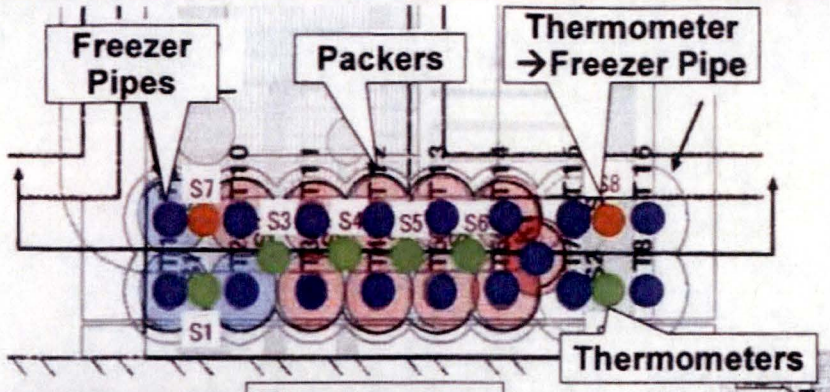
Water glass injected for soil improvement to prevent contaminated water outflow into sea

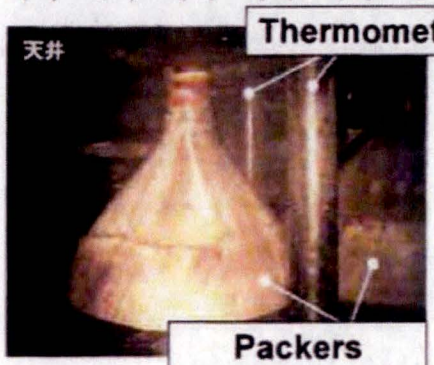
Emergency Measure 2: Removal of Contaminated Water

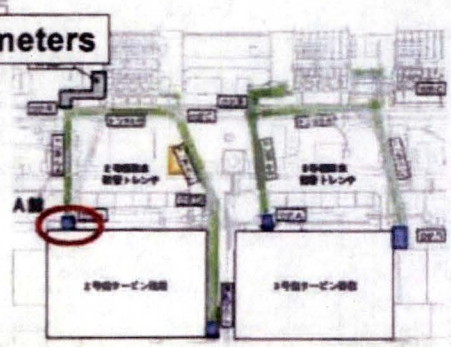


Contaminated water in underground trenches currently treated and to be pumped out

Isolation of Trenches from Turbine Buildings

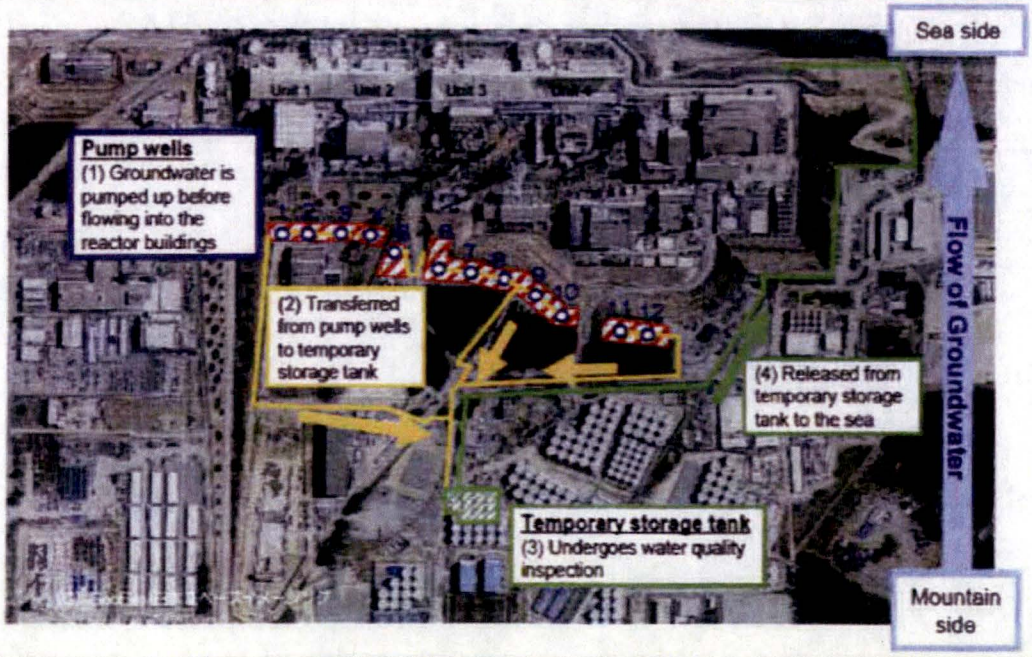






Freezer pipes and "packers" installed to form ice boundaries

Emergency Measure 3: Ground Water Bypass



Commenced operation on 5/21/2014, discharged 8,835 m³ of clean groundwater to the sea (as of 6/27/2014)

Ground Water Bypass (cont'd)

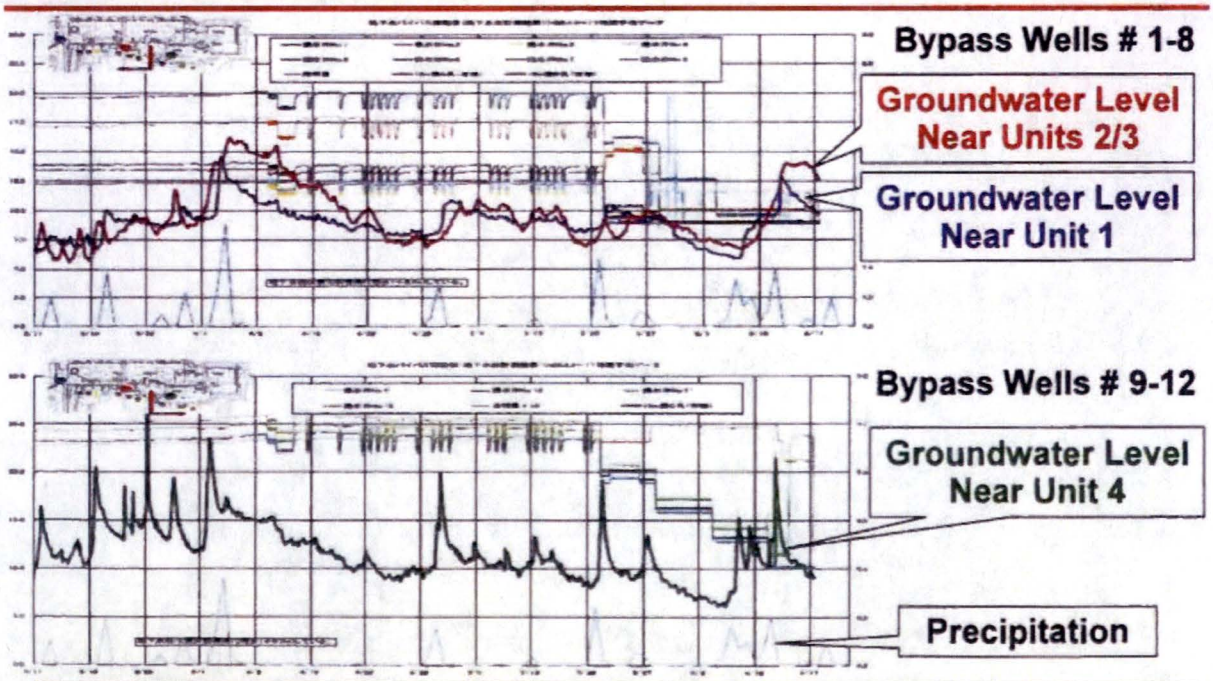
	Seawater Near discharge
採取日	平成26年6月26日
状況	排水中
採取時刻	11:22
Cs-134	ND(0.68)
Cs-137	ND(0.81)
Gross beta	10
Tritium	ND(1.6)

Bq/liter

	Group 1		Criteria	Regulatory Limit	WHO Standard
	TEPCO	Third Party			
採取日	平成26年6月15日	平成26年6月15日			
採取時刻	13:45	13:45			
貯水量 [m^3]	2,380	2,380			
Cs-134	ND(0.74)	ND(0.75)	1	60	10
Cs-137	ND(0.68)	ND(0.64)	1	90	10
Other gamma	検出なし	検出なし	検出されないこと※2		
Gross beta	ND(0.89)	ND(0.66)	5(1)※3		
Tritium	170	160	1500	60,000	10,000

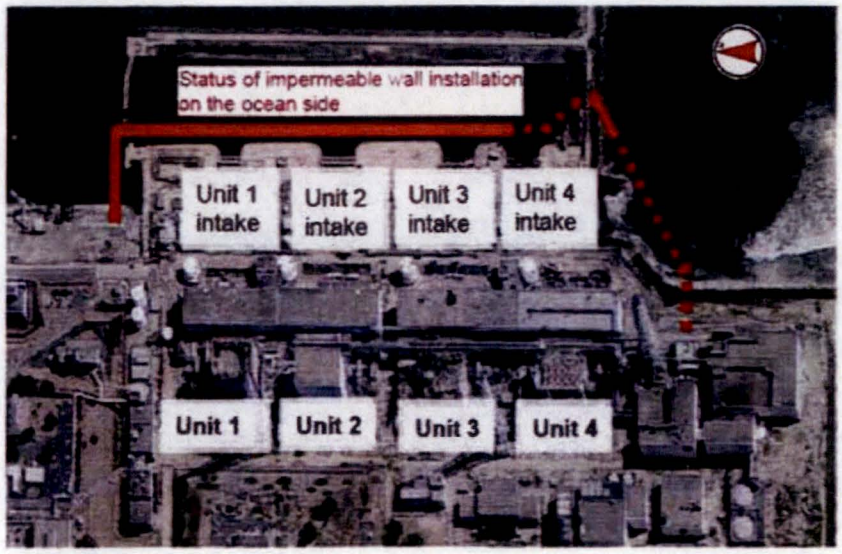
Radioactivity of bypassed water confirmed to be below criteria

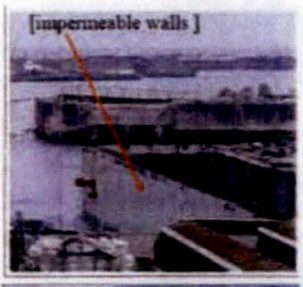
Groundwater Bypass (cont'd)

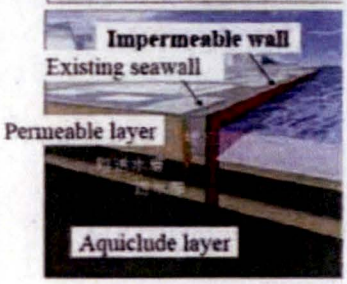


- **Water level of bypass wells being gradually reduced**
- **Fluctuation of groundwater level near Units 1-4 may be influenced by precipitation**

Fundamental Measure 1: Sea-side Impermeable Wall

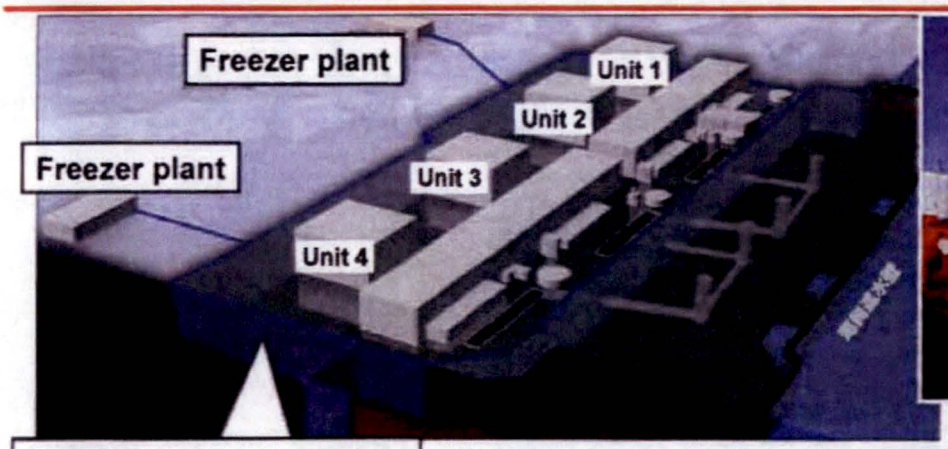






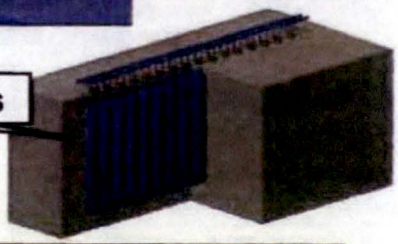
Impermeable wall made of steel-pipe sheet pile will suppress outflow of contaminated water into the sea

Fundamental Measure 2: Frozen-Soil Wall



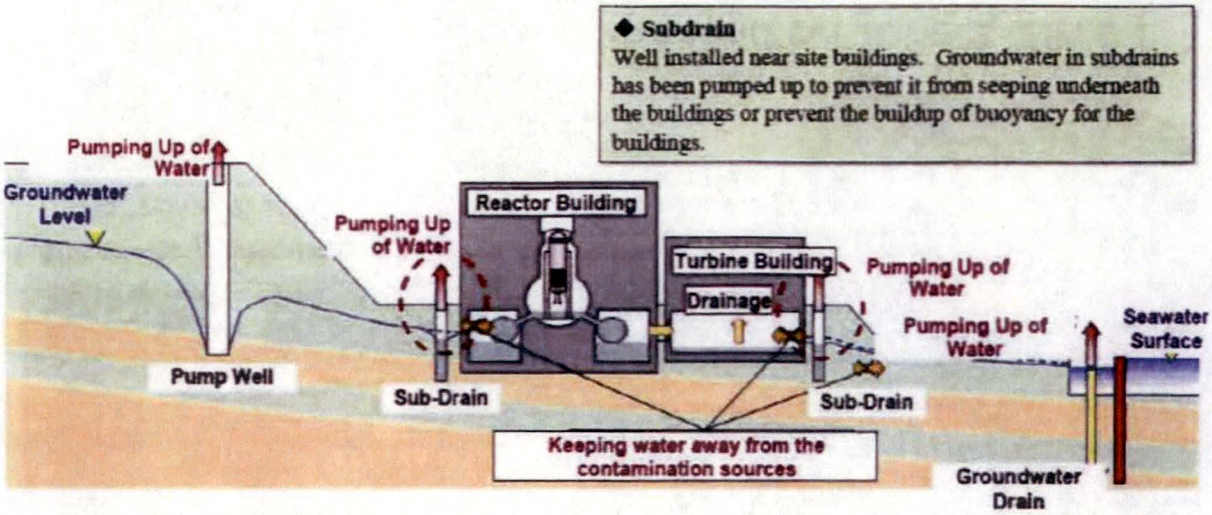
1,500 m-long circulation of refrigerant

Freezer pipes



- Construction work commenced on June 2, 2014
- 70,000 m^3 of soil to be frozen
- Freezer plant: 230 kW x 30 units

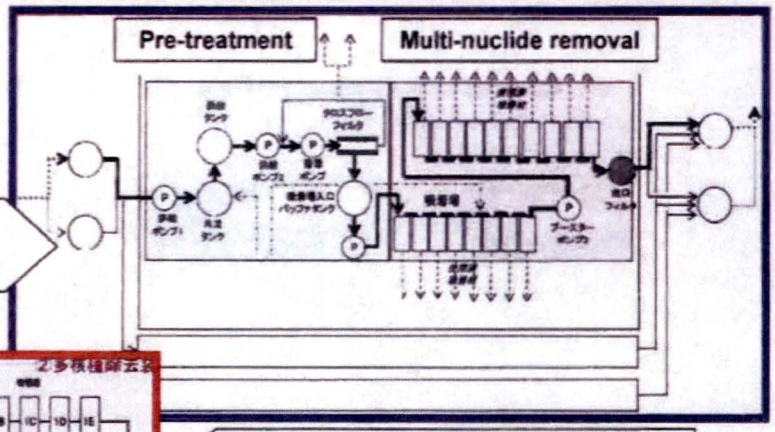
Fundamental Measure 3: Sub-Drain System

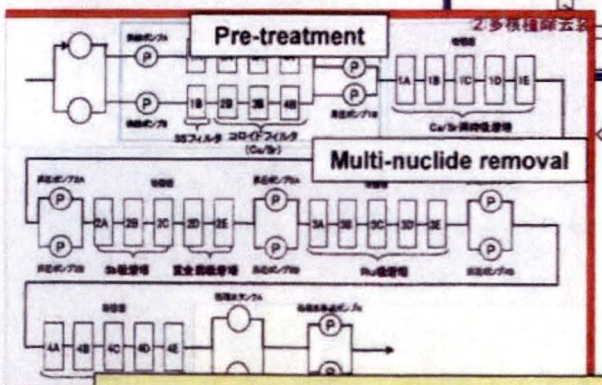


Restoration of sub-drain system will enable active control of ground water level around the buildings

Other Measures: Reducing Source Terms in Tanks

Additional ALPS: 250m³/day x 3 trains





High-performance ALPS: 500m³/day x 1 train

- **Augmenting current ALPS (250m³/day x 3 trains)**
- **Installation of mobile Sr-removal system (300m³/day)**

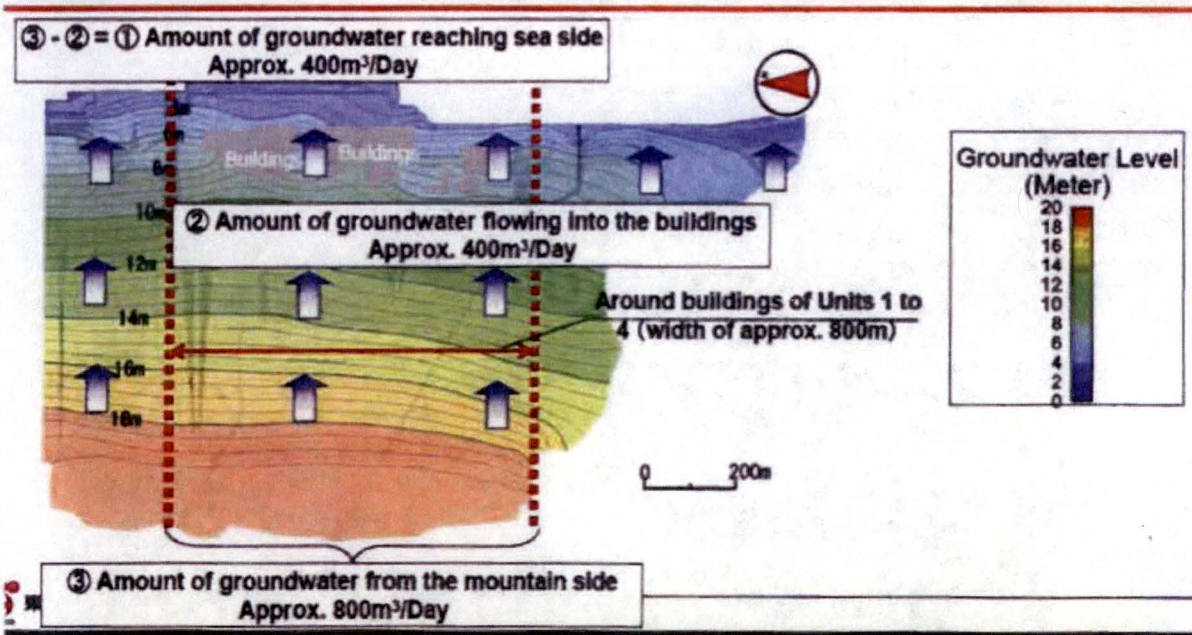
62 Radionuclides to be Removed by ALPS

	Nuclides	Regulatory Limit (Bq/cm³)	RO-Conc. Water (Bq/cm³)
1	Rb-86 (約19日)	3E-01	ND < 7.0E-00
2	Sr-89 (約51日)	3E-01	ND < 3.4E-03
3	Sr-90 (約29年)	3E-02	2.9E-04
4	Y-90 (約64時間)	3E-01	2.9E-04
5	Y-91 (約58日)	3E-01	ND < 2.1E-02
6	Nb-95 (約35日)	1E-00	ND < 8.8E-01
7	Tc-99 (約210000年)	1E-00	3.6E-02
8	Ru-103 (約40日)	1E-00	ND < 1.3E-00
9	Ru-106 (約370日)	1E-01	1.2E-01
10	Rh-103m (約56日)	2E-02	ND < 1.3E-00
11	Rh-106 (約30秒)	3E-02	1.2E-01
12	Ag-110m (約250日)	3E-01	ND < 9.5E-01
13	Cd-113m (約15年)	4E-02	ND < 6.1E-03
14	Cd-115m (約45日)	3E-01	ND < 4.6E-01
15	Sn-119m (約293日)	2E-00	ND < 2.0E-01
16	Sn-123 (約130日)	4E-01	ND < 1.5E-02
17	Sn-126 (約100000年)	2E-01	ND < 7.1E-00
18	Sb-124 (約60日)	3E-01	ND < 1.3E-00
19	Sb-125 (約2年)	8E-01	2.5E-01
20	Te-123m (約120日)	6E-01	ND < 1.9E-00
21	Te-125m (約58日)	9E-01	2.5E-01
22	Te-127 (約9時間)	5E-00	ND < 1.5E-02
23	Te-127m (約110日)	3E-01	ND < 1.5E-02
24	Te-129 (約70分)	1E-01	ND < 9.4E-01
25	Te-129m (約34日)	3E-01	ND < 2.9E-01
26	I-129 (約16000000年)	9E-03	9.1E-02
27	Cs-134 (約2年)	6E-02	3.1E-00
28	Cs-135 (約2300000年)	6E-01	3.7E-05
29	Cs-136 (約13日)	3E-01	ND < 7.4E-01
30	Cs-137 (約30年)	9E-02	6.3E-00
31	Ba-137m (約2分)	8E-02	6.3E-00
32	Ba-140 (約13日)	3E-01	ND < 4.3E-00
33	Ce-141 (約32日)	1E-00	ND < 3.5E-00
34	Ce-144 (約290日)	2E-01	ND < 1.6E-01
35	Pr-144 (約17分)	2E-01	ND < 1.5E-01
36	Pr-144m (約7分)	4E-01	ND < 1.6E-01
37	Pm-146 (約5年)	9E-01	ND < 1.7E-00
38	Pm-147 (約3年)	3E-00	ND < 2.7E-01
39	Pm-148 (約5日)	3E-01	ND < 2.2E-00
40	Pm-148m (約41日)	5E-01	ND < 9.4E-01
41	Sm-151 (約87年)	8E-00	ND < 1.3E-01
42	Eu-152 (約13年)	6E-01	ND < 6.6E-00
43	Eu-154 (約8年)	4E-01	ND < 1.7E-00
44	Eu-155 (約5年)	3E-00	ND < 8.8E-00
45	Gd-153 (約240日)	3E-00	ND < 8.2E-00
46	Tb-160 (約72日)	5E-01	ND < 2.3E-00
47	Pu-238 (約88年)	4E-03	ND < 1.8E-03
48	Pu-239 (約24000年)	4E-03	ND < 1.8E-03
49	Pu-240 (約6600年)	4E-03	ND < 1.8E-03
50	Pu-241 (約14年)	2E-01	ND < 7.9E-02
51	Am-241 (約430年)	5E-03	ND < 1.8E-03
52	Am-242m (約150年)	5E-03	ND < 1.1E-04
53	Am-243 (約7400年)	5E-03	ND < 1.8E-03
54	Cm-242 (約160日)	6E-02	ND < 1.8E-03
55	Cm-243 (約29年)	6E-03	ND < 1.8E-03
56	Cm-244 (約18年)	7E-03	ND < 1.8E-03
57	Mn-54 (約310日)	1E-00	ND < 7.9E-01
58	Fe-59 (約45日)	4E-01	ND < 1.1E-00
59	Co-58 (約71日)	1E-00	ND < 8.2E-01
60	Co-60 (約5年)	2E-01	ND < 6.6E-01
61	Ni-63 (約100年)	6E-00	1.8E-00
62	Zn-65 (約240日)	2E-01	ND < 1.5E-00
	全β		ND < 1.8E-03

Sr-90 and Y-90 are dominant radio-nuclides in RO-concentrated water

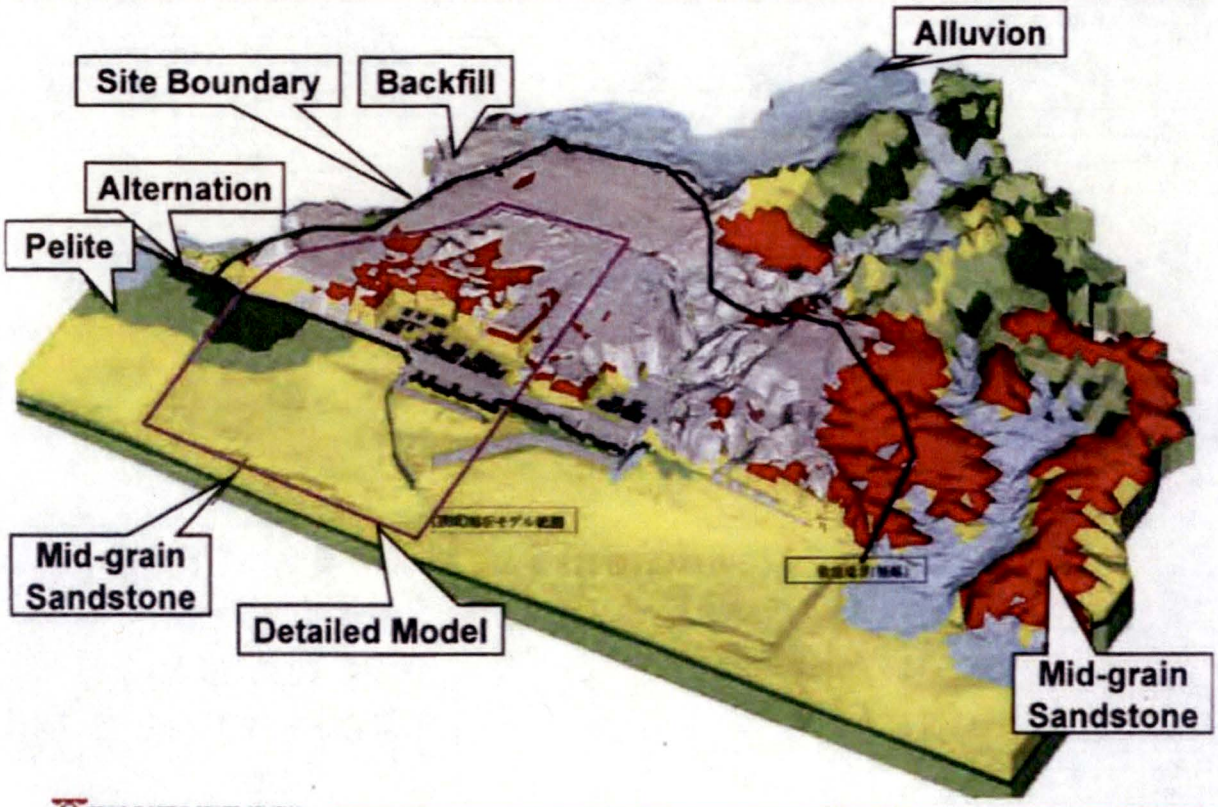
TOKYO ELECTRIC POWER COMPANY

Other Measures: Analyzing Groundwater Flow

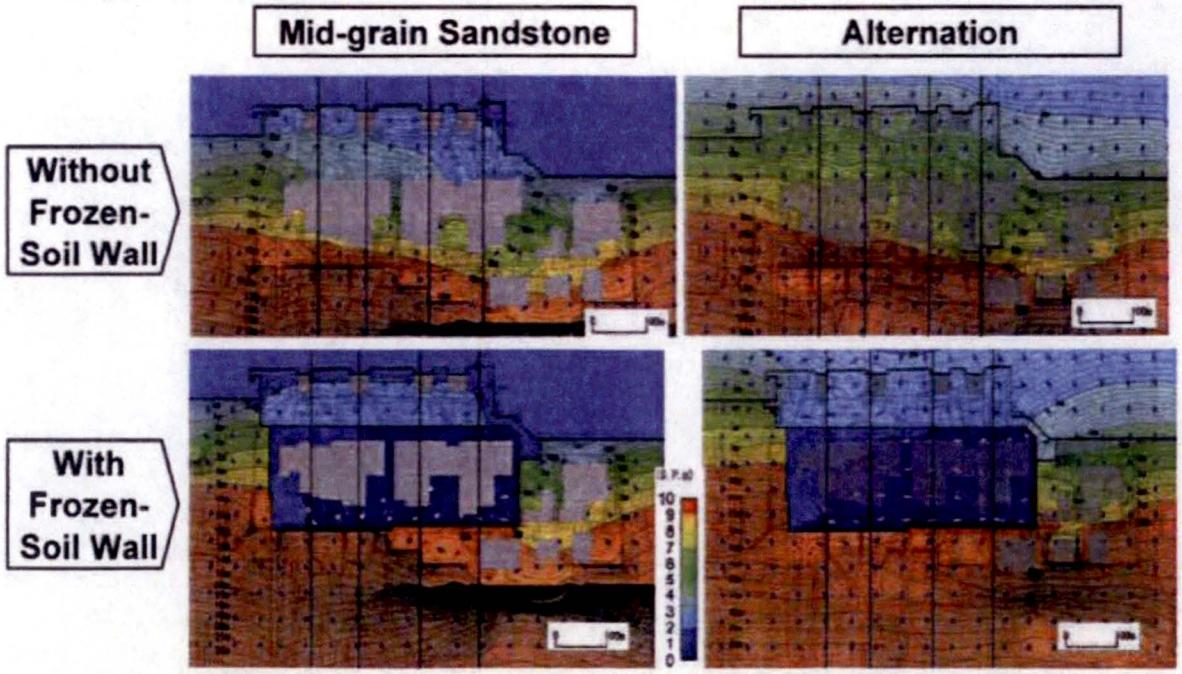


- Ground water flow model expanded to include offsite area for higher accuracy
- Case studies conducted to verify effectiveness of various measures

3-D Groundwater Flow Model

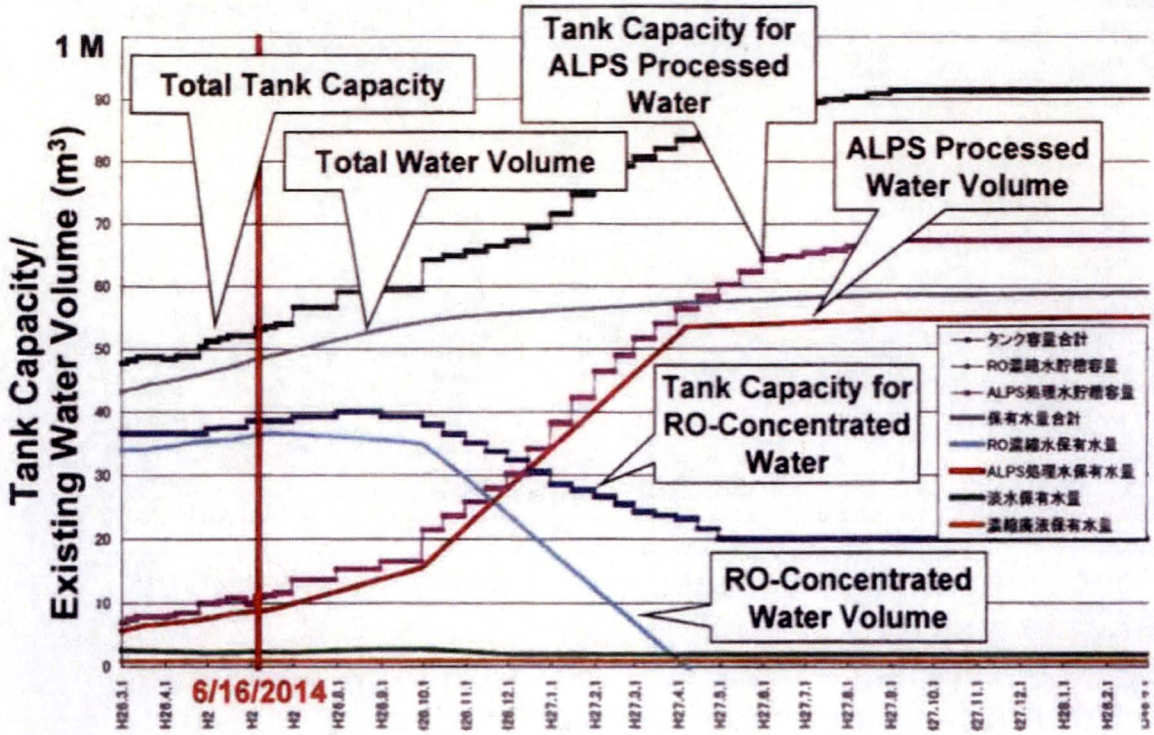


Groundwater Contour and Flow Direction

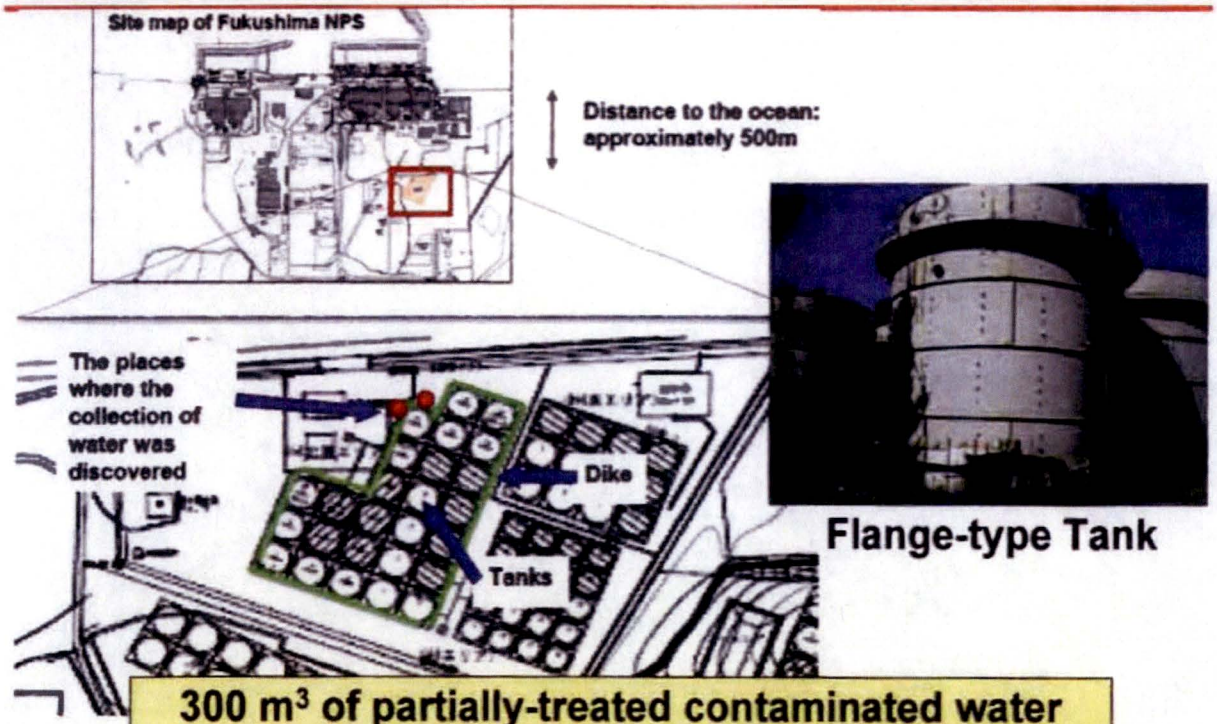


Effectiveness of frozen-soil wall confirmed by 3-D model

On-site Water Balance



Partially-Treated Contaminated Water Leakage

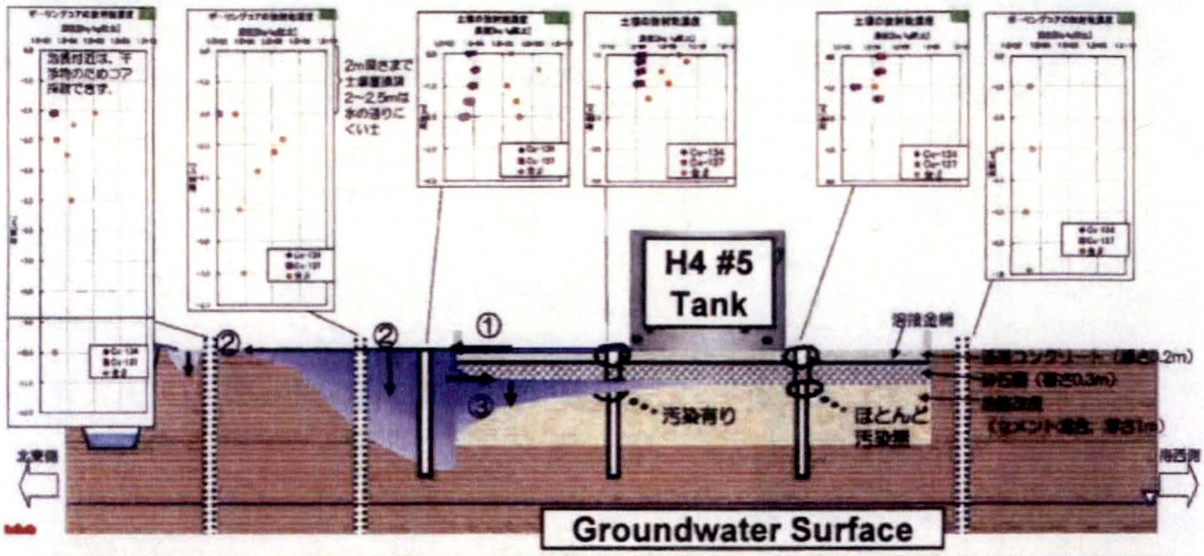


Flange-type Tank

300 m³ of partially-treated contaminated water assumed to have leaked from a flange-type tank H4 #5 (found on 8/19/2013)

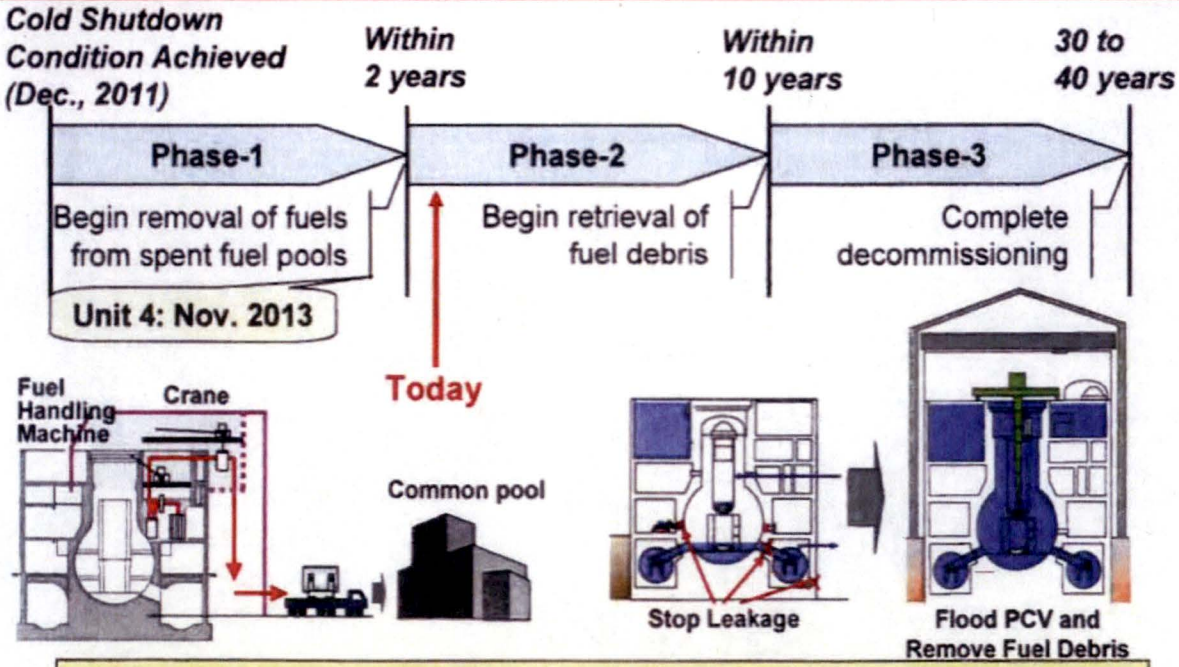
Investigation Results of H4 #5 Tank Leakage

Cs-134, Cs-137 and Gross-beta Concentration in Soil and Boring Core



- Contaminated water leaked out of the weir and seeped into the soil
- Estimated leakage of Sr-90: 4.5E13 Bq (80% collected)
- Monitoring and actions to mitigate further spread taken

Decommissioning Roadmap for 1F

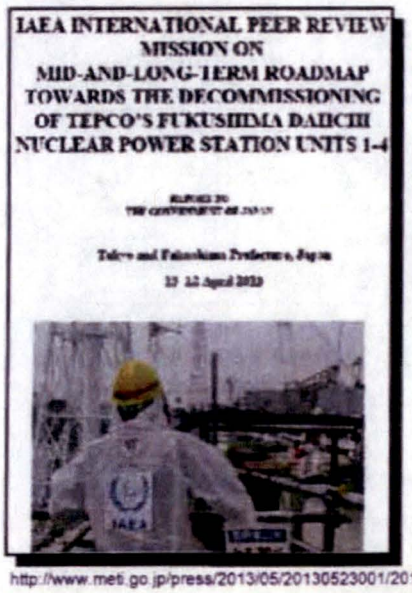


Global collaboration vitally important to tackle this unprecedented undertaking

Global Collaboration: U.S. National Laboratories

- **Feasibility Study Agreement with U.S. Nat'l Labs to identify their expertise applicable to decommissioning at 1F (Sept. 2012-March 2013)**
- **Continuing further collaboration in following areas:** ***Groundwater contamination; reactor bldg. water-proofing; radioactive waste disposal; fuel debris recovery/storage; contaminated water treatment***

Global Collaboration: IAEA


IAEA INTERNATIONAL PEER REVIEW MISSION ON MID-AND-LONG-TERM ROADMAP TOWARDS THE DECOMMISSIONING OF TEPCO'S FUKUSHIMA DAIICHI NUCLEAR POWER STATION UNITS 1-4

http://www.meti.go.jp/press/2013/05/20130523001/20130523001-4.pdf

Unit 4 Fuel Removal (11/27/2013)

Inside ALPS (11/27/2013)

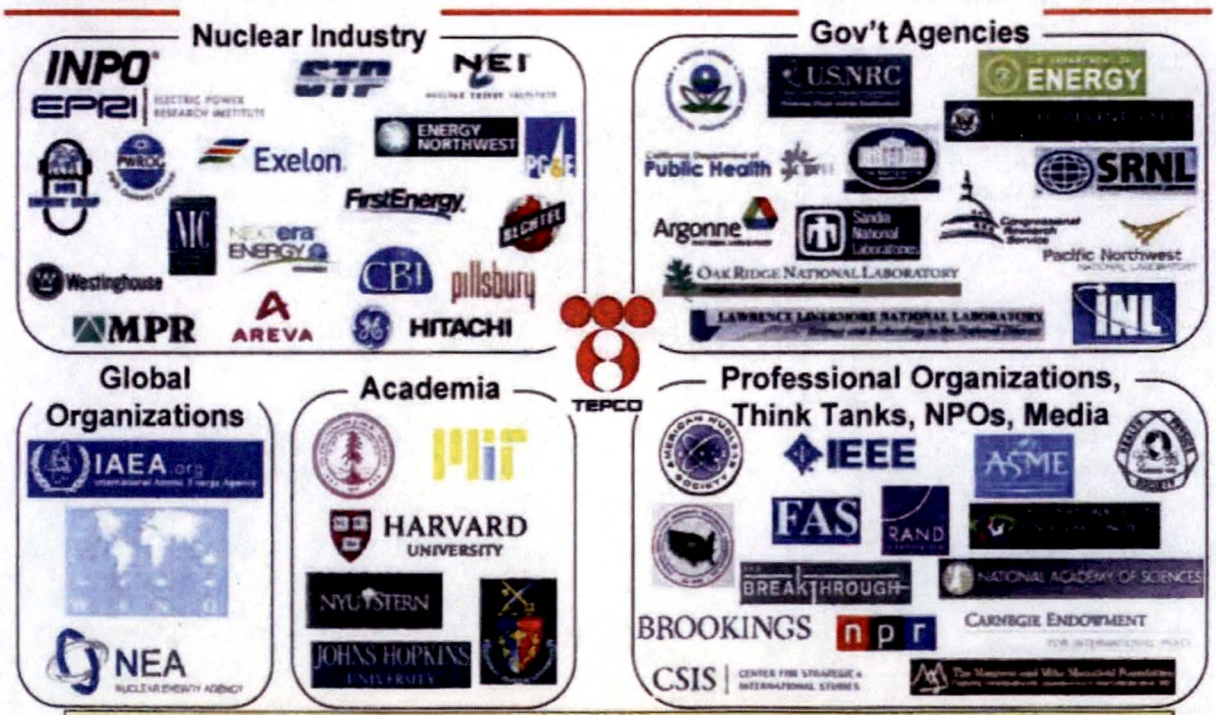
IAEA Peer Review Missions on Decommissioning Roadmap (April and Nov.- Dec., 2013)

Global Collaboration: Through IRID

Int'l Experts Group Mtg.
(Sept. 2013)

- International Research Institute for Nuclear Decommissioning (IRID) established in Aug. 2013
- Request for Information/Proposal on:
  Contaminated water issues; Fuel debris retrieval

TEPCO's Post-Accident Activities in the U.S.



Committed to sharing lessons learned, making nuclear power plants safer, and carrying out decommissioning safely

References

[Japan]

- Tokyo Electric Power Company (TEPCO)
  http://www.tepco.co.jp/en/nu/fukushima-np/index-e.html
  http://www.tepco.co.jp/en/decommission/index-e.html
- Nuclear Reform Monitoring Committee of TEPCO
  http://www.nrmc.jp/en/index-e.html
- Ministry of Economy, Trade and Industry (METI)
  http://www.meti.go.jp/english/earthquake/
- Nuclear Regulation Authority (NRA)
  http://www.nsr.go.jp/english/
- Japan Atomic Industrial Forum (JAIF)
  http://www.jaif.or.jp/english/
- Japan Nuclear Safety Institute (JANSI)
  http://www.genanshin.jp/english/index.html

[USA]

- Institute of Nuclear Power Operations (INPO)
  http://www.nei.org/Master-Document-Folder/Backgrounders/Reports-And-Studies/Lessons-Learned-from-the-Nuclear-Accident-at-the-F
- Electric Power Research Institute (EPRI)
  http://www.epri.com/Our-Work/Pages/Nuclear.aspx
- Nuclear Energy Institute (NEI)
  http://safetyfirst.nei.org/japan/
- National Academy of Science—Fukushima Lessons Learned Committee
  http://www8.nationalacademies.org/cp/projectview.aspx?key=49465

[International]

- International Atomic Energy Agency (IAEA)
  http://www.iaea.org/
- World Association of Nuclear Operators (WANO)
  http://www.wano.info/
- United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)
  http://www.unscear.org/unscear/en/publications/2013_1.html
- World Health Organization (WHO)
  http://www.who.int/mediacentre/news/releases/2013/fukushima_report_20130228/en/

Fukushima Nuclear Accident

A TEPCO Nuclear Engineer's Perspective

Presentation to the

U.S. Nuclear Regulatory Commission

Rockville, Maryland

July 9th, 2012

Kenji Tateiwa

Manager, Nuclear Power Programs

Tokyo Electric Power Company

Washington Office

tateiwa.kenji@tepco.co.jp

TOKYO ELECTRIC POWER COMPANY

My Background

- '90~'96: BS/MS in Nuclear Engineering, Kyoto Univ.
- TEPCO
  - '96~'00: Fukushima Daini NPS
  - '00~'02: Nuclear Engineering Dept.
  - '02~'04: MBA, Stanford Graduate School of Business
  - '04~'05: Nuclear Engineering Dept.
  - '05~'11: International Affairs Dept.
  - '11.9~: Washington DC Office

Pursued "Nuclear Renaissance"
(photo taken in June 2010)

Committed to collaborating with U.S. nuclear sector on Fukushima response.

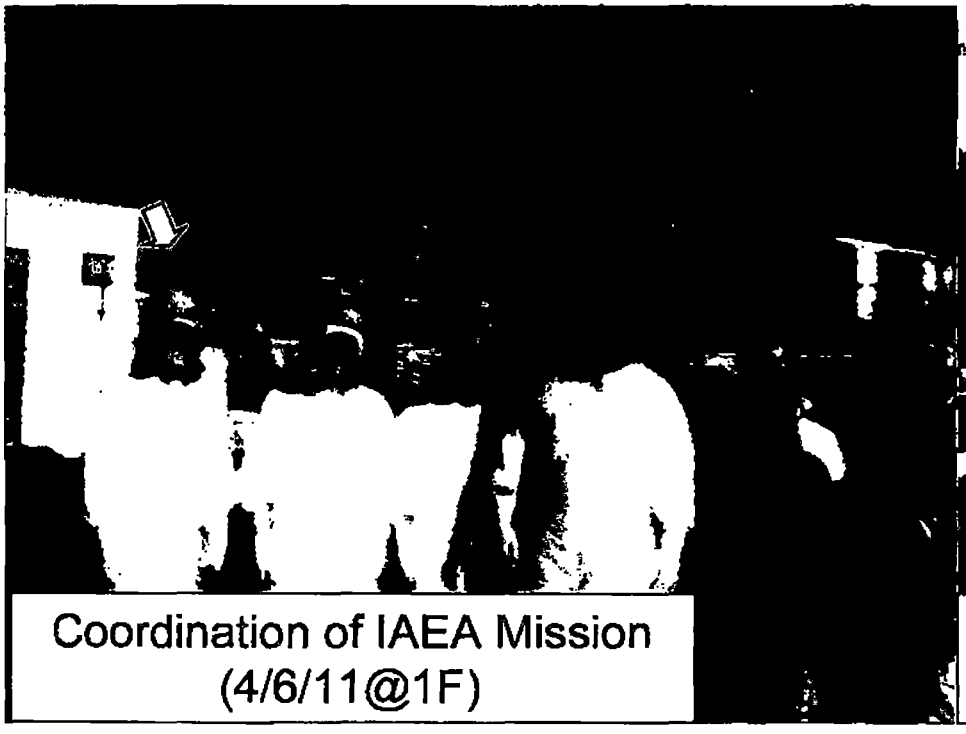
My Engagement in Post-Accident Activities

Press Release (Mar 11,2011)
Occurrence of a Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness(Fukushima Daiichi)

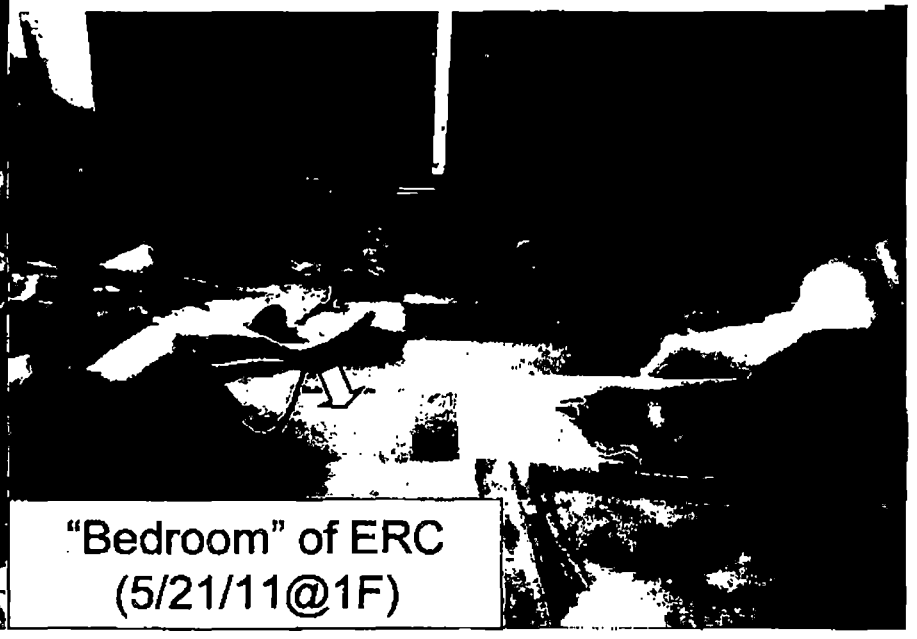
Today at approximately 2:46PM, turbines and reactors of Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station Unit 1 (Boiling Water Reactor, rated output 460 Megawatts) and Units 2 and 3 (Boiling Water Reactor, Rated Output 784 Megawatts) that had been operating at rated power automatically shutdown due to the Miyagiken-oki Earthquake.

power was los
, leading to

Translation of Press Releases
(3/11/11@Tokyo-H/Q)



Coordination of IAEA Mission
(4/6/11@1F)

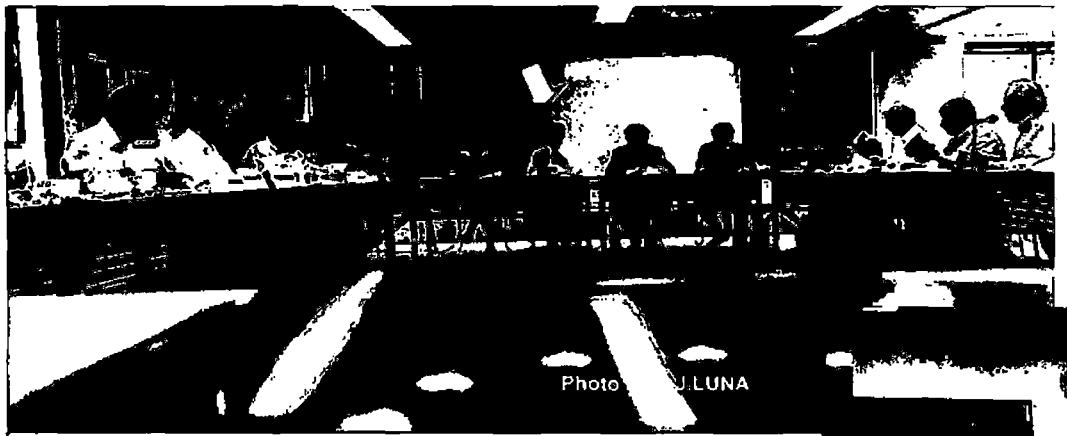


"Bedroom" of ERC
(5/21/11@1F)

IAEA: International Atomic Energy Agency / ERC: Emergency Response Center

TOKYO ELECTRIC POWER COMPANY

My Engagement in Post-Accident Activities (cont'd)



Presentation to Embassies in Tokyo (6/24/11@Delegation of EU to Japan)

Reinforcing US-Japan Ties (6/15/11@Ambassador John Roos' Residence)

Discussion with INPO-IST (8/19/11@2F)

INPO-IST: Institute of Nuclear Power Operations-Industry Support Team

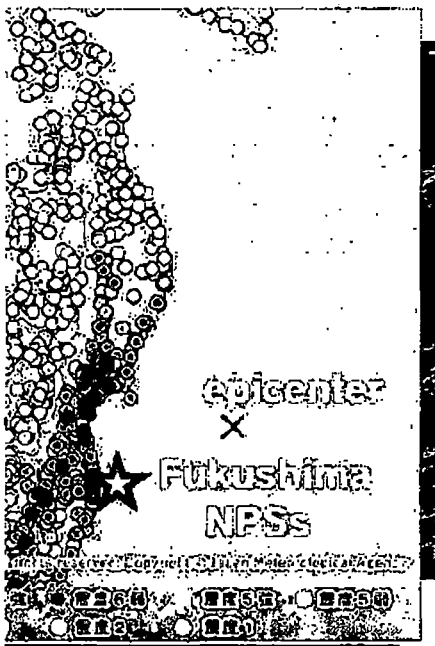
The Great East Japan Earthquake

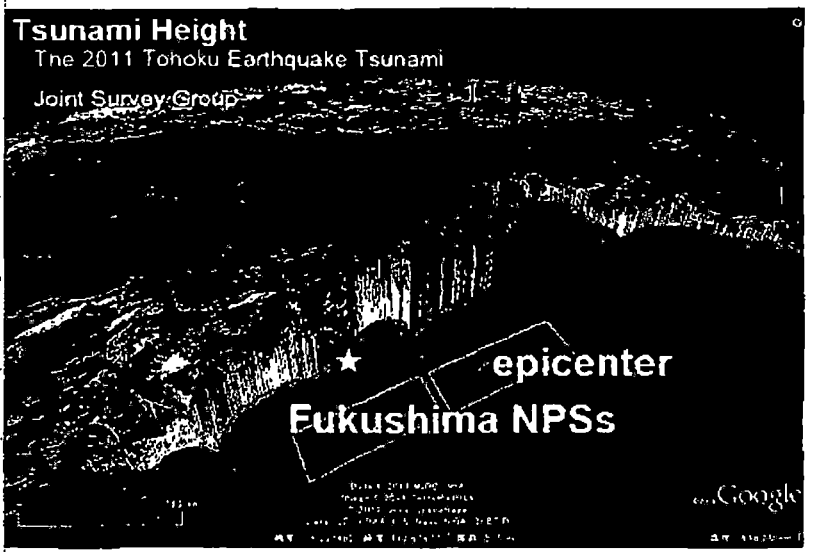
[Date/Time]
Fri, March 11, 2011 at 2:46pm

[Epicenter]
Offshore Sanriku Coast
(approx. 180 km from Fukushima NPSs)

[Seismic Energy]
Magnitude (M) 9.0
Largest earthquake/tsunami in recorded history of Japan

[Dead/Missing]
Approx. 19,000
1st-ever case to set up Gov't Emergency Disaster Response HQ





Impact of Earthquake to TEPCO Facilities and Tokyo Area

Shutdown:

- Nuclear power stations: 2 (7 units)
- Thermal power stations: 7 (12 units)
- Hydro power stations: 25
- Substations: 8

Immediate Power outage:

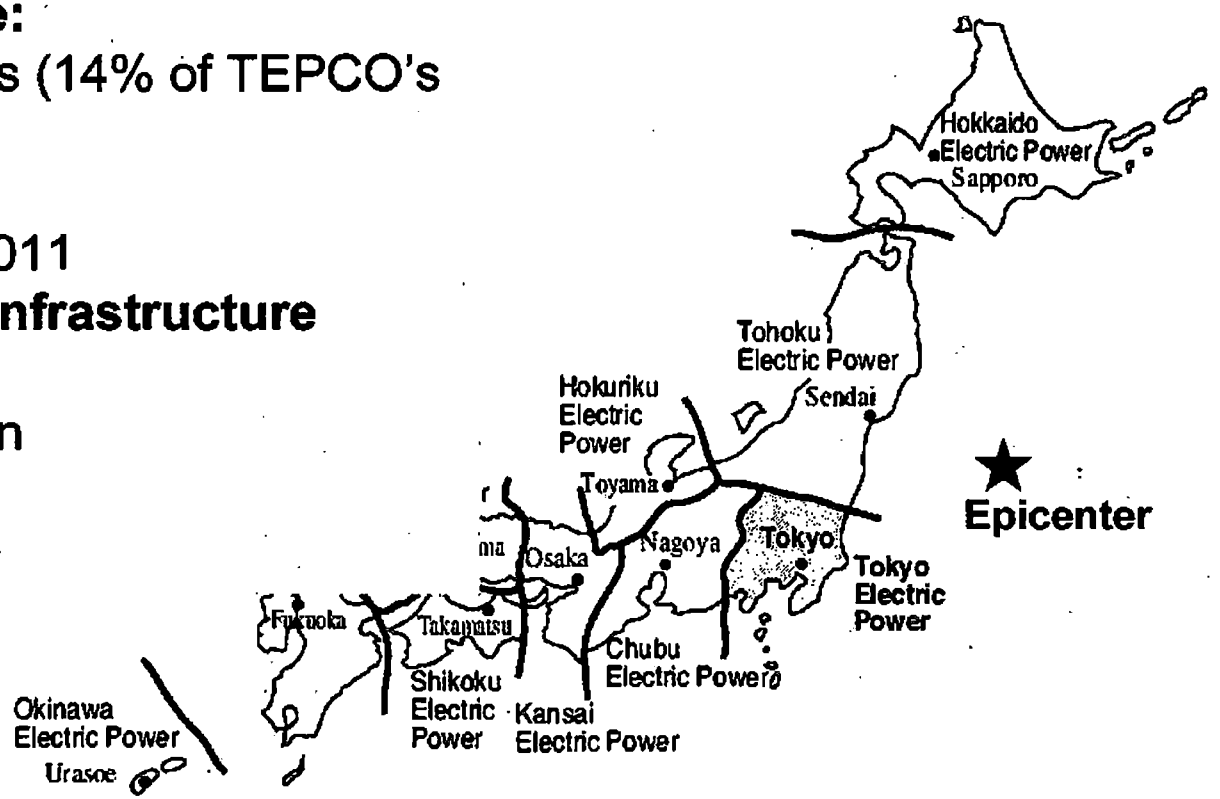
- 4 million households (14% of TEPCO's customer base)

Rolling blackout:

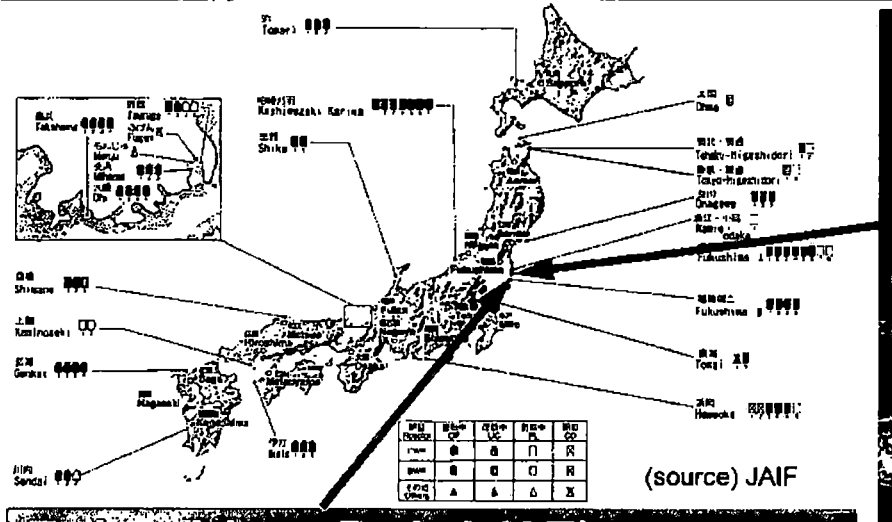
- 10 days in March 2011

Massive interruption of infrastructure (even in Tokyo area):

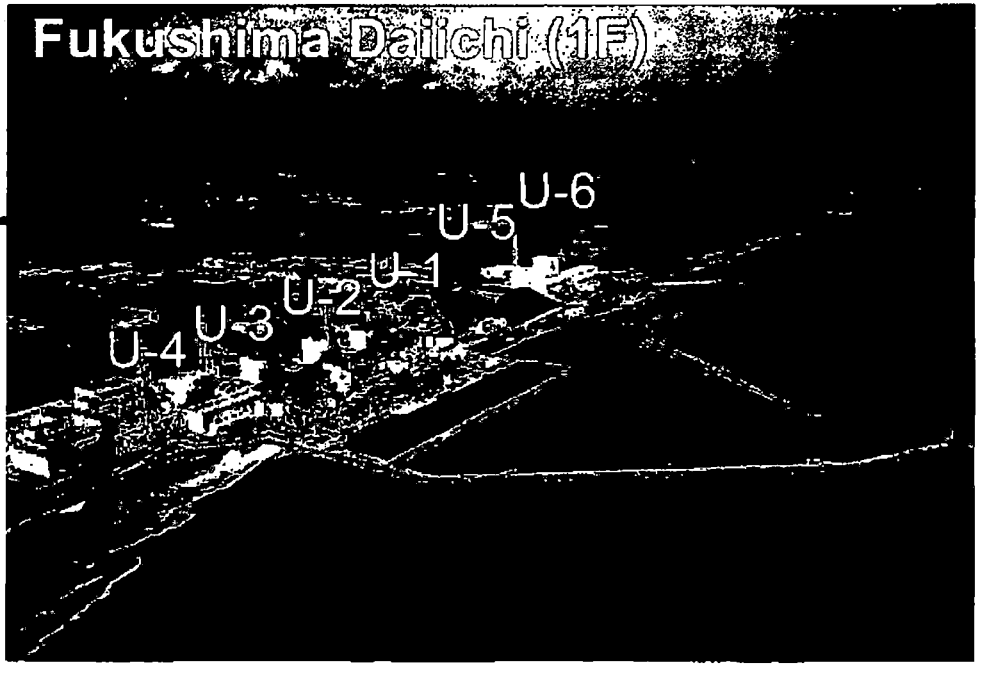
- Public transportation
- Telecommunication
- Food/water supply

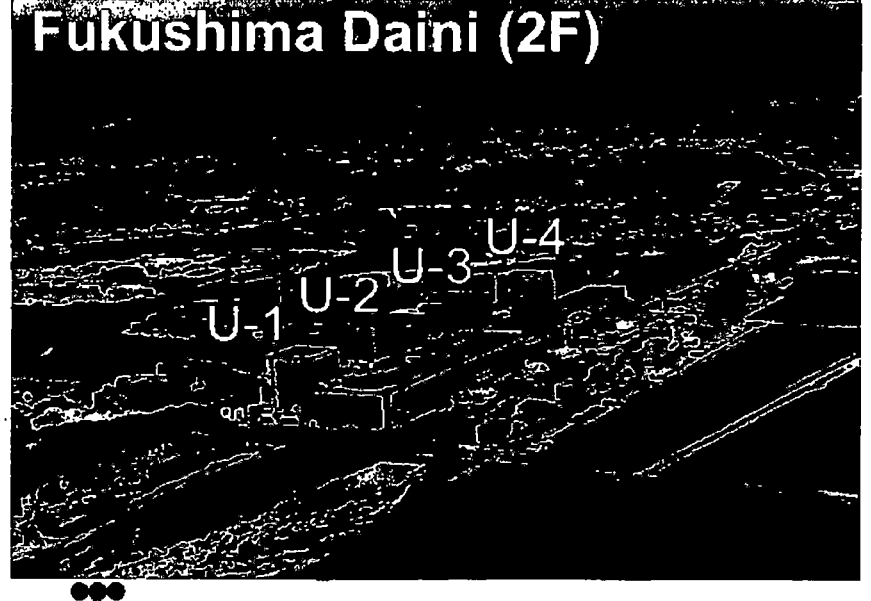


Overview of Fukushima Daiichi NPS and Fukushima Daini NPS



(source) JAIF



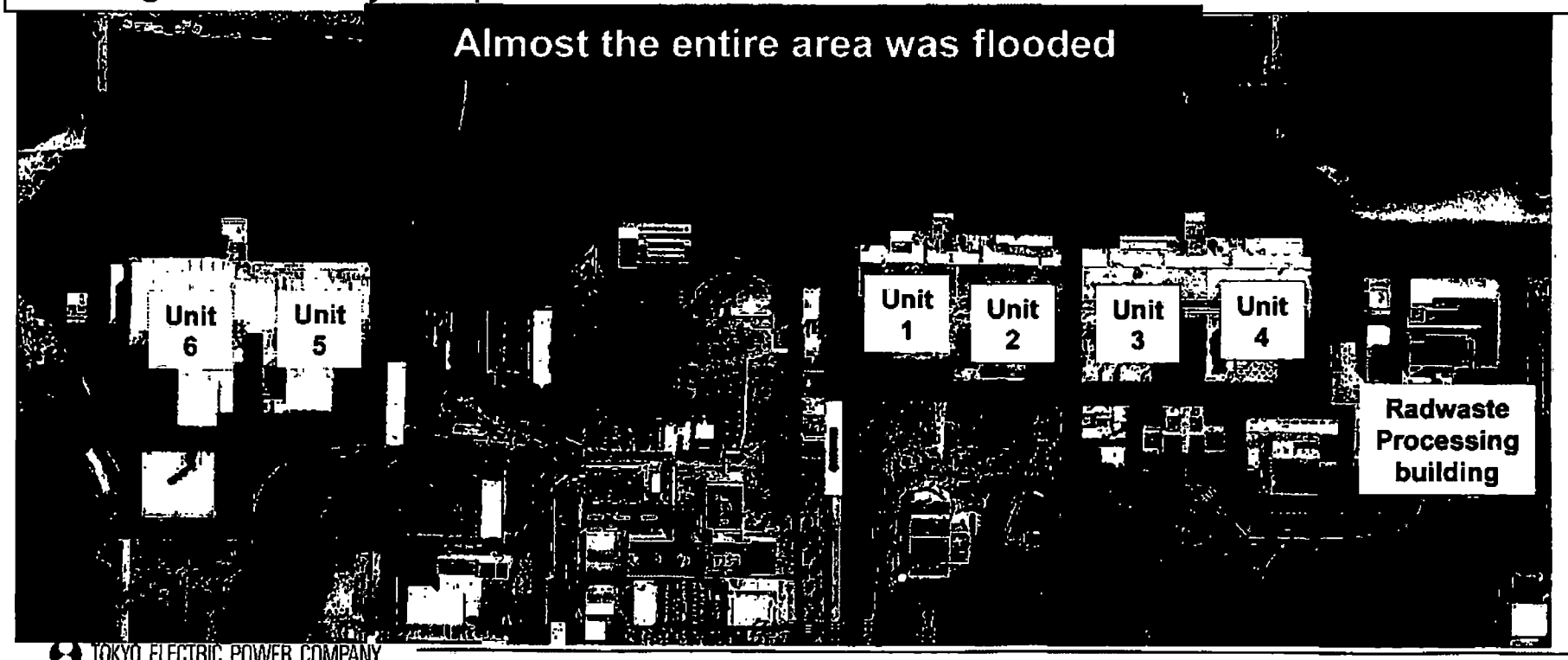


Overview of 1F and 2F (cont'd)

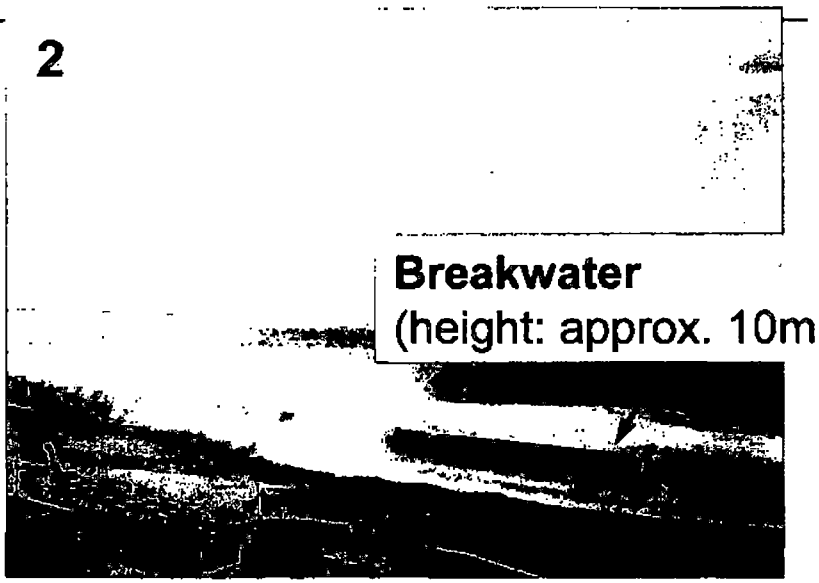
Plant	Unit	Start of Operation	Reactor Type	Containment Type	Power Output (MWe)	Main Contractor	Pre-earthquake Status
1F	1	1971. 3	BWR-3	Mark-I	460	GE	Operating
	2	1974. 7	BWR-4	Mark-I	784	GE/Toshiba	Operating
	3	1976. 3	BWR-4	Mark-I	784	Toshiba	Operating
	4	1978.10	BWR-4	Mark-I	784	Hitachi	Outage Full core offloaded to spent fuel pool
	5	1978. 4	BWR-4	Mark-I	784	Toshiba	Outage
	6	1979.10	BWR-5	Mark-II	1,100	GE/Toshiba	Outage
2F	1	1982. 4	BWR-5	Mark-II	1,100	Toshiba	Operating
	2	1984. 2	BWR-5	Mark-II modified	1,100	Hitachi	Operating
	3	1985. 6	BWR-5	Mark-II modified	1,100	Toshiba	Operating
	4	1987. 8	BWR-5	Mark-II modified	1,100	Hitachi	Operating

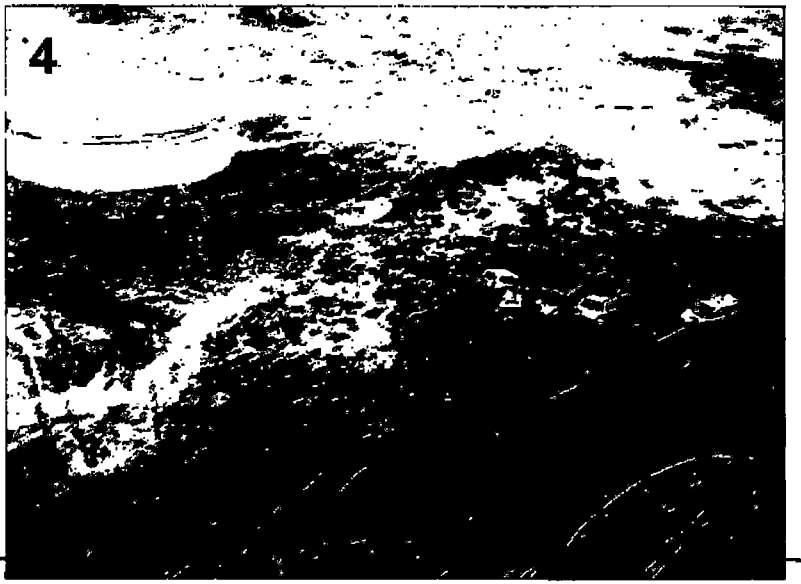
Impact of Earthquake/Tsunami at 1F

- Observed seismic acceleration exceeded the design-basis in limited locations.
  - ✓Plant responded as designed after earthquake.
  - ✓No damage to safety-related equipment due to earthquake confirmed to date.
- Tsunami severely flooded most of the major buildings.
  - ✓Estimated tsunami height of 13m (43ft) much greater than design-basis of 6.1 m.
  - ✓Design-basis (6.1m) based on latest tsunami estimation methodology endorsed by Civil Engineers Society of Japan.

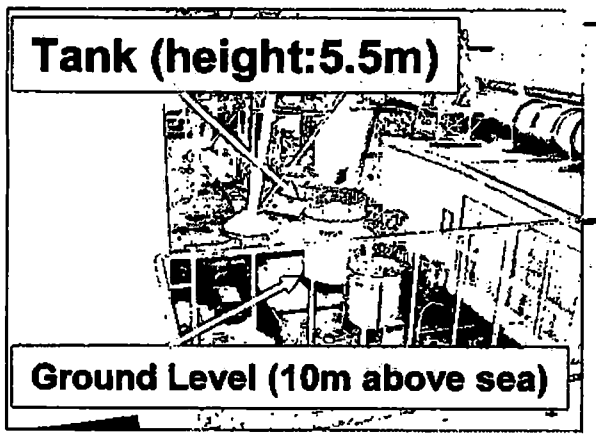


Tsunami Observed at 1F

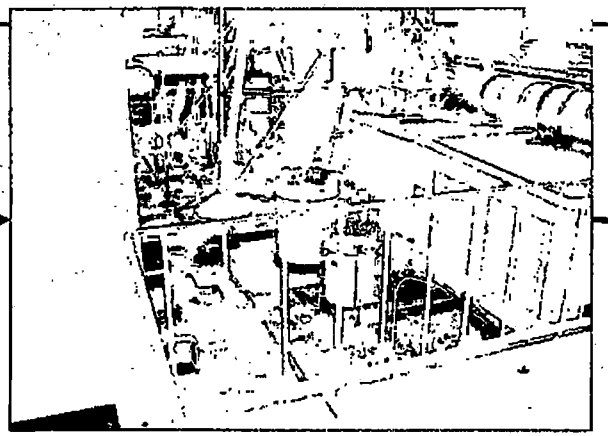




Tsunami Observed at 1F (cont'd)



Date/time: 2011/3/11 15:42



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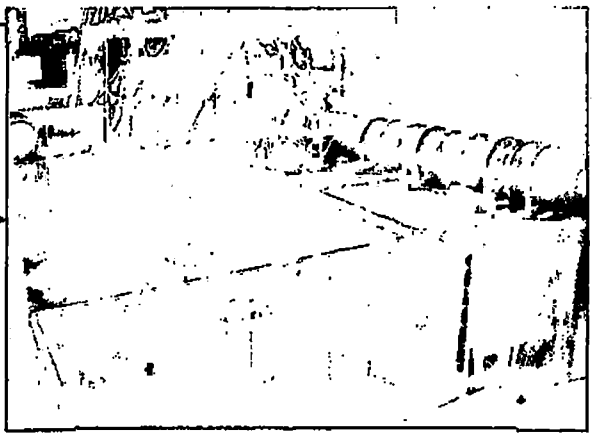

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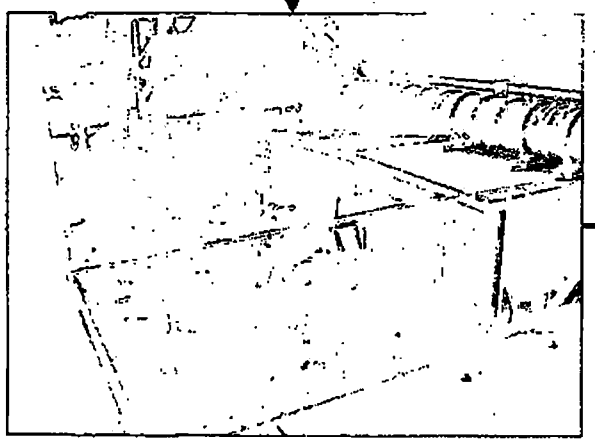

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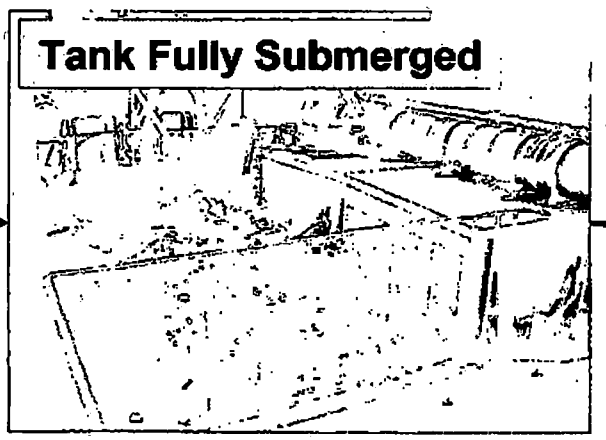

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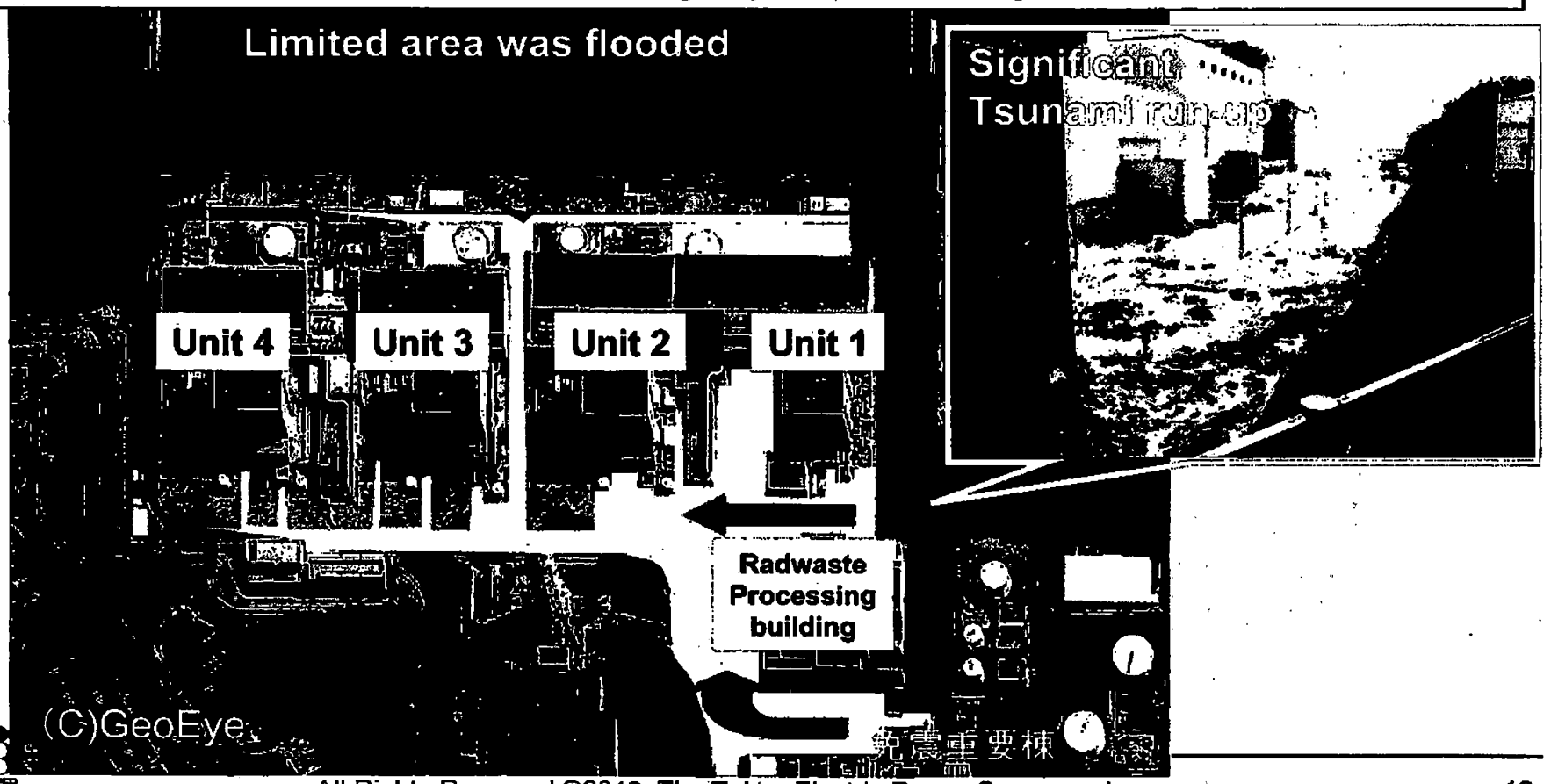
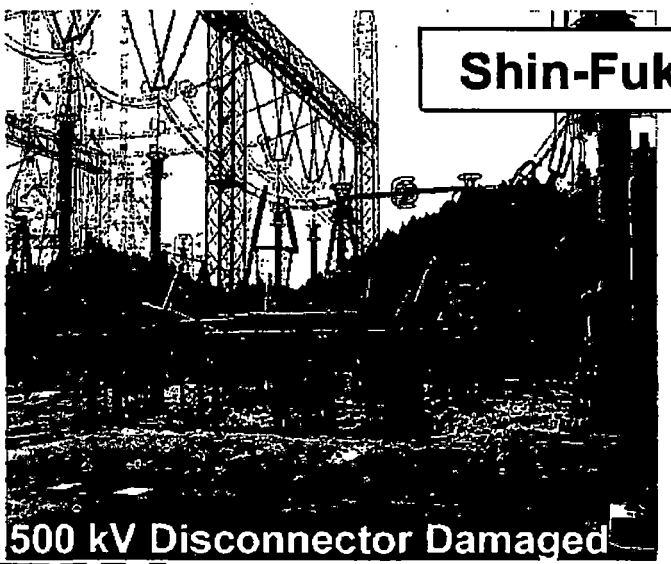
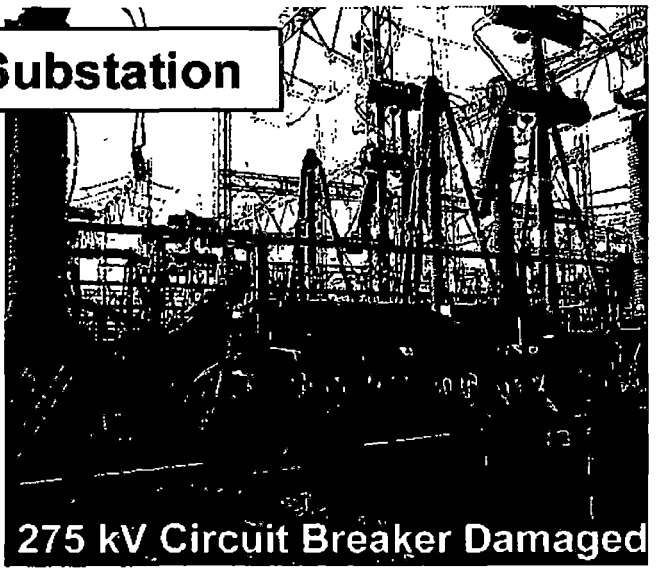
Impact of Earthquake/Tsunami at 2F

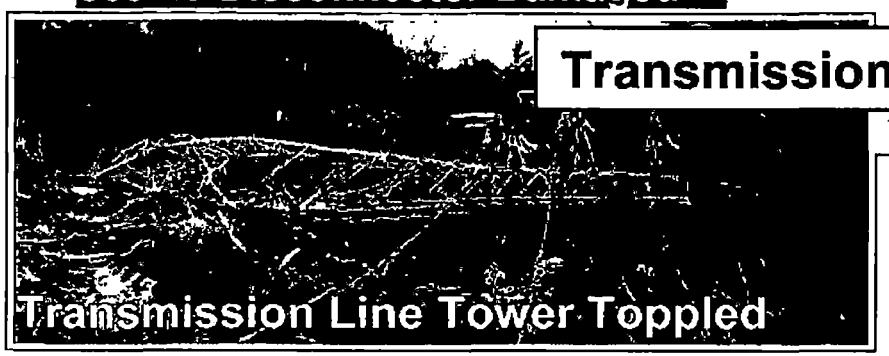
- Observed seismic acceleration smaller than design-basis.
  - ✓Plant responded as designed after earthquake.
  - ✓No damage to safety-related equipment due to earthquake confirmed to date.
- Significant damage due to tsunami, but less extreme compared to 1F.
  - ✓Estimated tsunami height of 9 m much greater than the design-basis of 5.2 m.

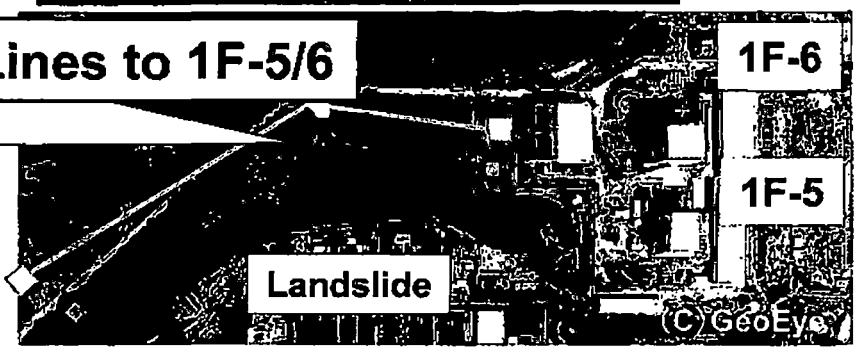


Earthquake-Induced Damage to Off-site Power









Damage at substation, collapse of transmission line tower, etc. led to:

- **Loss of all off-site power at 1F**
- **Loss of all but 1 line of off-site power at 2F**

Post-Tsunami Power Supply System at 1F/2F

(1F) No off-site power + 1 D/G

	Unit 1		Unit 2		Unit 3		Unit 4		Unit 5		Unit 6	
	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used
D/G	DG 1A	⊠	DG 2A	⊠	DG 3A	⊠	DG 4A	⊠	DG 5A(*2)	×	DG 6A	×(*
	DG 1B	⊠	DG 2B (air-cooled)	×(*1)	DG 3B	⊠	DG 4B (air-cooled)	×(*1)	DG 5B(*2)	×	DG 6B (air-cooled)	○
	–	–	–	–	–	–	–	–	–	–	HPCS DG	×(*
6.9kV M/C	M/C 1C	⊠	M/C 2C	⊠	M/C 3C	⊠	M/C 4C	⊠	M/C 5C	⊠	M/C 6C	○
	M/C 1D	⊠	M/C 2D	⊠	M/C 3D	⊠	M/C 4D	⊠	M/C 5D	⊠	M/C 6D	○
	–	–	M/C 2E	⊠	–	–	M/C 4E	⊠	–	–	HPCS DG M/C	○
	M/C 1A	⊠	M/C 2A	⊠	M/C 3A	⊠	M/C 4A	⊠	M/C 5A	⊠	M/C 6A-1	⊠
											M/C 6A-2	⊠
	M/C 1B	⊠	M/C 2B	⊠	M/C 3B	⊠	M/C 4B	⊠	M/C 5B	⊠	M/C 6B-1	⊠
											M/C 6B-2	⊠
	M/C 1S										–	
480V P/C	P/C 1C										P/C 6C	○
	P/C 1D										P/C 6D	○
	–										P/C 6E	○
	P/C 1A	⊠									P/C 6A-1	⊠
			P/C 2A-1	⊠	–	–	–	–	P/C 5A-1	○	P/C 6A-2	⊠
	P/C 1B	⊠	P/C 2B	○	P/C 3B	⊠	P/C 4B	○	P/C 5B	⊠	P/C 6B-1	⊠
	–	–	–	–	–	–	–	–	P/C 5B-1	○	P/C 6B-2	⊠
	P/C 1S	⊠	–	–	P/C 3SA	⊠	–	–	P/C 5SA	⊠	–	–
	–	–	–	–	–	–	–	–	P/C 5SA-1	⊠	–	–
	–	–	P/C 2SB	⊠	P/C 3SB	⊠	–	–	P/C 5SB	⊠	–	–
DC	DC125V main bus panel A	⊠	DC125V P/C 2A	⊠	DC125V main bus panel 3A	○	DC125V main bus panel 4A	⊠	DC125V P/C 5A	○	DC125V DIST CENTER 6A	○
	DC125V main bus panel B	⊠	DC125V P/C 2B	⊠	DC125V main bus panel 3B	○	DC125V main bus panel 4B	⊠	DC125V P/C 5B	○	DC125V DIST CENTER 6B	○
Sea Water Cooling System	A SW	⊠	RHRS A	⊠	RHRS A	⊠	RHRS A	⊠	RHRS A	⊠	RHRS A	⊠
			RHRS B	⊠	RHRS B	⊠	RHRS B	⊠	RHRS B	⊠	RHRS B	⊠

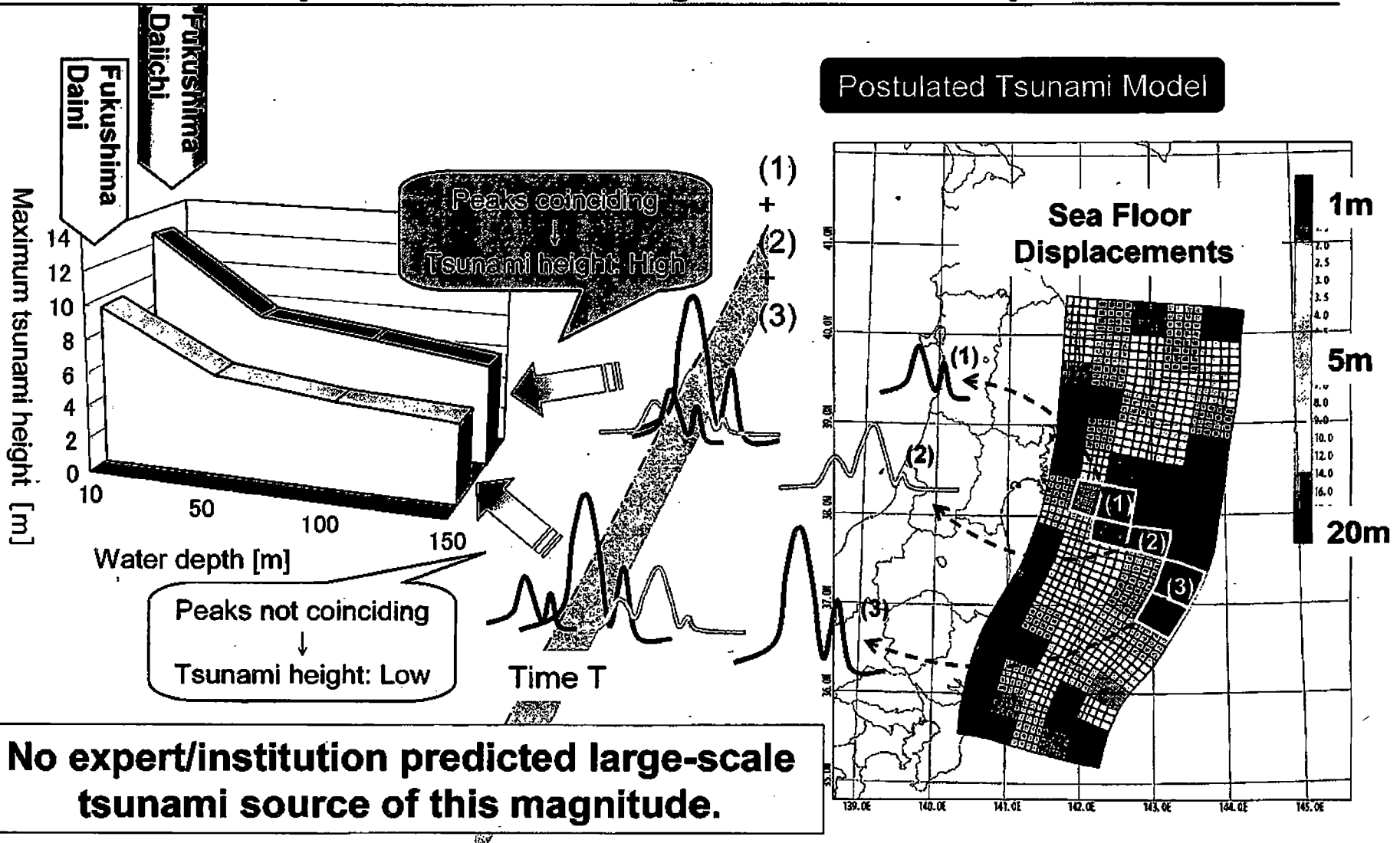
Failure of most of the power panels made recovery work extremely difficult.

(2F) One off-site power + 3 D/G

	Unit 1		Unit 2		Unit 3		Unit 4	
	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used	Power panel	Can/can not be used
D/G	DG 1A	⊠	DG 2A	×(*2)	DG 3A	×(*2)	DG 4A	×(*2)
	DG 1B	⊠	DG 2B	×(*2)	DG 3B	○	DG 4B	×(*2)
	DG 1H	⊠	DG 2H	×(*2)	DG 3H	○	DG 4H	○
6.9kV M/C	M/C 1C	⊠	M/C 2C	○	M/C 3C	○	M/C 4C	○
	M/C 1D	○	M/C 2D	○	M/C 3D	○	M/C 4D	○
	M/C 1E	⊠	M/C 2H	○	M/C 3H	○	M/C 4H	○
	M/C 1A-1	○	M/C 2A-1	○	M/C 3A-1	○	M/C 4A-1	○
	M/C 1A-2	○	M/C 2A-2	○	M/C 3A-2	○	M/C 4A-2	○
	M/C 1B-1	○	M/C 2B-1	○	M/C 3B-1	○	M/C 4B-1	○
	M/C 1B-2	○	M/C 2B-2	○	M/C 3B-2	○	M/C 4B-2	○
	M/C 1SA-1	○	–		M/C 3SA-1	○	–	
	M/C 1SA-2	○			M/C 3SA-2	○		
	M/C 1SB-1	○			M/C 3SB-1	○		
	M/C 1SB-2	○			M/C 3SB-2	○		
480V P/C	P/C 1C-1	⊠	P/C 2C-1	○	P/C 3C-1	○	P/C 4C-1	○
	P/C 1C-2	⊠	P/C 2C-2	⊠	P/C 3C-2	⊠	P/C 4C-2	⊠
	P/C 1D-1	○	P/C 2D-1	○	P/C 3D-1	○	P/C 4D-1	○
	P/C 1D-2	⊠	P/C 2D-2	⊠	P/C 3D-2	○	P/C 4D-2	⊠
	P/C 1A-1	○	P/C 2A-1	○	P/C 3A-1	○	P/C 4A-1	○
	P/C 1A-2	○	P/C 2A-2	○	P/C 3A-2	○	P/C 4A-2	○
	P/C 1B-1	○	P/C 2B-1	○	P/C 3B-1	○	P/C 4B-1	○
	P/C 1B-2	○	P/C 2B-2	○	P/C 3B-2	○	P/C 4B-2	○
	P/C 1SA	○	–		P/C 3SA	○	–	
	P/C 1SB	○			P/C 3SB	○		
DC	DC125V main bus panel A	○	DC125V main bus panel A	○	DC125V main bus panel A	○	DC125V main bus panel A	○
	DC125V main bus panel B	○	DC125V main bus panel B	○	DC125V main bus panel B	○	DC125V main bus panel B	○
Sea Water Cooling System	RHRS A	⊠	RHRS A	⊠	RHRS A	⊠	RHRS A	⊠
	RHRS B	⊠	RHRS B	⊠	RHRS B	○	RHRS B	⊠

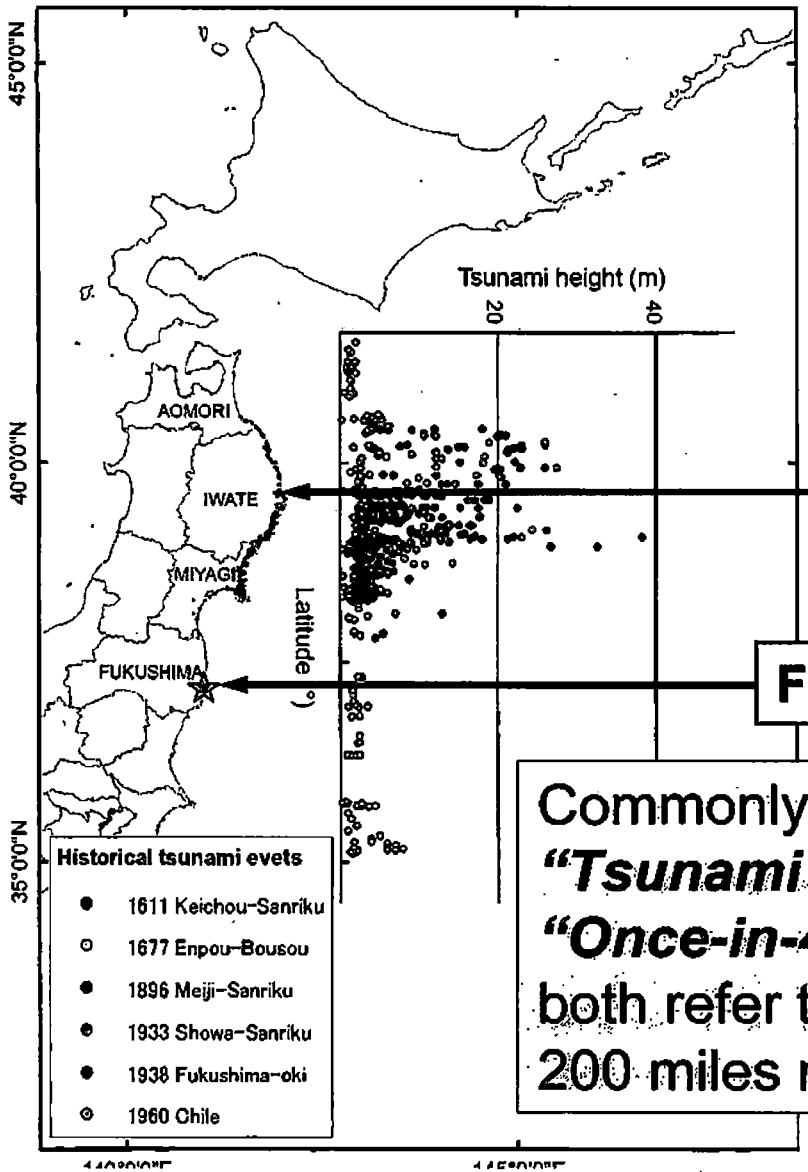
O: operable X: ■■ damaged

Amplification of Multiple Tsunami Waves Caused by Unprecedented Large-scale Earthquake



No expert/institution predicted large-scale tsunami source of this magnitude.

No Historical Evidence of Huge Tsunamis Near Fukushima NPSs



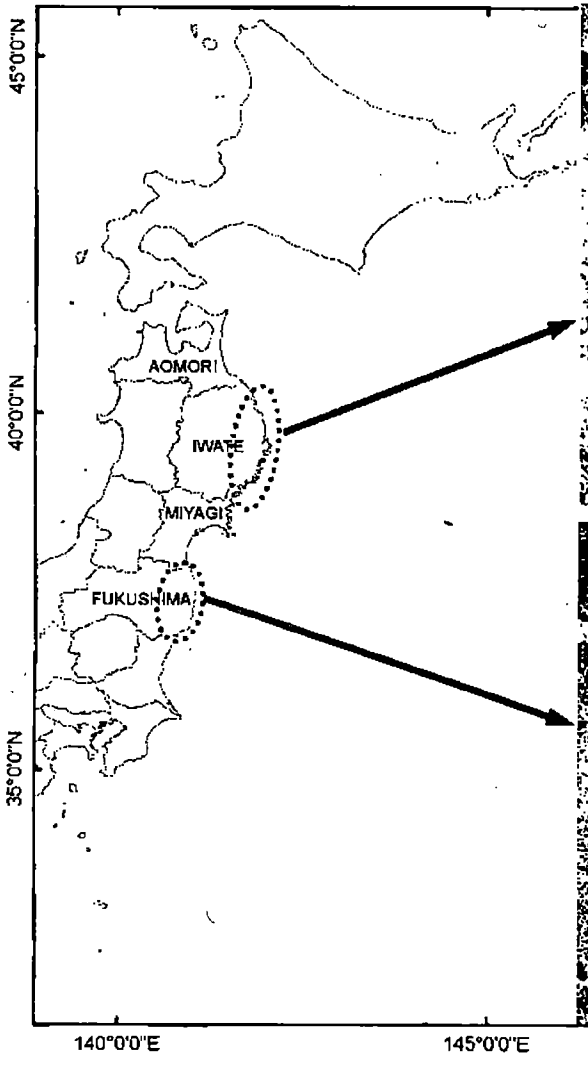
Tsunami Warning Stone
(Miyako, Iwate Pref.)

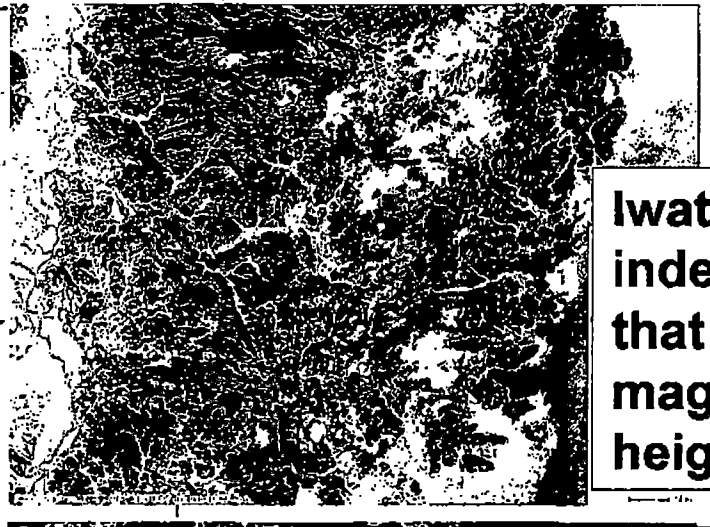
(source) http://blog.miyakomall.jp/2012/04/

Fukushima NPSs

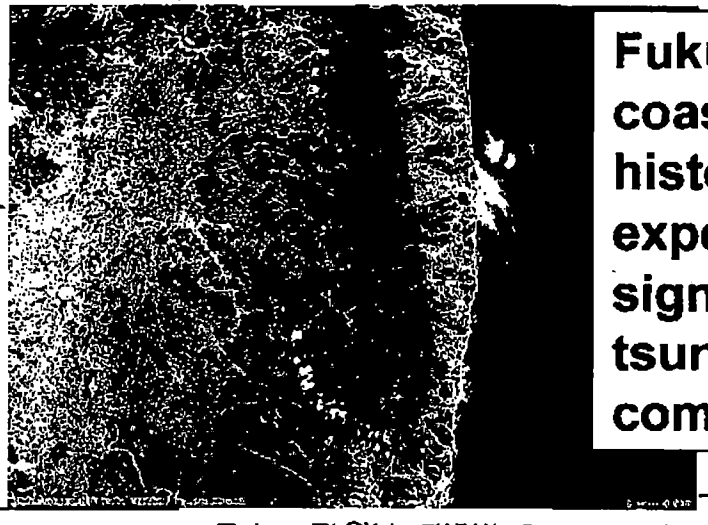
Commonly misquoted
"Tsunami Warning Stone" and
"Once-in-400-year recurrence of 7-m tsunami"
both refer to locations in Iwate Prefecture,
200 miles north of Fukushima NPS.

Tsunami Height Heavily Dependent on Coastal Topography



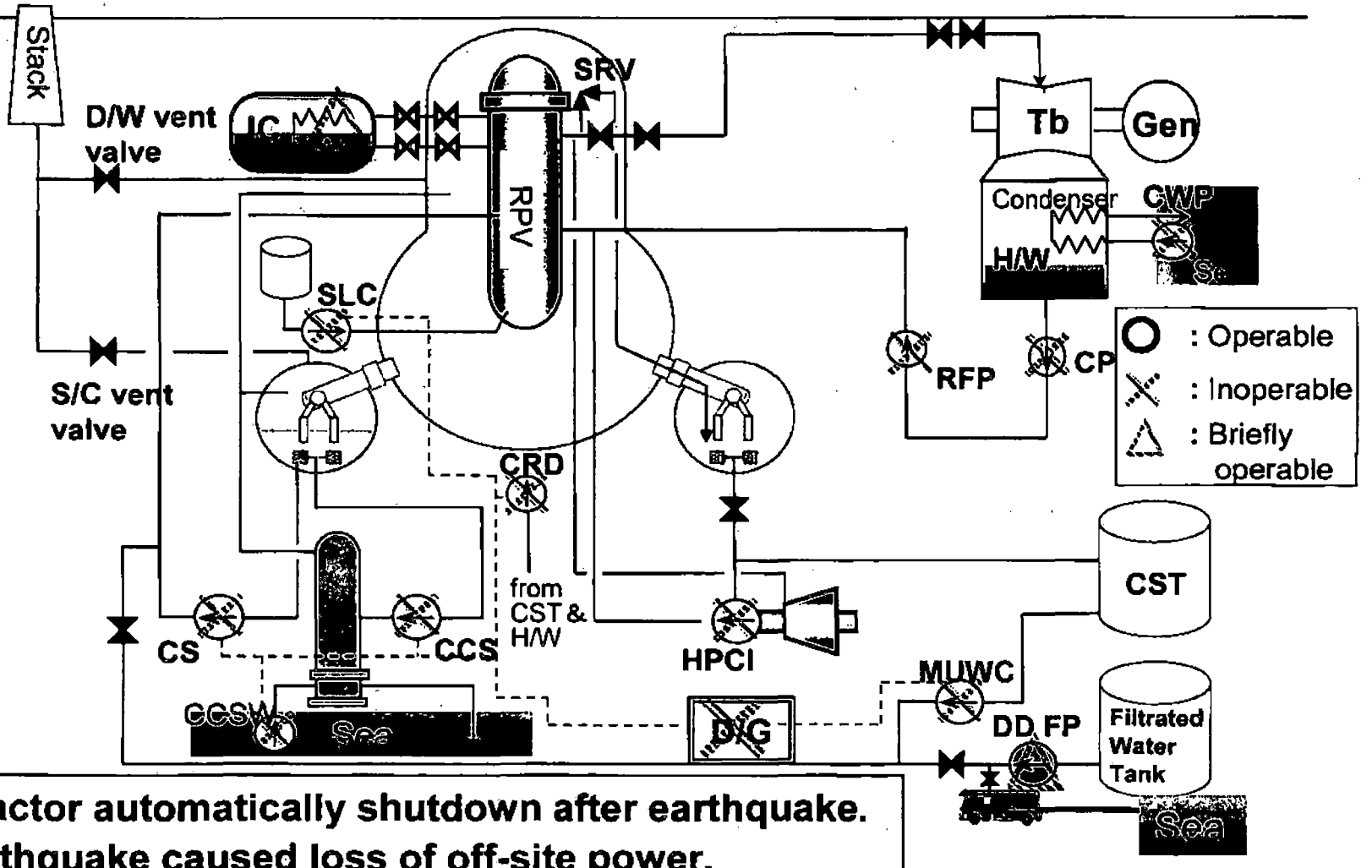


Iwate has deep-indented coastline that tends to magnify tsunami height.



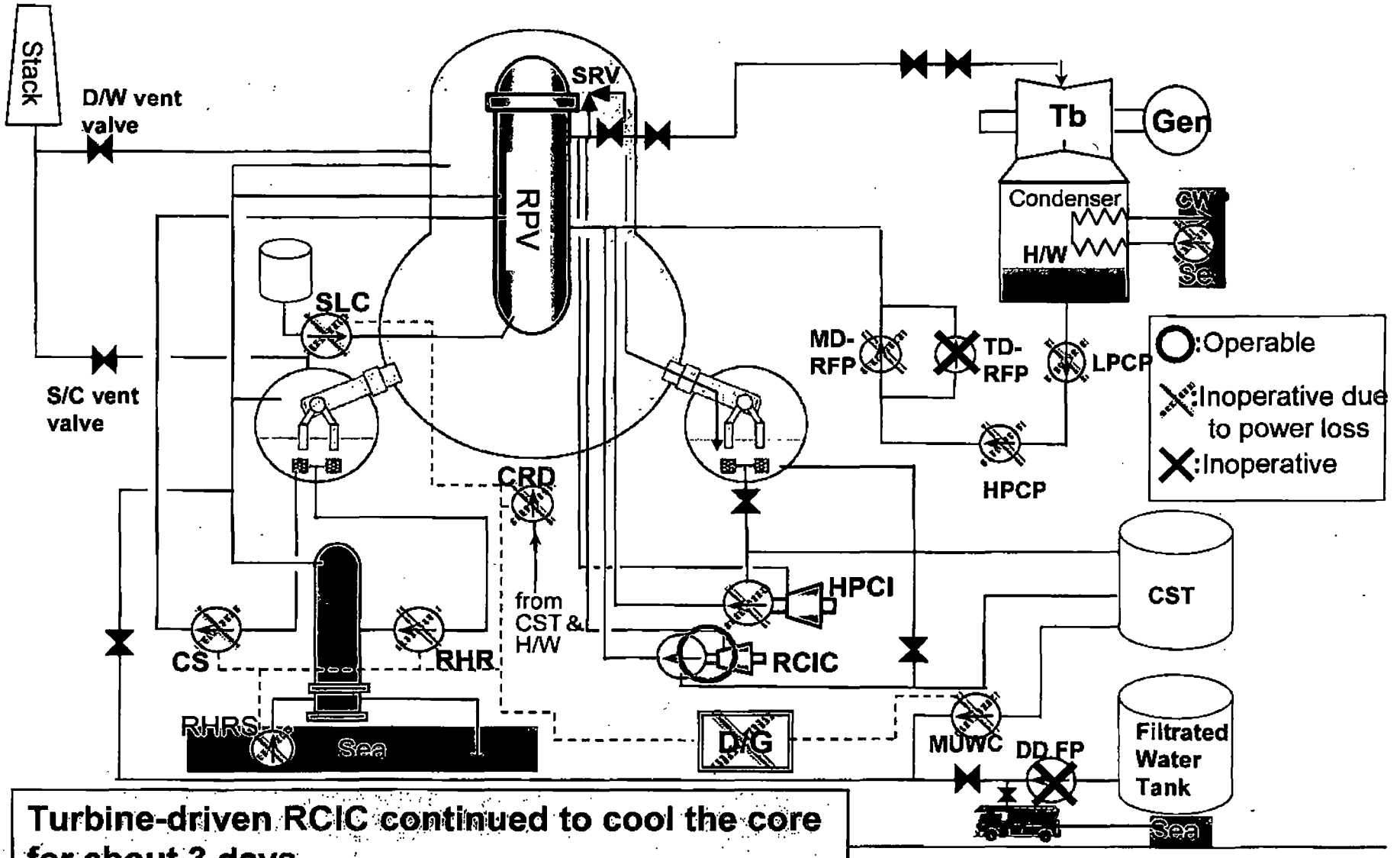
Fukushima has flat coastline and historically experienced significantly lower tsunami height compared to Iwate.

1F Unit 1 Schematic System Diagram (Post-Tsunami Status)



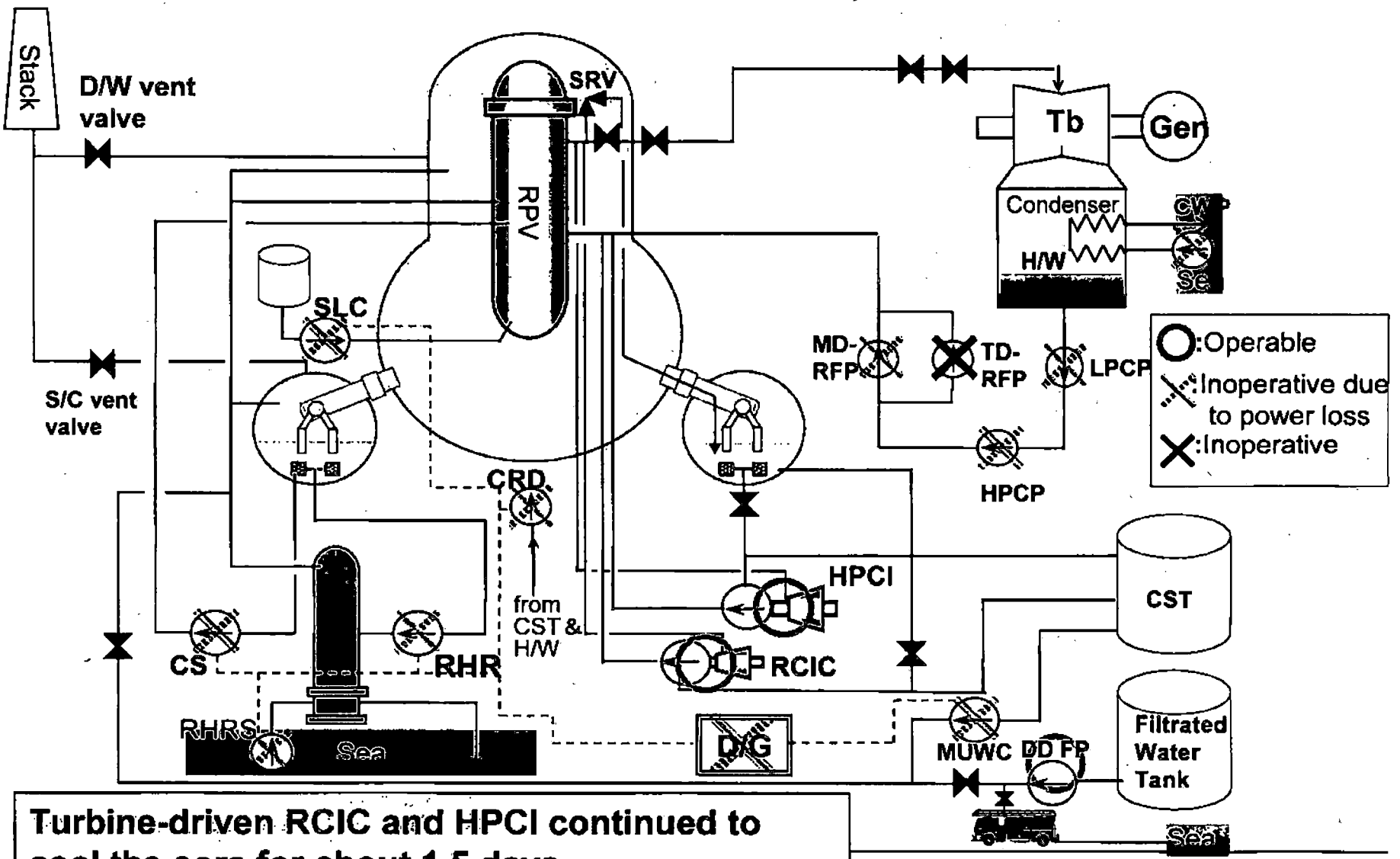
- Reactor automatically shutdown after earthquake.
- Earthquake caused loss of off-site power.
- Tsunami caused loss of all emergency power, rendering most safety systems inoperable.

1F Unit 2 Schematic System Diagram (Post-Tsunami Status)



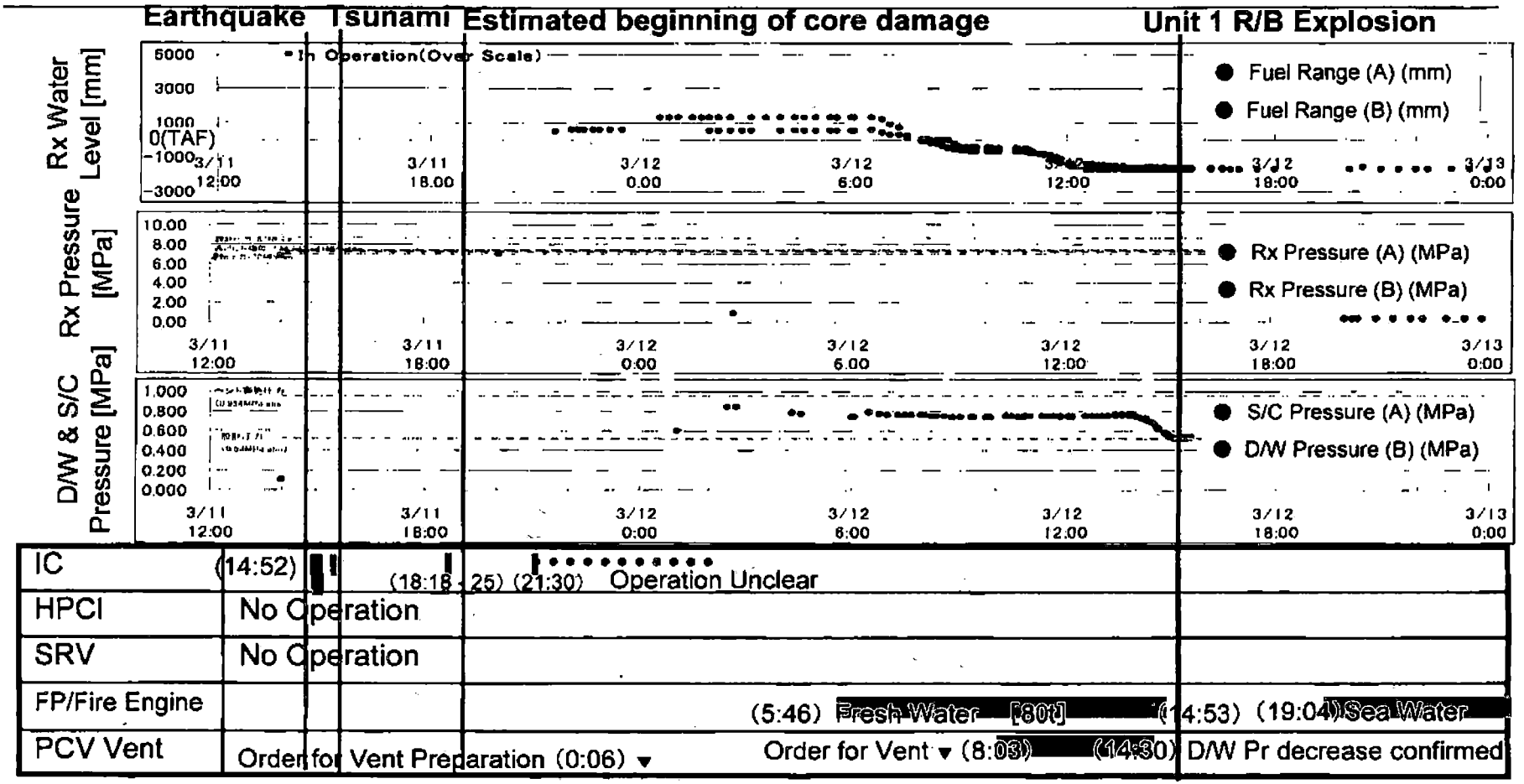
Turbine-driven RCIC continued to cool the core for about 3 days.

1F Unit 3 Schematic System Diagram (Post-Tsunami Status)



Turbine-driven RCIC and HPCI continued to cool the core for about 1.5 days.

1F Unit 1 Plant Parameter and Operation



- **Plant status became unknown after tsunami.**
- **Inadequate core cooling led to core damage, hydrogen generation and hydrogen explosion.**

Accident Response at 1F

<Challenging Condition in Field>

Tsunami-drifted obstacles blocked roads.

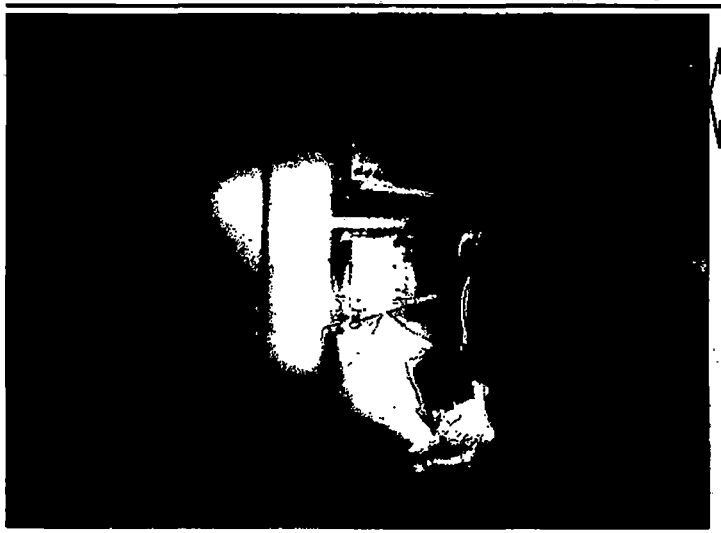
Hazardous road conditions.

Fire hoses laid for reactor water injection restricted field access by vehicles.

Challenging conditions exacerbated by continual aftershocks/tsunami alerts.

Accident Response at 1F

<Challenging Condition in Main Control Room>



Checked instrumentation in near-complete darkness.

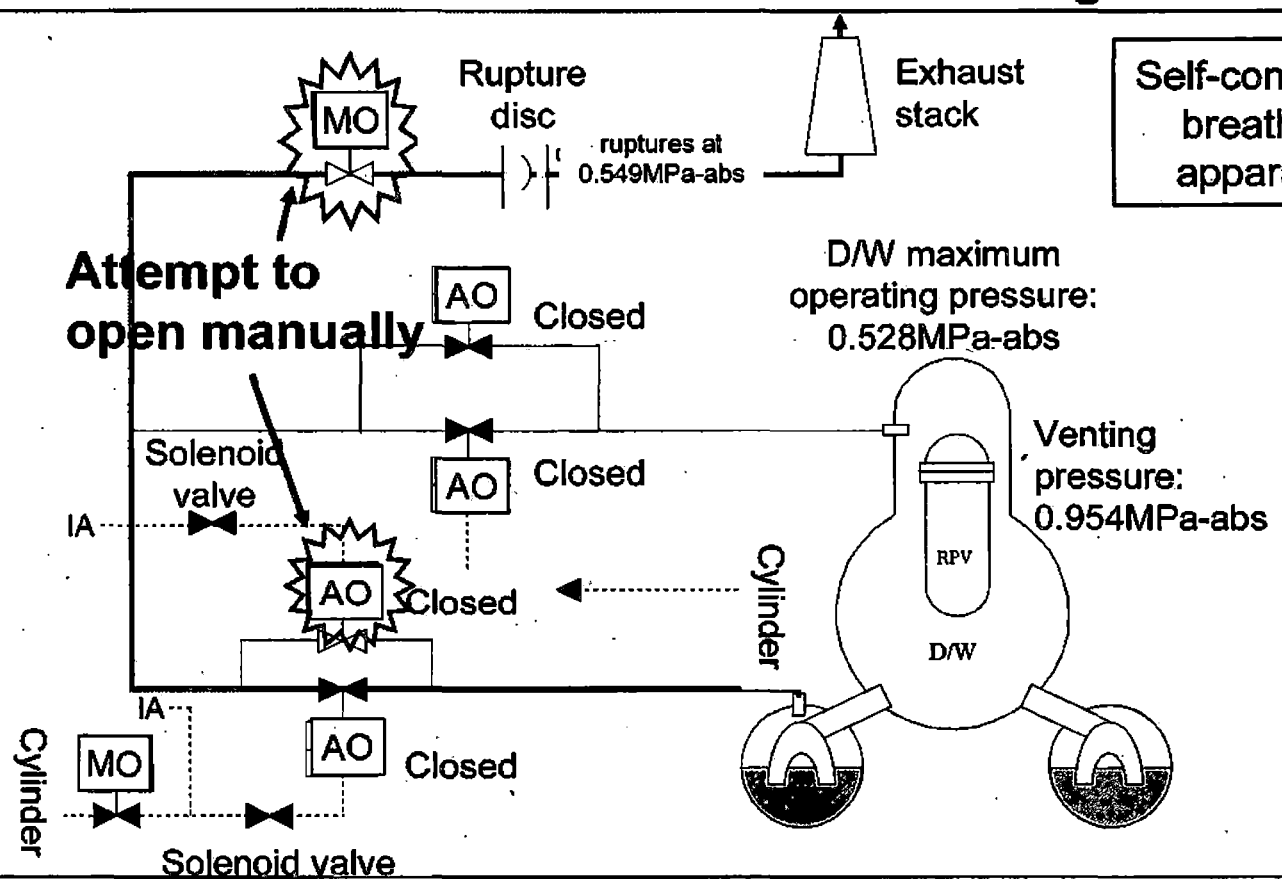
Supervised operation wearing full-face mask.

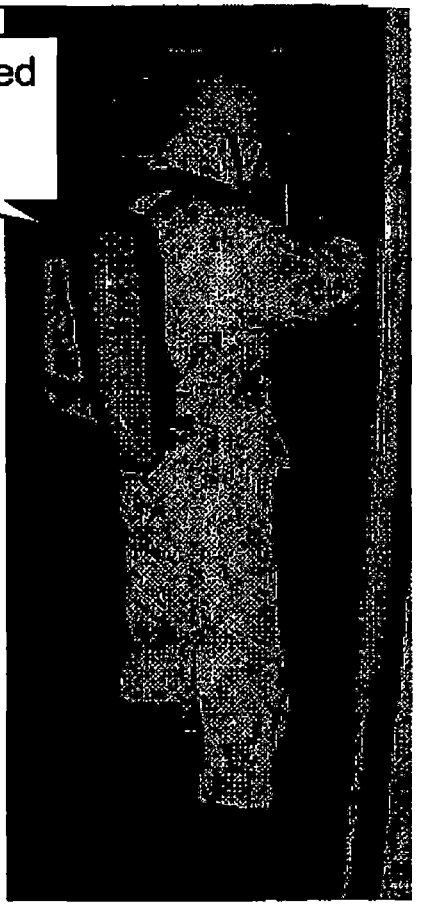
Brought in heavy batteries to restore instrumentations.

- **Lack of:**
  instrumentation, communication means, lighting, food, water, sleep, ...
- **Increase in:**
  radiation level, fatigue, fear, despair, ...

Accident Response at 1F

<Containment Vessel Venting in Unit-1>



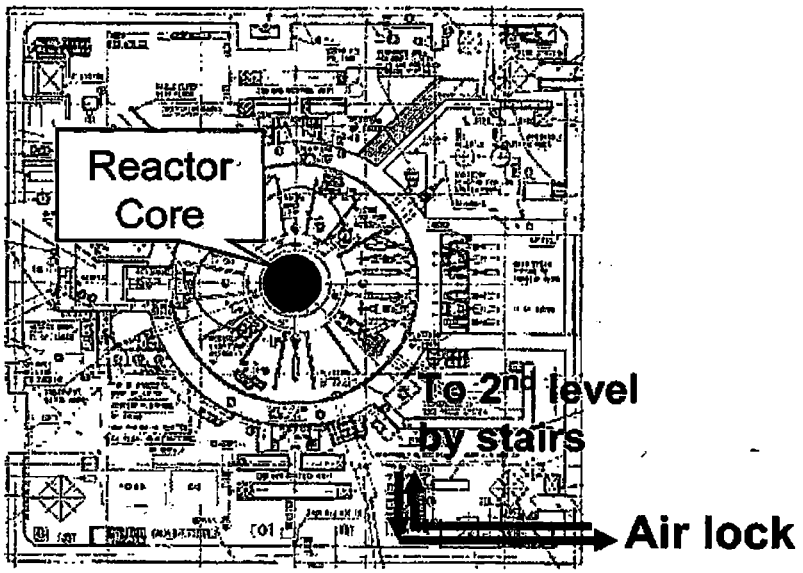


Protective gears upon entering reactor building.

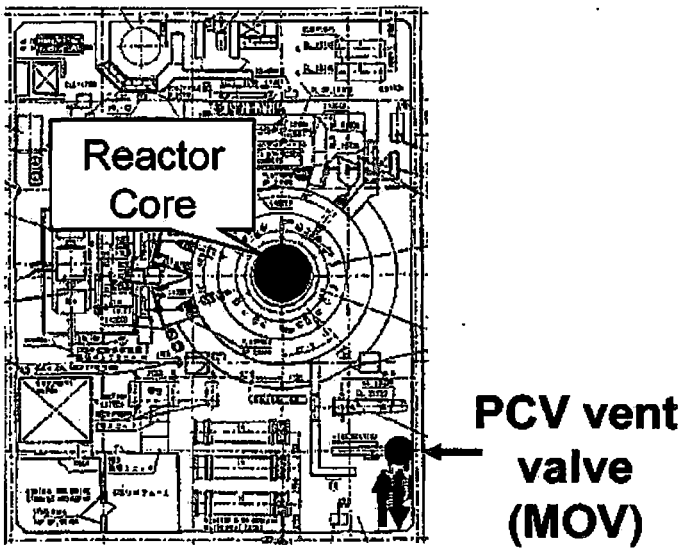
- **Six men formed 3 teams to manually open 2 valves in highly-radioactive area to vent containment.**
- **Core damage estimated to have progressed by time of this action (3/12 9:04-9:30).**

Accident Response at 1F

<Containment Vessel Venting in Unit-1 (cont'd)>



R/B 1st level



R/B 2nd level

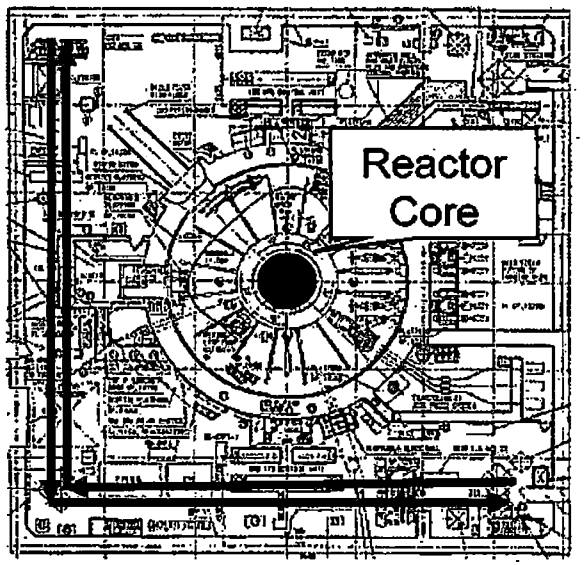
Access Route to PCV Vent Valve (MOV)

1st team's attempt to manually open PCV vent valve (motor-operated valve).

➡ **Successful.** (3/12 9:15)

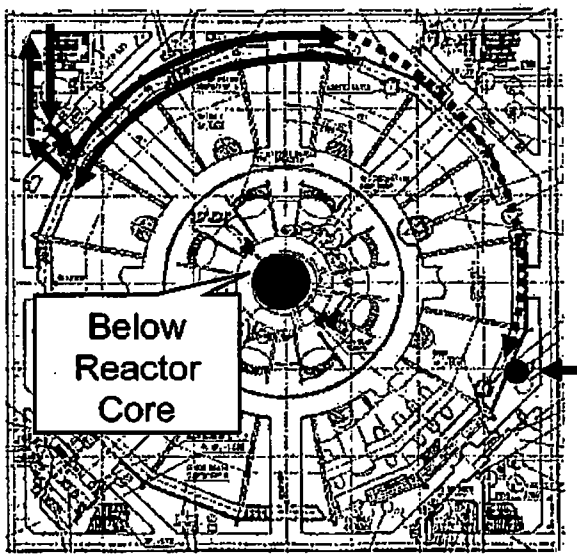
Accident Response at 1F

<Containment Vessel Venting in Unit-1 (cont'd)>



Air lock

R/B 1st level



S/C vent valve (AOV)

R/B B1F

Access Route to S/C Vent Valve (AOV)

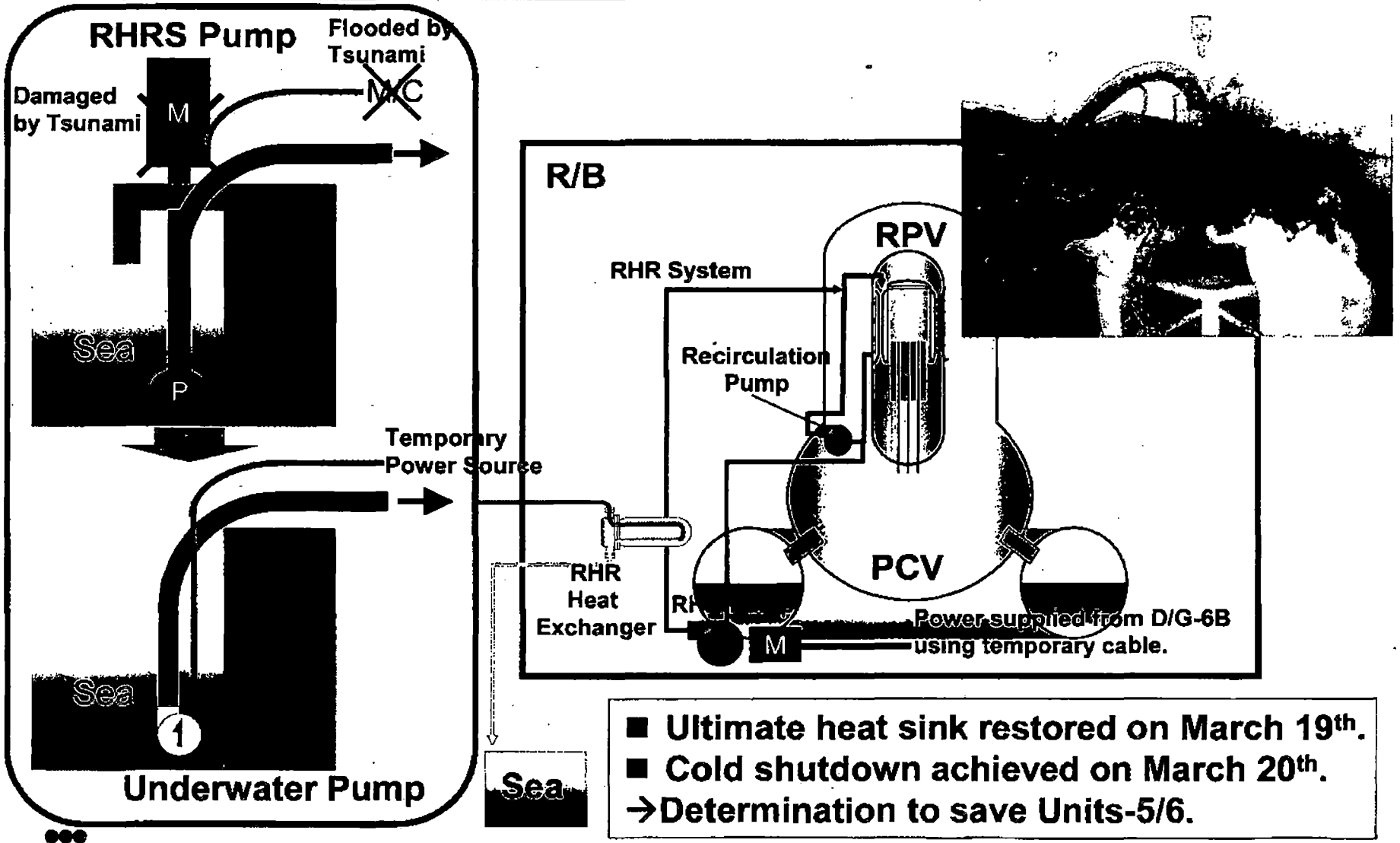
2nd team's attempt to manually open S/C vent valve (air-operated valve).

➡ **Unsuccessful due to extremely high radiation. Operator exposed to 100+ mSv (10+ rem.)** (3/12 9:30)

AOV eventually opened by remote operation. (3/12 14:00)

Accident Response at 1F

<Preventing Core Damage of Units-5/6>



- Ultimate heat sink restored on March 19th.
- Cold shutdown achieved on March 20th.

→Determination to save Units-5/6.

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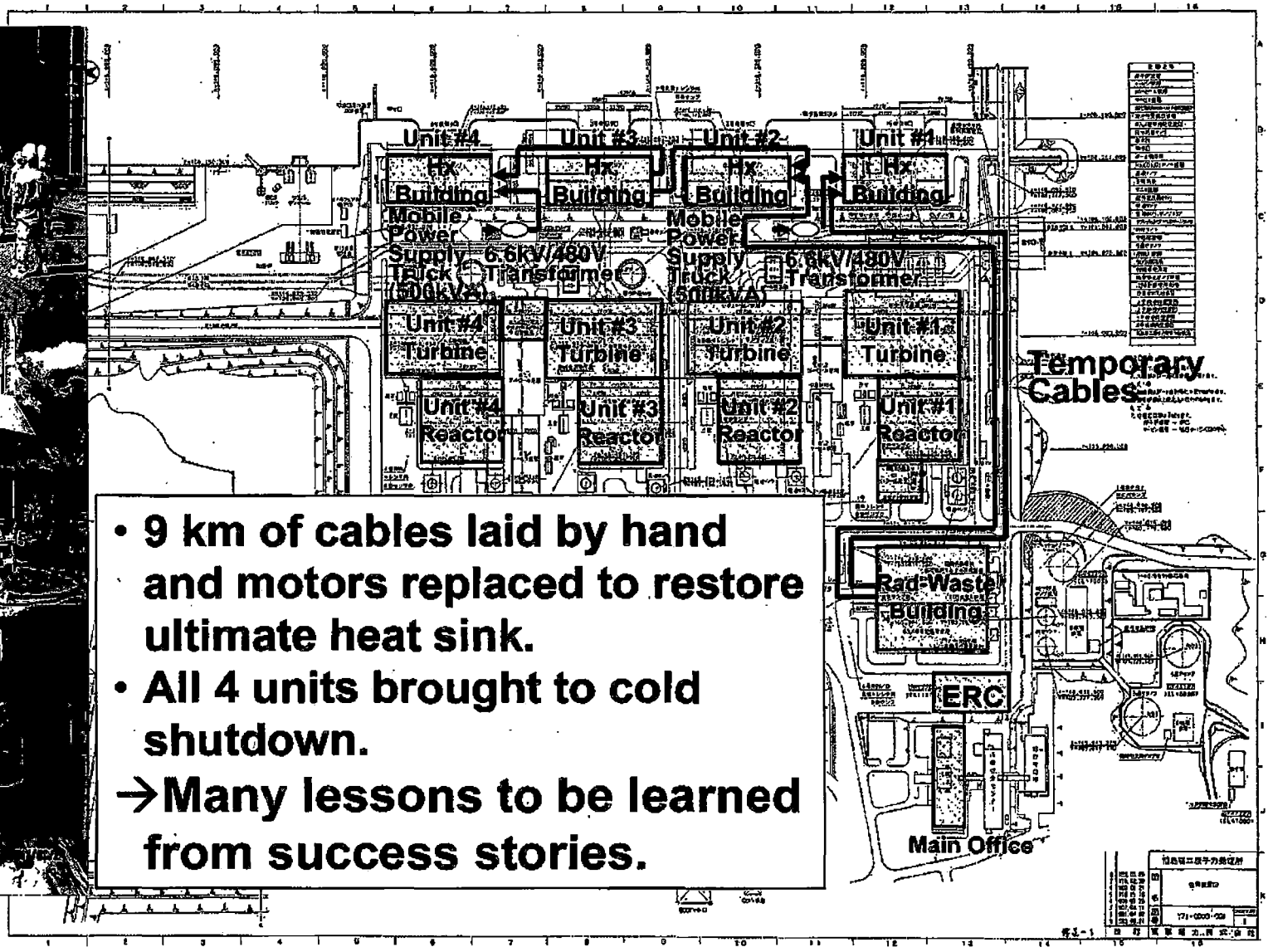
Accident Response at 2F

<Temporary Power Supply and Motor Replacement>



- 9 km of cables laid by hand and motors replaced to restore ultimate heat sink.
- All 4 units brought to cold shutdown.

→Many lessons to be learned from success stories.

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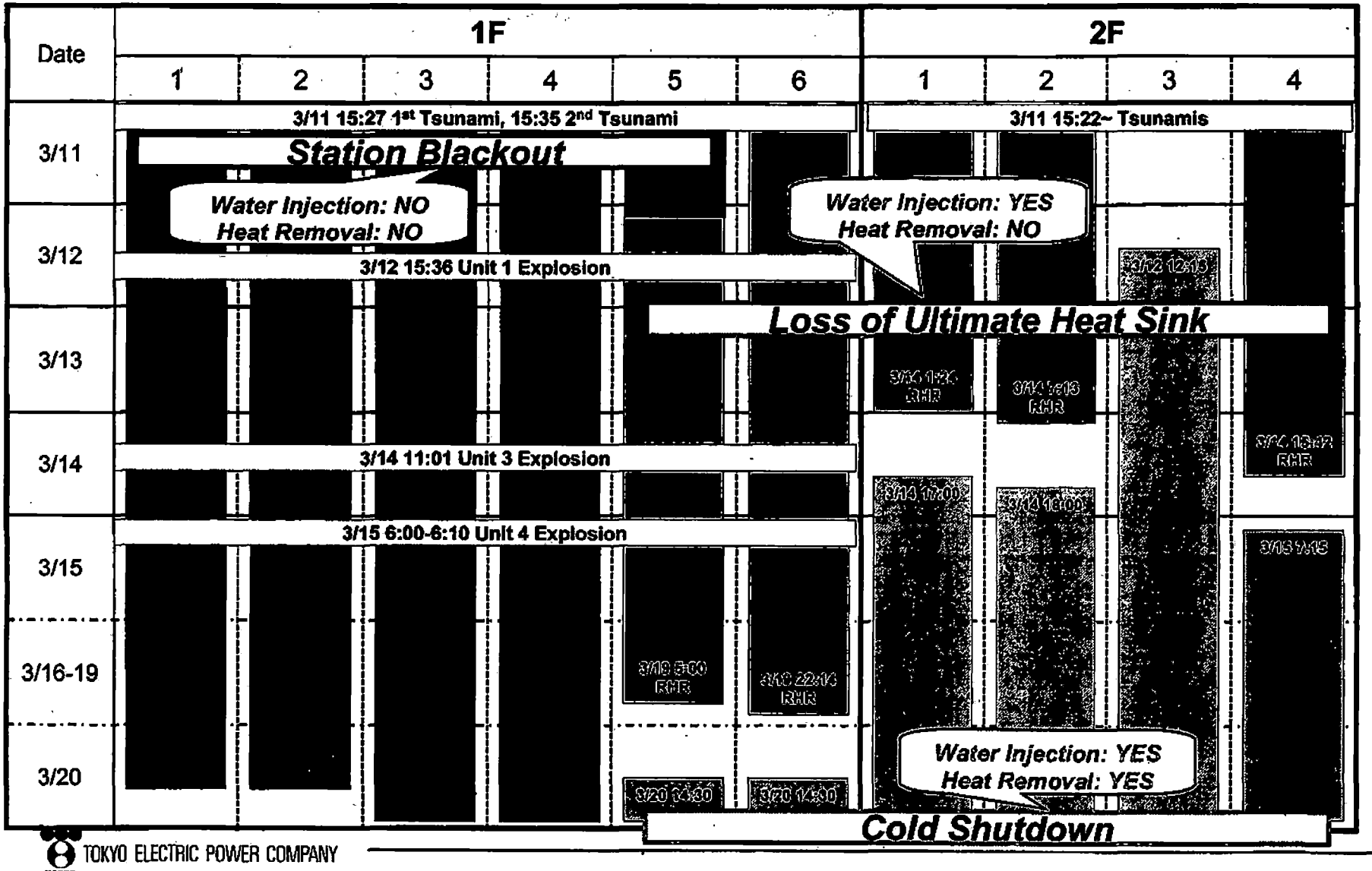
Overview of the 10-Unit Simultaneous Accidents



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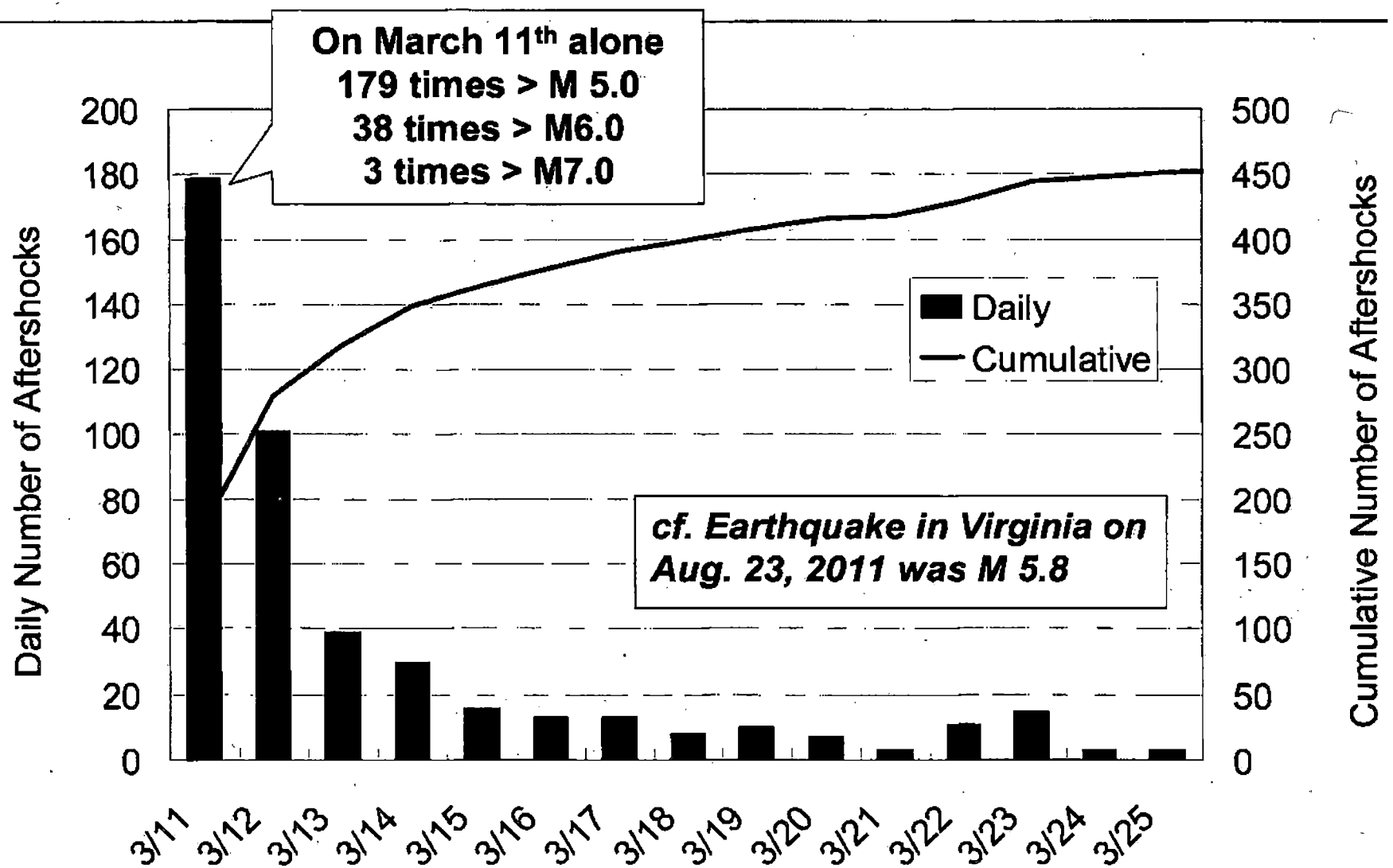
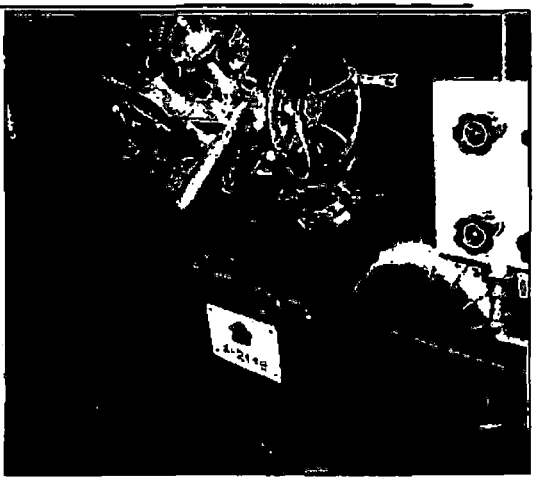
Hundreds of Aftershocks Greater than M 5.0



(Source) Japan Meteorological Agency

Voices from the Field

- "In an attempt to check the status of Unit 4 D/G, I was trapped inside the security gate compartment. Soon the tsunami came and I was minutes away from being drowned, when my colleague smash opened the window and saved my life."
- "In total darkness, I could hear the unearthly sound of SRV dumping steam into the torus. I stepped on the torus to open the S/C spray valve, and my rubber boot melted."
- "The radiation level in the main control room was increasing by 0.01 mSv (1 mrem) every 3 seconds but I couldn't leave—I felt this was the end of my life."
- "I asked for volunteers to manually open the vent valves. Young operators raised their hands as well."
- "Unit 3 could explode anytime soon, but it was my turn to go to the main control room. I called my dad and asked him to take good care of my wife and kids should I die."



Torus Room

Unit 1 Main Control Room

D/G: Diesel Generator
SRV: Safety Relief Valve
S/C: Suppression Chamber

Internal Investigation Committee Final Report

- Issued on June 20, 2012
  - Main body: 373 pages; Appendix: 567 pages
- Chapters

1. Purpose
2. Overview
3. Preparation for Earthquakes/Tsunamis
4. Securing Reactor Safety
5. Emergency Preparedness
6. Impact of Earthquake
7. Impact of Tsunami
8. Immediate Response at 1F Units 1-3
9. Response Related to SFPs
10. Support to Site
11. Explosion Evaluation for 1F Units 1, 3 and 4
12. Radioactivity Release Evaluation
13. Radiological Protection
14. Lessons Learned: "Tangible"
15. Lessons Learned: "Intangible"
16. Cause and Countermeasures
17. Conclusions

Lessons Learned and Countermeasures
"Tangible" Modifications

- Flood Protection
- High-pressure Injection System
  - RCIC, SLC, CRD
- Depressurization System
  - N_2 Cylinders, Batteries
- Low-pressure Injection System
  - FP, MUWC
- Heat Removal/Cooling System
  - Containment venting, shutdown cooling, SFP cooling
- Power Supply for Instrumentation
- Post-Core Damage Mitigation
  - Hydrogen accumulation prevention, radioactivity release mitigation
- Common Items
  - Off-site power, rubble removal, communication system, lighting, RP, etc.
- Mid-to-Long Term Items
  - Reliable/filtered venting, post-accident instrumentation, reliable high-pressure system, etc.

Lessons Learned and Countermeasures
"Intangible" Modifications

- Operational Measures in Relation to Tangible Modifications
- Emergency Preparedness
  - Organization, command and control
  - Long-term coping plan
  - Immediate response plan
- Information Dissemination and Sharing
- Roles and Responsibilities
- Information Disclosure
- Transportation of Resources
- Access Control
- Radiological Protection
- Plant Status Recognition
- Suggestions to Japanese Government
  - Off-site center, procurement, dose limit, external hazards criteria, tsunami data, low-dose radiation health effects

Immediate Safety Measures at Kashiwazaki-Kariwa NPS

Spare sea water pumps

Spare gas cylinders to depressurize RPV

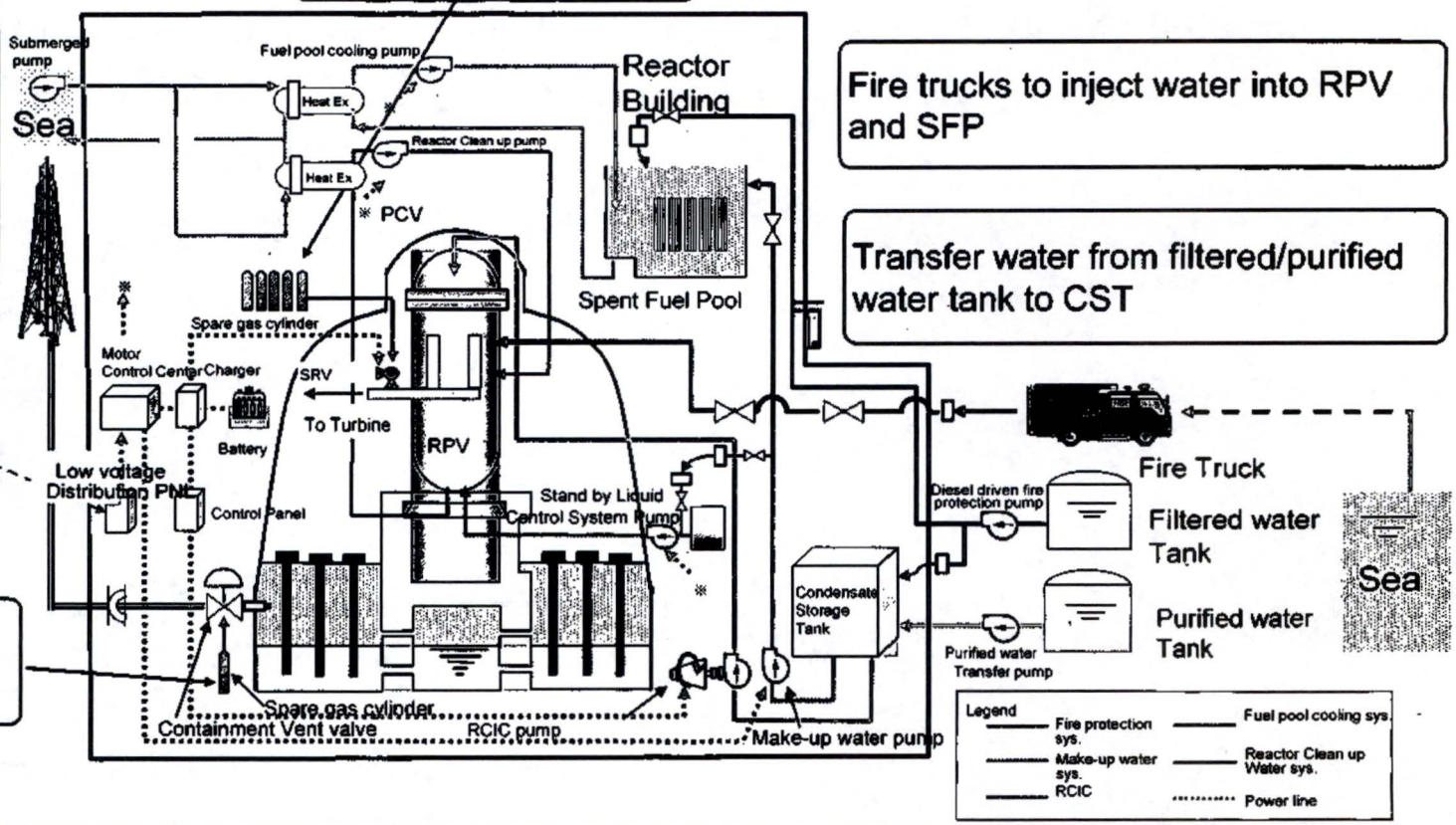
Emergency Power
- High voltage power trucks
- Portable generators
- Spare cables

Fire trucks to inject water into RPV and SFP

Transfer water from filtered/purified water tank to CST

Mobile power trucks

Spare gas cylinders to depressurize PCV



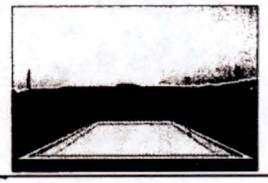
- **Revamped safety at TEPCO's 7-unit nuclear power station.**
- **Issued 1,300+ page Phase 1 Stress Test Reports.**

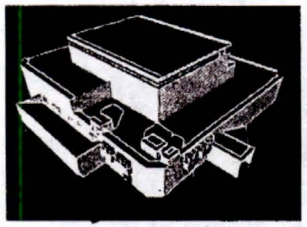
Further Safety Measures at Kashiwazaki-Kariwa NPS

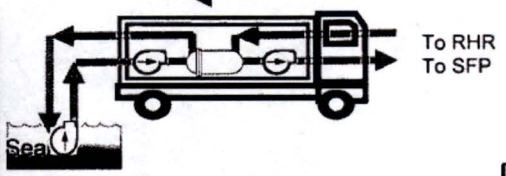
Enforcement of injection and heat removal
- Submerged pump
- Heat exchanger truck
- Spare hose

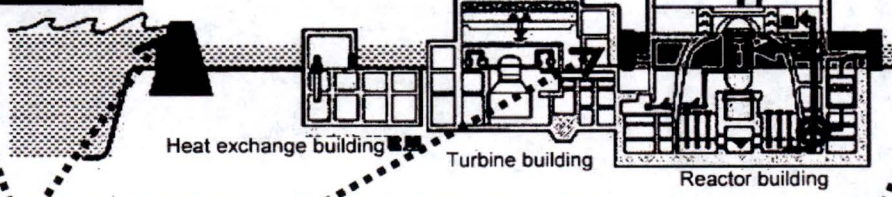
Prevention of accumulating Hydrogen
(1)Top vent on Reactor Building

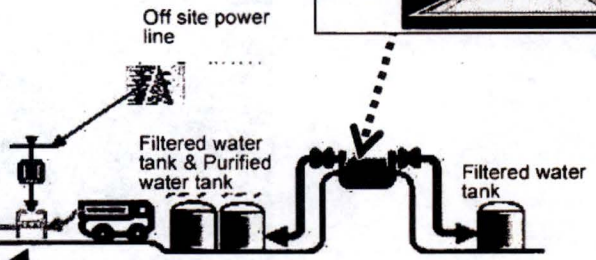
Enforcement of injection and heat removal
(2)Reservoir on site.











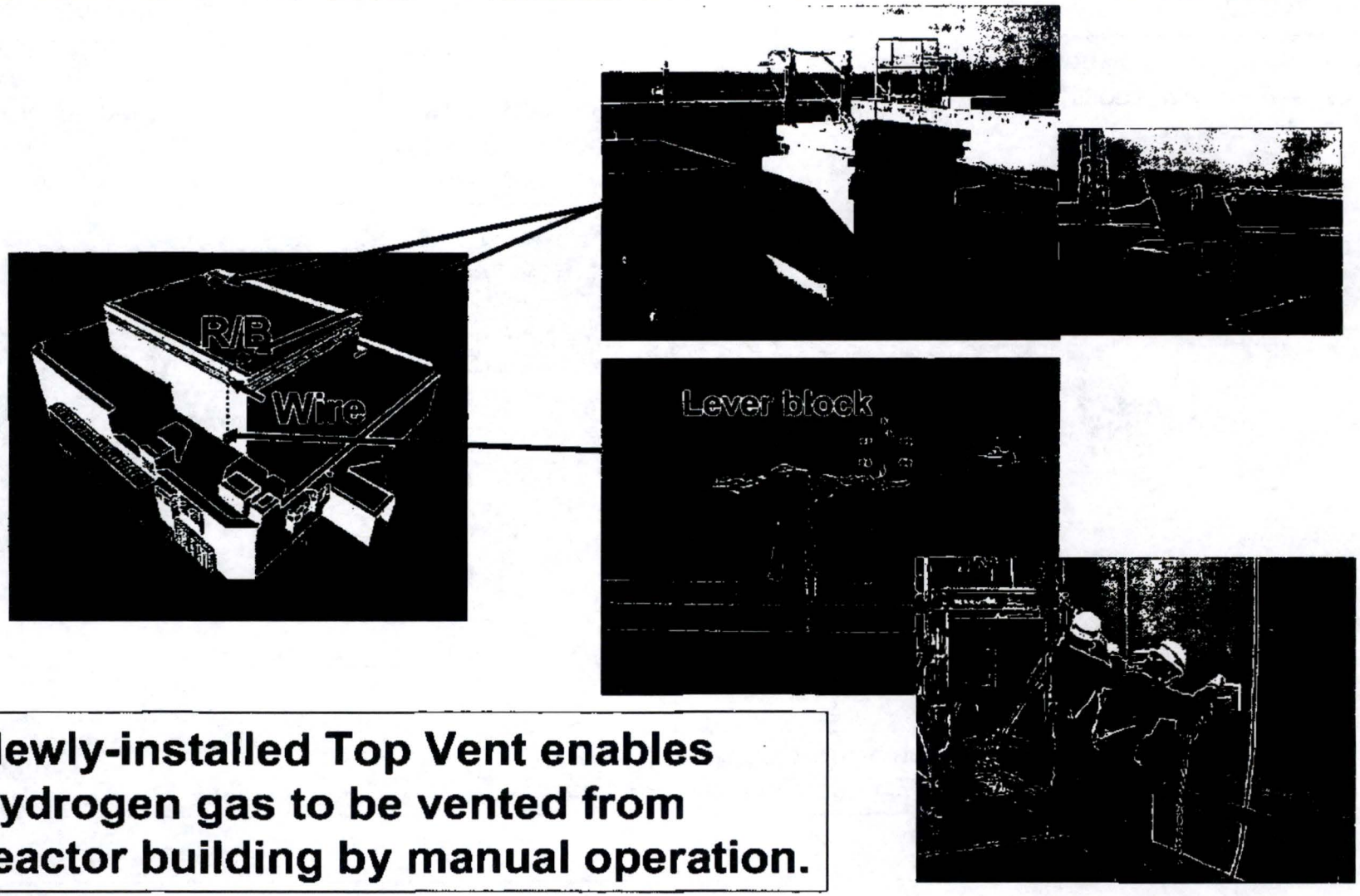
Others
(1) Additional monitoring cars

(2) Additional warehouse for emergency materials on the hill

Enforcement of protection for flooding
(1)Embankment
(2)Wall
(3)Water-tight doors in Reactor Building

Enforcement of power source
(1)GT-driven generator truck
(2)Emergency high voltage distribution panel
(3)Cable from emergency high voltage panel for RHR

Reactor Building Top Vent at Kashiwazaki-Kariwa NPS

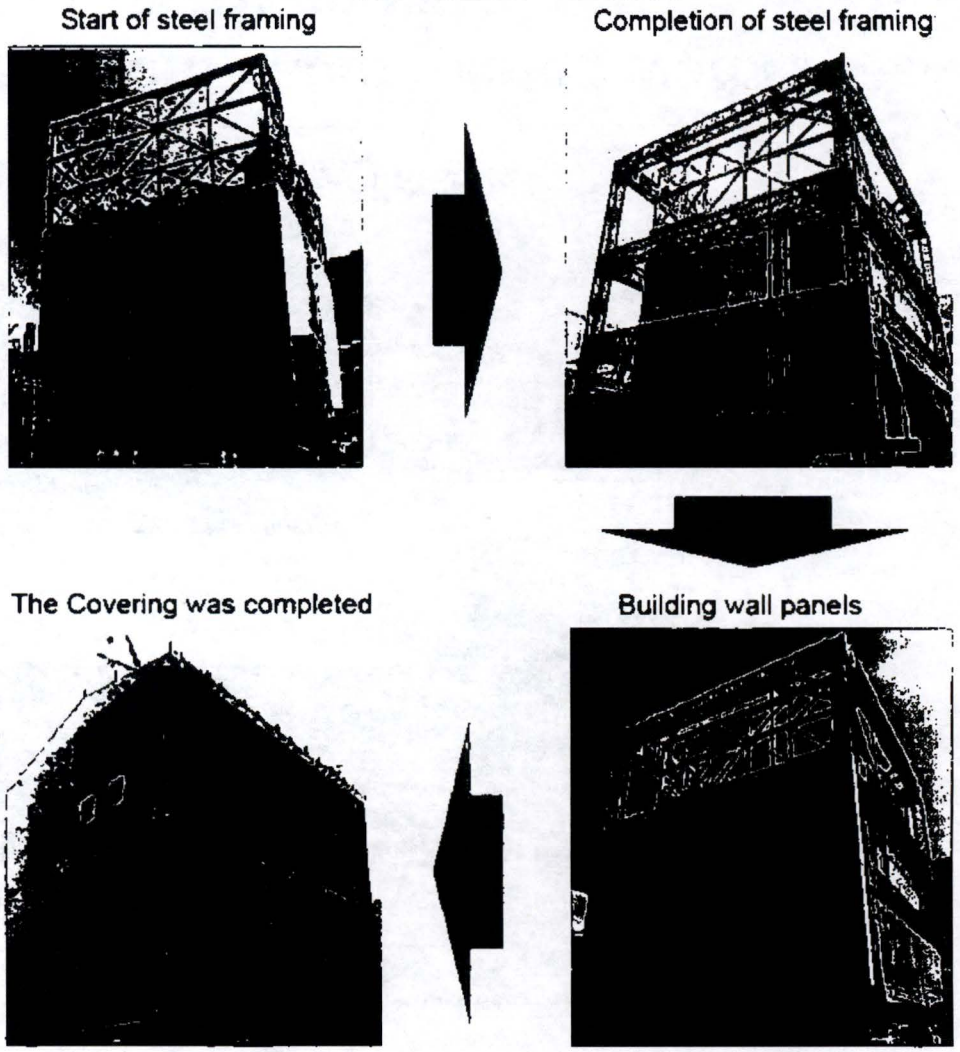


Newly-installed Top Vent enables hydrogen gas to be vented from reactor building by manual operation.

Current Status of 1F and Roadmap Towards Restoration

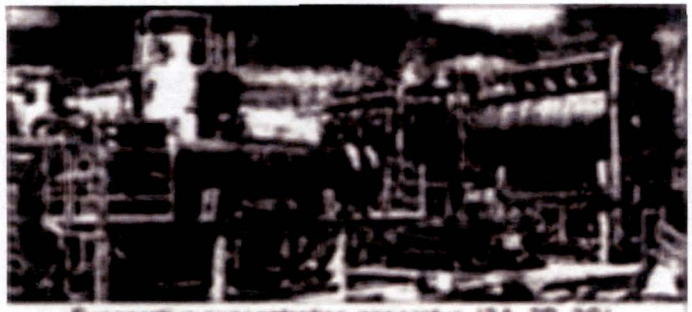
Achieved goals of Step 2 of Roadmap Towards Restoration on Dec. 16, 2011.

- ✓Reactors achieved "cold shutdown condition"
- ✓Sufficiently low radiation dose at the site boundary can be maintained

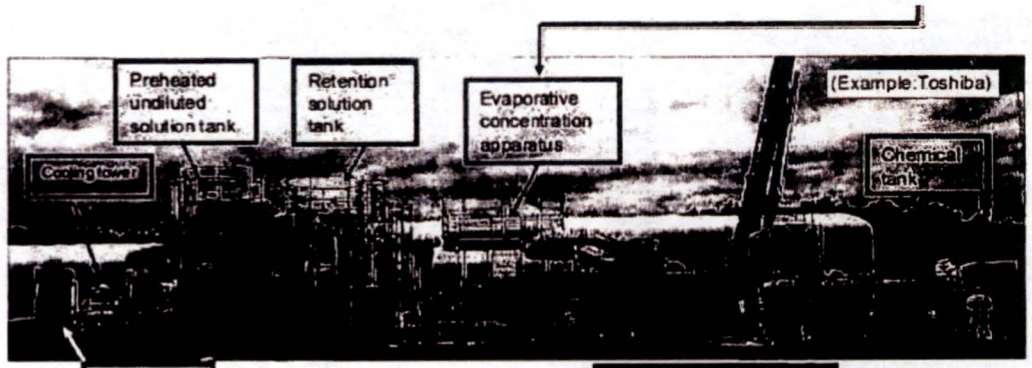


Unit 1 Reactor Building Cover

Current Status of 1F and Roadmap Towards Restoration (cont'd)

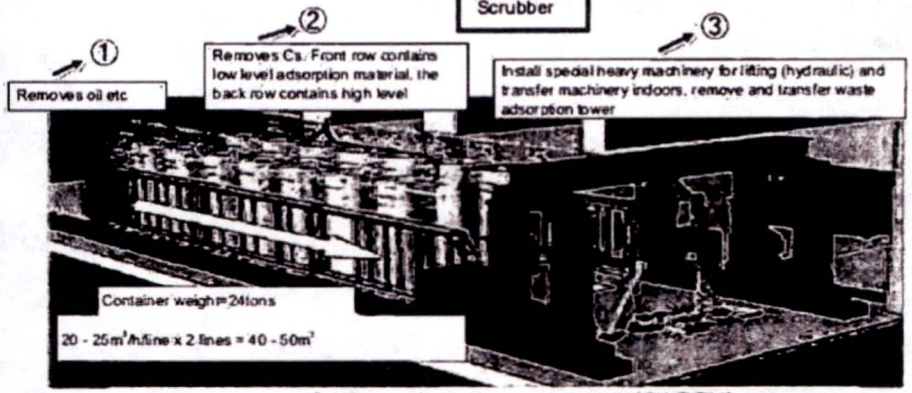


Evaporative concentration apparatus (3A, 3B, 3C)



① Installation of cesium adsorption tower

② Cesium adsorption towers



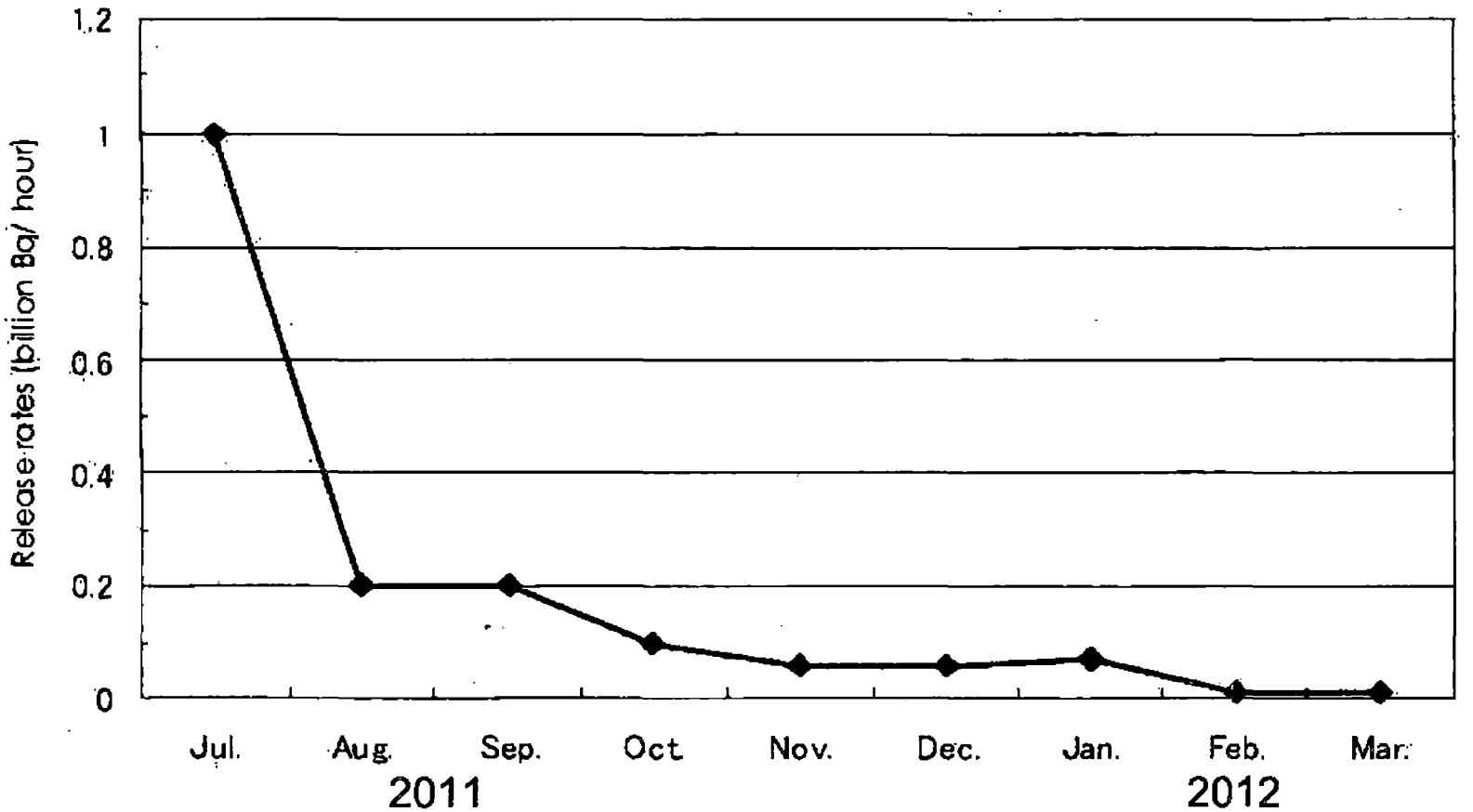
Cesium adsorption apparatus (SARRY)

③ Installation of lifter for changing adsorption towers

Accumulated Water Treatment Facilities

Contamination removed from accumulated water and reused for reactor cooling.

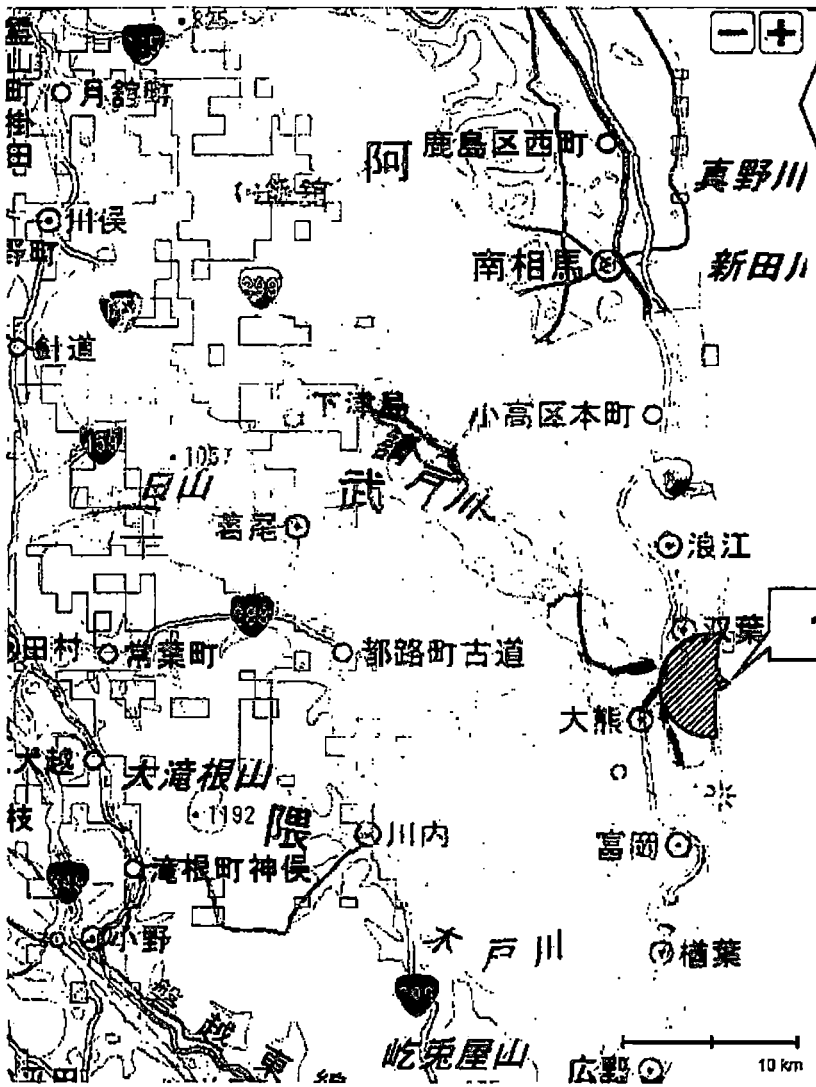
Current Status of 1F and Roadmap Towards Restoration (cont'd)



Estimated radiation dose due to current release

1/50 of statutory limit at site boundary. (as of March, 2012)

Current Status of 1F and Roadmap Towards Restoration (cont'd)



(Source) http://ramap.jaea.go.jp/map/map.html

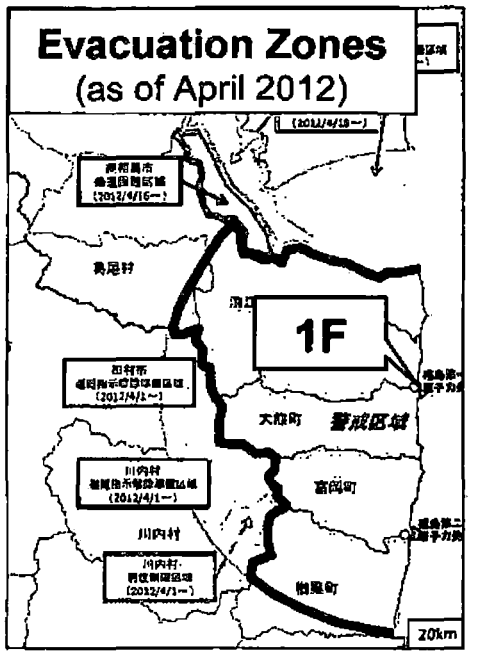
Aerial Radiation Dose Map

(μSv/h at 1 m above ground; as of Feb. 2012)

	19.0 < 測定値
	9.5 < 測定値 ≦ 19.0
	3.8 < 測定値 ≦ 9.5
	1.9 < 測定値 ≦ 3.8
	1.0 < 測定値 ≦ 1.9
	0.5 < 測定値 ≦ 1.0
	0.2 < 測定値 ≦ 0.5
	0.1 < 測定値 ≦ 0.2
	測定値 ≦ 0.1

1 μSv/h = 8.76 mSv/y

2.28 μSv/h = 20 mSv/y



(Source) http://www.meti.go.jp/earthquake/nuclear/pdf/20120401map.pdf

Evacuation zones to be relaxed for areas below 20 mSv/y.

Evaluation of Atmospheric Release of Radioactivity

Input data (meteorological, dose rate, release point)

↓

Calculate release rate

↓

Allocate release rate among noble gas, I, Cs

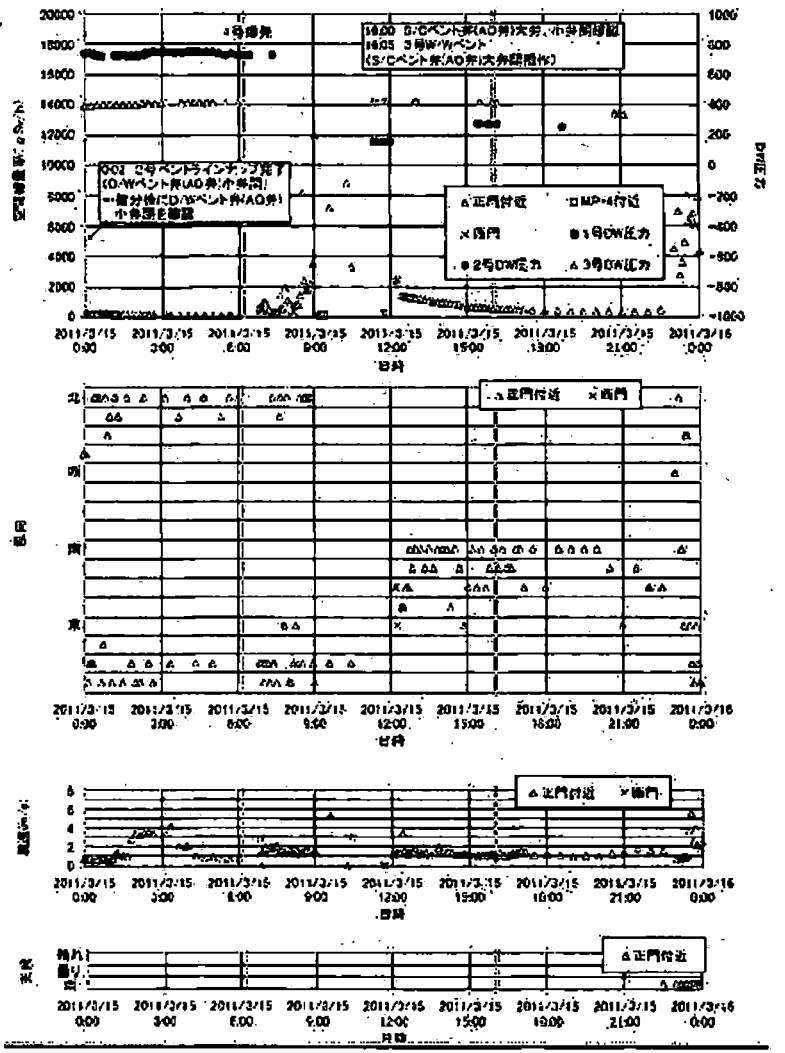
↓

Evaluate Cs deposition

Compare with other studies.

Compare with MEXT survey

Evaluation Flow Using *DIANA* Code



Dose rate, plant parameter, meteorological data on March 15

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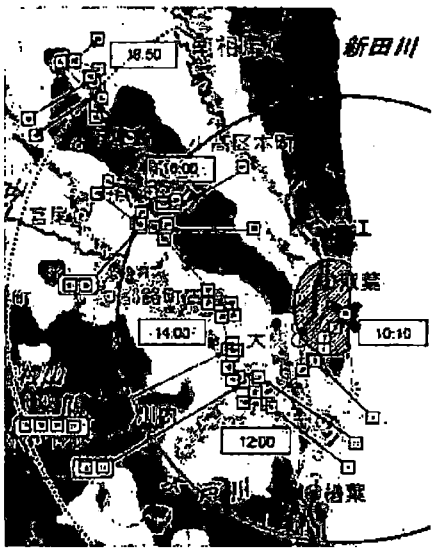
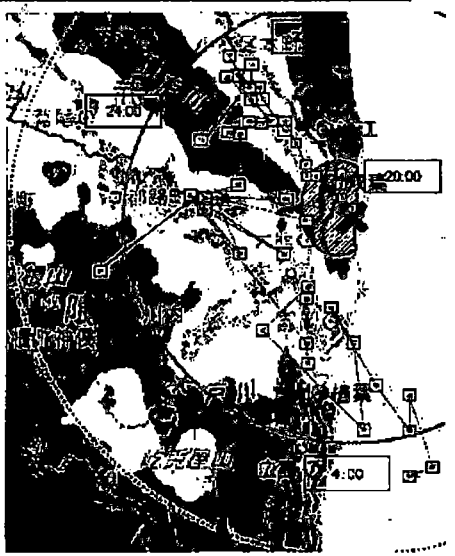
Evaluation of Atmospheric Release of Radioactivity (cont'd)

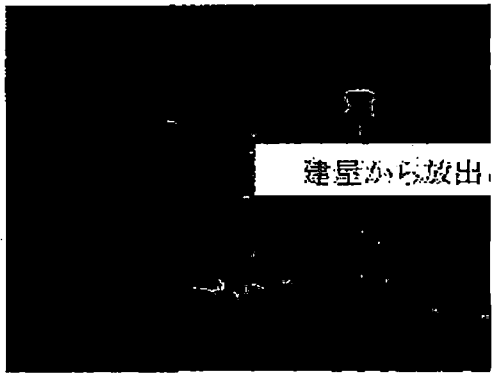
Trajectory of Plume Released from Unit 2 R/B



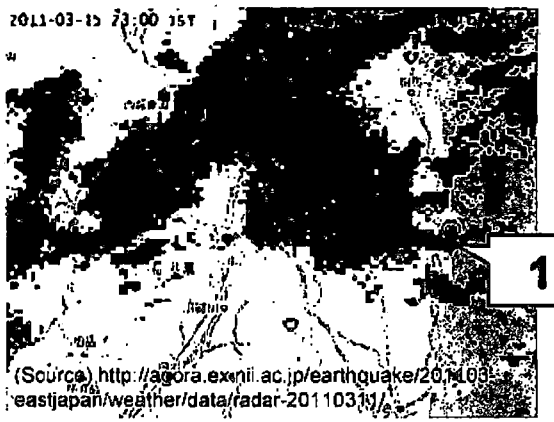
March 15 at 10am



March 15 at 8pm



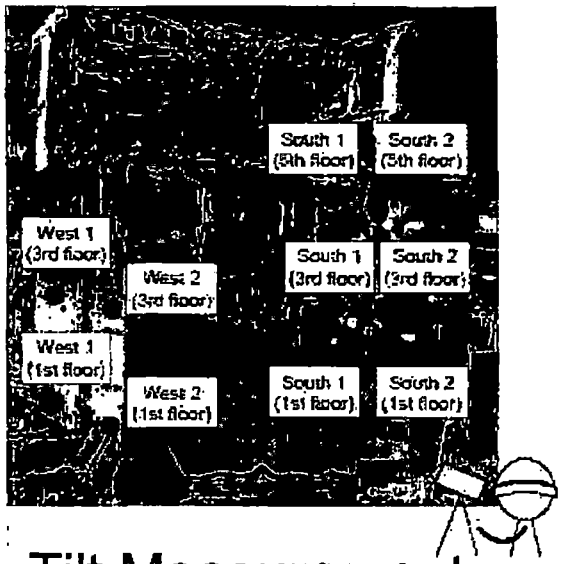
Steam Released on March 15 at 10am



Rain Cloud Observed on March 15 at 11pm

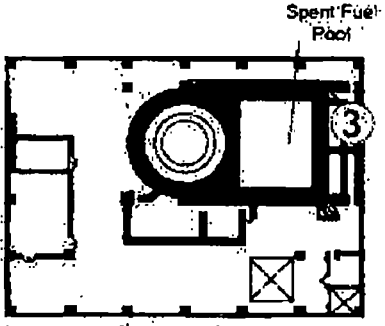
- **Estimated release in INES scale: 900 PBq (cf. approx. 1/6 of Chernobyl)**
- **High-radiation zone in NW likely due to direct release from Unit 2 R/B.**
- **Containment venting of Units 1-3 *not* dominant contributor for total release.**

Confirmation of Structural Integrity of 1F Unit 4 R/B



Tilt Measurement

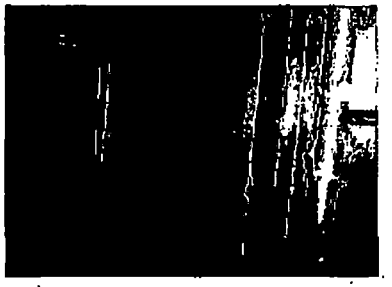
Non-destructive Inspection of Concrete (Schmidt Hammer)



3rd Floor Plan

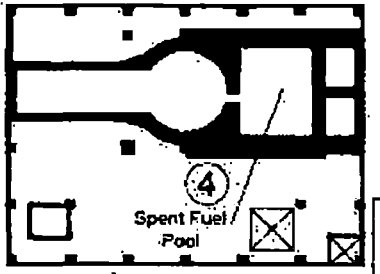
3

3rd Floor



The spent fuel pool wall

Visual Inspection of Cracks



4th Floor Plan

Legend

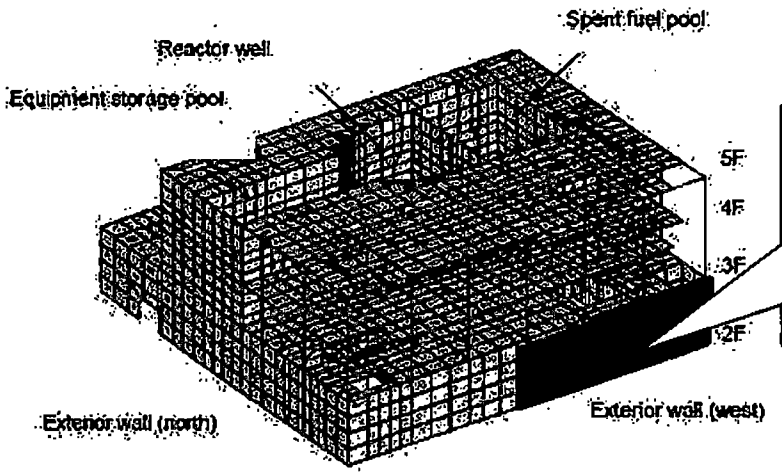
— Visual inspection

4

4th Floor

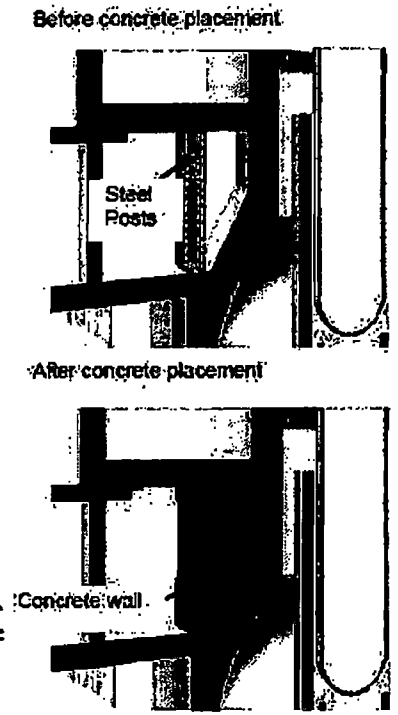
The spent fuel pool wall

Confirmation of Structural Integrity of 1F Unit 4 R/B (cont'd)



No credit taken for rigidity of slightly bulged outer wall (as well as of damaged walls).

3D Finite Element Method Analysis



Reinforcement of SFP Floor

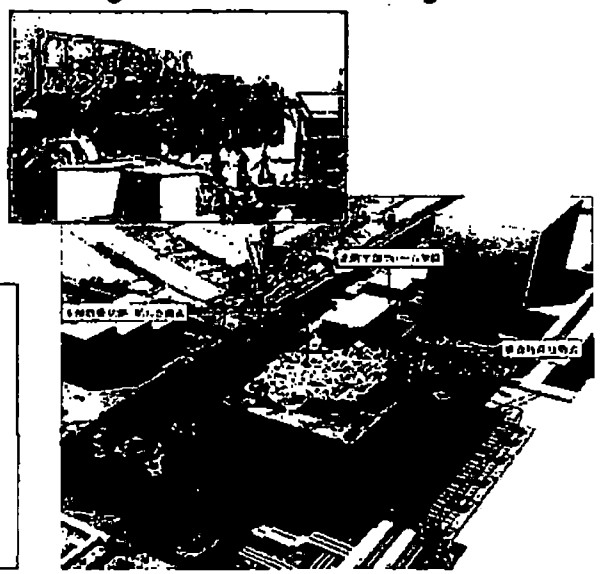
- Structural integrity confirmed by tilt measurement, visual inspection, non-destructive inspection.
- Seismic safety margin confirmed against design-basis seismic ground motion by seismic response analysis and 3D-FEM analysis.
- Additional seismic margin (20%) added by reinforcement of SFP floor.

Mid- to Long-Term Road Map Towards Decommissioning of 1F Units 1-4

Completion of Step 2	Within 2 years	Within 10 years	30 to 40 years
Phase-1	Phase-2	Phase-3	
Begin removal of fuels from spent fuel pools	Begin removal of fuel debris	Complete decommissioning	

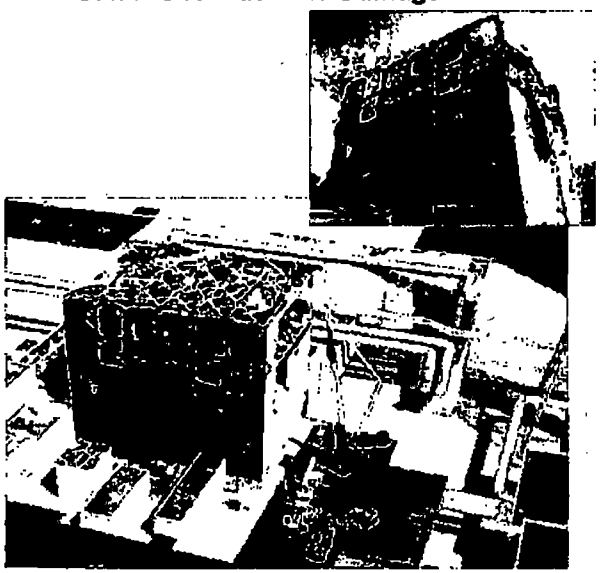
Global collaboration needed to work on unprecedented R&D undertaking.

Unit 3: Higher Dose rate and Damage



Heavy Equipments will be placed on the gantry and be operated Remotely

Unit 4: Lower Dose rate and Damage

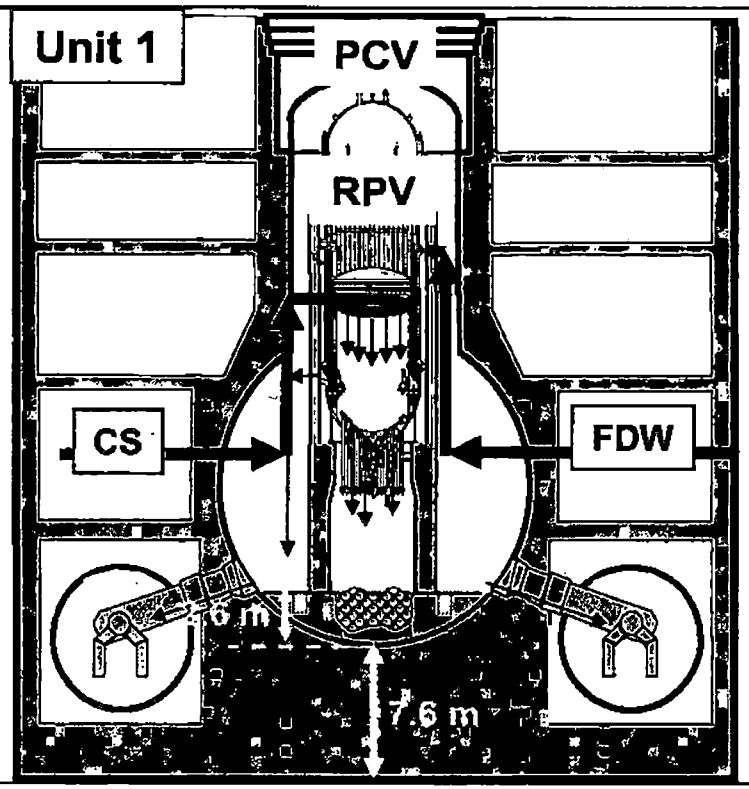


Manned, Larger Heavy Equipments are operated on the ground

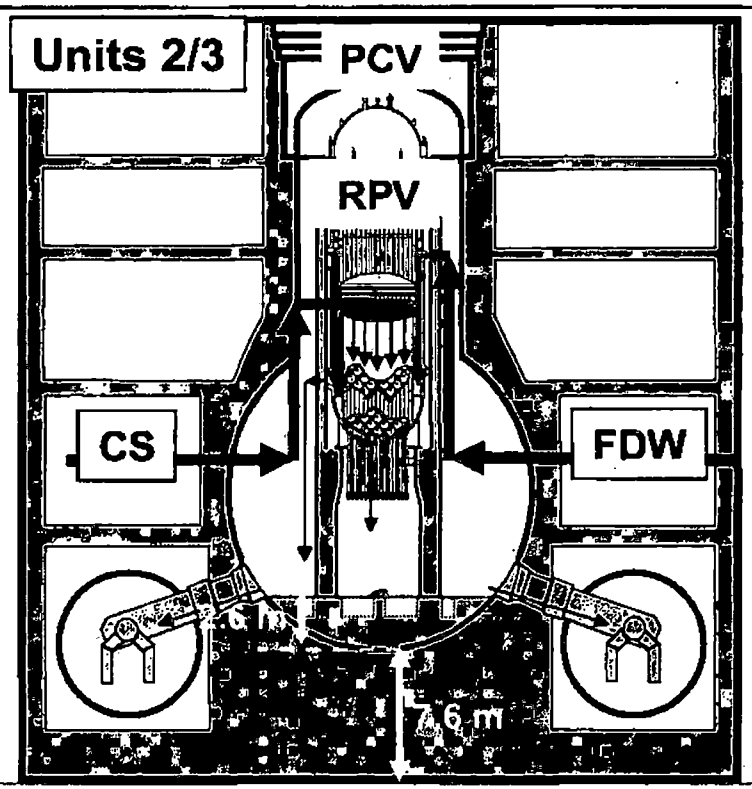
Removal of Rubbles from Reactor Buildings

TOKYO ELECTRIC POWER COMPANY

Analysis of Core Damage Condition of 1F Units 1/2/3



- Fuels completely melted and relocated to bottom of RPV.
- RPV breach likely occurred, leading to molten core-concrete interaction at PCV pedestal floor.
- Max. penetration depth of 0.65 m.

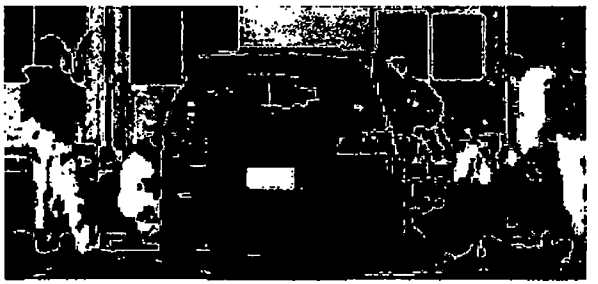


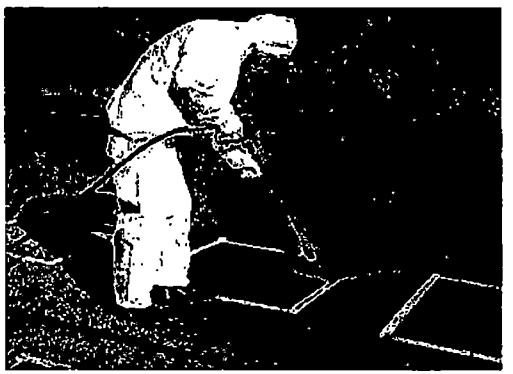
- Fuels damaged but significant damage to RPV leading to large amount of fuel dropping into PCV floor unlikely.
- If damaged fuel had to dropped into PCV floor, molten core-concrete interaction would have occurred .
- Max. penetration depth of 0.12 m (Unit 2) / 0.20 m (Unit 3).

Core-Concrete Interaction assumed to have stopped within PCV steel plate; fuel debris currently cooled.

Other Activities and Summary

- Compensation for afflicted people:
  - 1.01 trillion JPY (approx. $13 bn)
    (paid out as of July 2012)
- Cooperation with gov't in off-site radiation survey, decontamination work, etc.:
  - Approx. 1,420 man-days
    (as of May 2012)
- Assistance in temporary return of evacuees to homes.





TEPCO will continue to take every measure possible to:
- **Maintain safe and stable condition of 1F;**
- **Mitigate suffering of afflicted people of Fukushima;**
- **Disseminate lessons learned from accident globally.**

References

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http://www.tepco.co.jp/en/nu/fukushima-np/index-e.html
- TEPCO Fukushima Daiichi One-year Review
http://www.tepco.co.jp/en/nu/fukushima-np/review/index-e.html
- TEPCO Internal Investigation Committee Interim Report
http://www.tepco.co.jp/en/press/corp-com/release/11120205-e.html
- Mid- to Long-Term Road Map Towards Decommissioning of 1F Units 1-4
http://www.tepco.co.jp/en/press/corp-com/release/11122107-e.html
- NISA (Nuclear and Industrial Safety Agency)
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- Government Investigation Committee Interim Report
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http://www-pub.iaea.org/MTCD/Meetings/PDFplus/2011/cn200/documentation/cn200_Final-Fukushima-Mission_Report.pdf

New Comprehensive Special Business Plan

Tokyo Electric Power Company

[date]

TEPCO

INTRODUCTION

- The New Comprehensive Special Business Plan replaces the previous Comprehensive Plan.
- The new plan is a trilateral partnership among Japan's central government, TEPCO, and financial institutions.
- The plan focuses on (and substantially increases) compensation, and addresses the decommissioning of Fukushima Daiichi, nuclear safety, and TEPCO's future business operations.

OVERALL FRAMEWORK

A new trilateral package formed by the government, TEPCO, and financial institutions

Central government

Follow "Toward Hastening Fukushima's Recovery from the Nuclear Disaster," and produce immediately prior toward speeding up Fukushima reconstruction

Financial institutions/ shareholders

Request support in concert with efforts of government and TEPCO

- Growth financing (add ¥2 trillion in credit)
- Cooperate on shift to holding company structure
- Gradually discontinue privately placed bond scheme
- Dilution of shareholder value when NDF stockholdings have been sold (to 1/3)

TEPCO

Address both "responsibilities" and "competitiveness"

- Engage groupwide in taking end-to-end responsibility for accident and undertaking competitive initiatives
- With goal of improving corporate value in competitive environment after liberalization, work to speed up Fukushima reconstruction and minimize taxpayer burden for accident-response costs

- **Compensation** (for all down to the last person even though total exceeds ¥5 trillion)
- **Decommissioning** (aside from ¥1 trillion as security, commit for up to ¥1 trillion in expenses)
- **Decontamination** (portion under existing plan to be raised from profits on sale of NDF stockholdings)
- **Cost reductions** (further reduction of ¥1.4 trillion in 10 years)
- **Workforce cuts** (move forward 7 years, early retirements and full-time posting to Fukushima)
- **Returns to public** (rate reductions and profits on sale of NDF stockholdings)

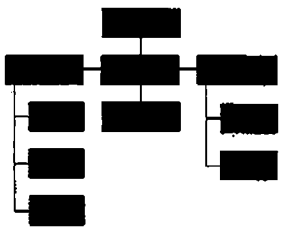
FORM OF COMPANY

Take end-to-end responsibility for accident while improving corporate value in competitive environment, with goal of minimizing burden on general public

1. Creation of durable accident response structure.

- Bolster compensation and rebuilding regime
  - Add personnel and beef up capabilities of Revitalization Headquarters
- Bolster decommissioning regime
  - Create company internal to decommissioning company
- Create employment in Fukushima
  - Establish presence for coal-fired thermal power and R&D

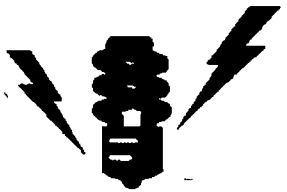
FORM OF COMPANY



2. Holding company structure to address responsibility and competitiveness

- Shift to holding company structure at early date
  - Aim to shift to holding structure by April 2016
- Total optimization under holding structure
  - Compensate for accident costs with subsidiaries' earnings
- Slim down management structure
  - Flatten out the organization, etc.

FORM OF COMPANY



3. Innovations to produce "new power operator model"

- Fuel/Thermal Power Division
  - Reduce fuel, power production costs by expanding scale through alliances
- Energy Transmission Division
  - Reduce cost price of consignments and optimize wide-area operation
- Retail Sales Division
  - Optimize sales of electricity/gas throughout the country

CORPORATE GOVERNANCE

Evaluate management every three years, and based on company's results consider privatization in consultation with the government.

1. **Introduction of management evaluations (during fiscal 2013):** Starting at end of fiscal 2016 in principle conduct every three years an "evaluation of management related to responsibilities and competitiveness."
2. **Shift from temporary public management (end of fiscal 2016):** Based on management evaluation, reduce share voting rights step by step and end assignment of executives from NDF.
3. **Return to capital markets (early 2020s):** Based on management evaluation, further reduce share voting rights, and either resume dividend payments on shares held by NDF or begin to retire treasury stock.
4. **Privatization (early 2030s):** In parallel with ending payment of special contributions and also taking market conditions into consideration, sell all shares held by NDF on the open market.

TEPCO PROJECTS

1. COMPENSATION FOR NUCLEAR DAMAGE

ESTIMATE OF AMOUNT REQUIRED

Compensation required to increase about ¥1 trillion from ¥3.9093 trillion under previous plan:

1. **Bolster property compensation**
   - Start of compensation for fields, prompt start also to compensation for forests, graveyards (¥55 billion)
2. **4th supplement to midterm guidelines**
   - Expenses for housing (¥372 billion), settlements for loss of hometown (¥201 billion), reasonable period compensations (¥87 billion)
3. **Miscellaneous**
   - Expected time for decision on lifting of evacuation order for Minami-Soma City (¥78 billion), increment due to passage of time (¥200 billion)

THREE PLEDGES

These pledges are aimed at prompt and appropriate provision of compensation:

Be sure every last eligible person receives compensation.

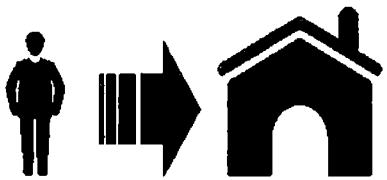
Be sure that compensation is given promptly and accurately.

Defer to the proposals of mediators on settlements.

To decontaminate quickly and reliably, NDF and TEPCO will implement a new plan on payments for decontamination costs, etc.

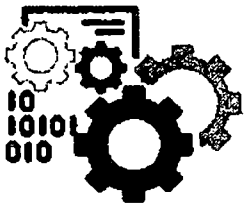
INTENSIFY EFFORTS ON FUKUSHIMA RECONSTRUCTION

Focusing on Fukushima Revitalization Headquarters, pour efforts into upgrades of living condition aimed at earliest possible return home, and into creating industrial infrastructure and job opportunities



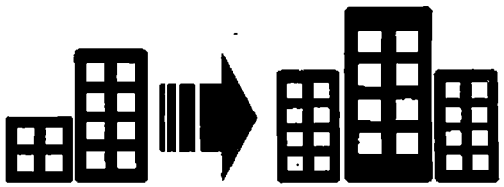
Living condition upgrades toward earliest possible return to home

Engage in cleanup/ decontamination/care support facilities, etc. through "100,000-person dispatch project"



Creation of industrial infrastructure/job opportunities

Make it a center for R&D related to decommissioning; pour people, technology and capital into cutting-edge coal-fired thermal power facilities



Beef up Fukushima Revitalization Headquarters

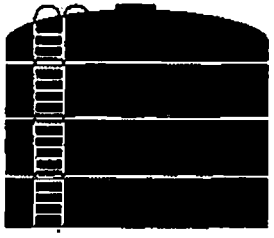
Move HQ to evacuation zone, permanently assign around 500 management staffers, establish accident and decommissioning resource center

TEPCO PROJECTS

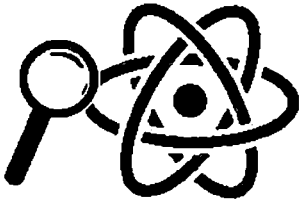
2. NUCLEAR SAFETY AND DECOMMISSIONING

PROMOTE STEADY PROGRESS AT FUKUSHIMA DAIICHI

Beef up framework in partnership with government toward fundamental resolution of contaminated water problems



Contaminated water and take problems Working environment improvements, increase staff size, make facilities permanent, clean all contaminated water (other than tritium) during coming fiscal year



Addressing government demands Secure up to ¥1 trillion in capital beyond the ¥1 trillion security, decommission reactors 5 and 6 and use as research facilities

Create international decommissioning regime In response to government policies, create in-house decommissioning company and bolster PM with in-house and outside specialists

Steady decommissioning work over mid- to long-term Remove fuel debris from first reactor by first half of fiscal 2020

GUARANTEES OF NUCLEAR SAFETY

- Learning from report of National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission (NAIIC), etc., under Nuclear Reform Monitoring Committee draft "Nuclear Safety Reform Plan"

- Toward resuming operations of Kashiwazaki-Kariwa nuclear plant, address both tangible (establishment of FCVS) and intangible (monitor management and collect data on latent risks)

TEPCO PROJECTS

3. PLAN FOR TEPCO'S BUSINESS OPERATIONS

POLICIES ON BUSINESS OPERATIONS AND MANAGEMENT RATIONALIZATION

Business Operations

Generate capital to engage in competitive business operations after liberalization, to improve corporate value of group as a whole, and to revitalize.

Management Rationalization

Steps taken toward management rationalization

In addition to Comprehensive Plan, cut costs a further ¥1.4 trillion in 10 years, have Procurements Committee reassess procurement structure/ practices

Personnel reforms

Advance staff reduction plan by 7 years through early retirements of 1,000 permanently assigned management staff (500) aged 50 or older to Fukushima, flatten out organization (eliminate branch offices), improve t reatment through cost reduction incentives (salary restoration)

CREATE REVENUE BASE FOR ONGOING REVITALIZATION

Implementation of holding company structure

Aim to introduce by April 2016, compensation/reconstruction/decommissioning to be managed by holding company, request assistance of financial institutions

Make strategic investments and engage in competitive operations

Through growth investment of ¥750 billion over 10-year period along with dynamic business operations responsive to electric power system reforms, expect share value of ¥4.5 trillion by early 2030s

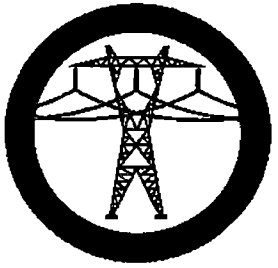
CREATE REVENUE BASE FOR ONGOING REVITALIZATION, cont.

Fuel/Thermal Power Division

Drastically reduce fuel sots to allow for both supplying power stably and at low cost while generating resources for Fukushima reconstruction

- Replace 10 million kW through comprehensive alliances
- Jointly establish power plants outside area
- Procure 10 million t light gas
- Expand LNG procurements to 35 million t
- Expand involvement in upstream businesses
- Optimize fuel and electric power
- Bolster trading capabilities

CREATE REVENUE BASE FOR ONGOING REVITALIZATION, cont.



Energy Transmission Division

Address both securing stable income for compensation and decommissioning purposes, while maintaining thoroughgoing neutrality and fairness in energy transmission network and wide-area operation

- Reduce investments by more than ¥300 billion yen by fiscal 2016
- Switch all power meters to "smart meters" by fiscal 2020
- Achieve optimal system operation over wide area

CREATE REVENUE BASE FOR ONGOING REVITALIZATION, cont.

3. Retail Sales Division

Do business on a national scale to both reduce energy costs for consumers and generate resources for Fukushima reconstruction

- Get into sales of power to outside area (supplying 10 billion kwh within 10 years)
- Engage in retail sales of gas with alliance partners (1 million tons within 10 years)
- Make most of alliances to create "Platform for Living"
- Procure low-cost power sources (make bids promptly)

TEPCO PROJECTS

4. CAPITAL AND BALANCE OF PAYMENTS

CAPITAL AND BALANCE OF PAYMENTS

- Slowdown in demand for power due to overall liberalization and energy conservation effects; availability addressed by extending life of aging thermal plants based on operational status of Kashiwazaki-Kariwa.

- Ordinary profits of ¥167.7 billion for FY ending March 2015, maintain at level of ¥100 billion or above from FY ending March 2016 and after while improving financial standing.

New Comprehensive Special Business Plan

Tokyo Electric Power Company

[date]

U.S.NRC RIC 2014 MARCH 11-13 26TH ANNUAL REGULATORY INFORMATION CONFERENCE

December 9, 2013

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037

Dear Mr. Tateiwa,

It is my sincere pleasure to invite you to participate as a speaker and panelist at U.S. NRC's 26th Regulatory Information Conference (RIC). The RIC will be held on March 11-13, 2014, at the Bethesda North Marriott Hotel and Conference Center, 5701 Marinelli Road, North Bethesda, MD 20852. Our session is tentatively scheduled for Tuesday, March 11, 2014 at 3:30 p.m.

This 3-day Annual Conference is co-sponsored by the Office of Nuclear Reactor Regulation and the Office of Nuclear Regulatory Research, and brings together more than 3,000 participants from over 30 countries representing interested parties from government, industry, international agencies, other interested stakeholders, and members of the public. The RIC fosters an open and transparent communication about NRC actions planned or in progress related to emergent issues, and offers a valuable forum to share different perspectives on technical process and procedure issues and other matters facing the nuclear industry.

We request your participation as a technical session panelist in the session entitled, ***"Understanding the Need and Effectiveness of Remediation Involving Non-Routine Radionuclide Releases from Nuclear Facilities,"*** chaired by U.S. NRC's Thomas Nicholson, Office of Nuclear Regulatory Research. The session will give participants an opportunity to learn about: potential non-routine radionuclide releases and their pathways; potentially-impacted environmental systems; the value of confirmatory monitoring programs to demonstrate the efficacy of the remediation program; and the evaluation these methods for assessing risk to the public and other biota. Your presentation and the presentations of other panel members will help engage dialogue and stimulate questions and comments from session participants.

David Aird, U.S. NRC Reliability and Risk Engineer, will be the Coordinator for this session, and can be reached at David.Aird@nrc.gov or 301-251-7926.

We hope you are able to accept this invitation. If you do accept our invitation, we request that you complete and return the enclosed **Speaker Information and Confirmation, Biographical Information and signed External Speaker Agreement** to David Aird by December 10, 2013, to ensure inclusion in the final printed RIC program.

U.S.NRC RIC 2014 MARCH 11-13

Please understand that the U.S. NRC is not covering travel and lodging expenses for the RIC.

Lastly, you can find RIC-related news and up-to-date conference information by navigating from the NRC's official public website at

We look forward to seeing you at the RIC!

Sincerely,

Thomas Nicholson, Senior Technical Advisor
Division of Risk Analysis
Office of Nuclear Regulatory Research

Enclosures:
2014 RIC Session Description
Speaker Information and Confirmation form
Speaker Biographical Information form
External Speaker Agreement form

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

Tackling Water Issues at Fukushima Daiichi

Office of Nuclear Regulatory Research

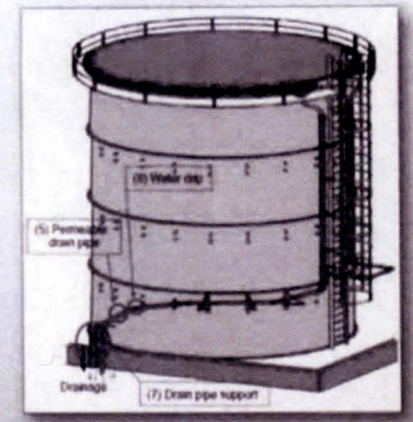
RES Seminar

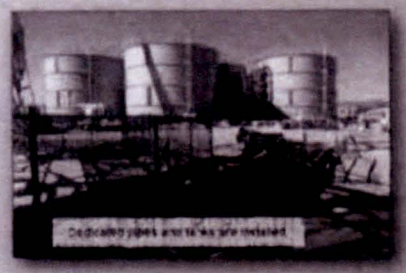
Kenji Tateiwa – TEPCO

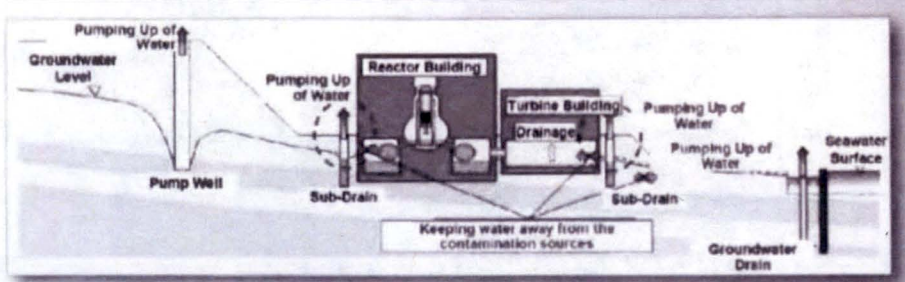
Mr. Tateiwa is Manager of Nuclear Power Programs at Tokyo Electric Power Company's (TEPCO) Washington, DC office, where he leads collaborative efforts with various organizations in the U.S. to enhance the safety of nuclear facilities using lessons learned from the Fukushima Daiichi nuclear accident, and promotes safe decommissioning of nuclear sites.

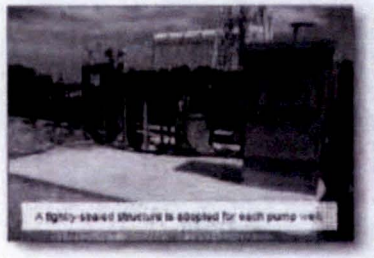
Kenji received his bachelor's and master's degrees in Nuclear Engineering from Kyoto University in Japan. He began his career at TEPCO in 1996 working at the Fukushima Daini Nuclear Power Station, then at TEPCO's headquarters in the Nuclear Engineering Department, specializing in severe accident analysis and PRA. After receiving an MBA from the Stanford University Graduate School of Business in 2004, Kenji led TEPCO's involvement , as a technical advisor and potential equity investor, in the proposed new nuclear reactors, South Texas Project Units 3 and 4.

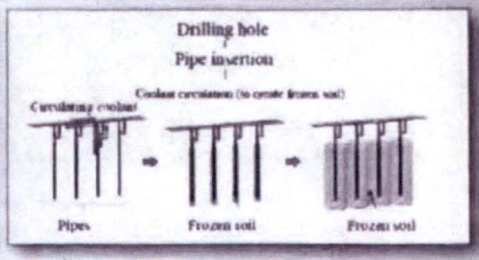
Kenji has been involved with the Fukushima accident from day one, playing a key role as liaison between TEPCO and nuclear experts around the world who support TEPCO in the face of this unprecedented disaster. Since his assignment in Washington, DC in September 2011, he has shared first-hand accounts of the Fukushima accident and lessons learned on more than 100 occasions.











U.S. Nuclear Regulatory Commission
TWFN Auditorium
June 30, 2014
9:30 am – 11:00 am

RES Contacts: Dave Aird david.aird@nrc.gov 301-251-7926 or Tom Nicholson thomas.nicholson@nrc.gov 301-251-7498

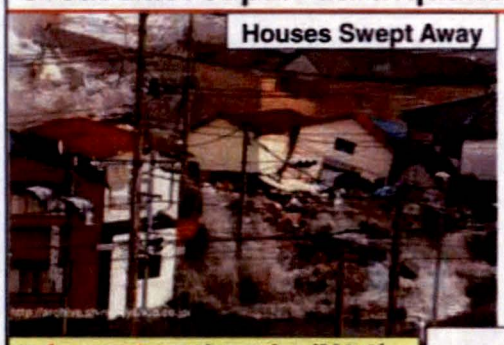
Estimated Atmospheric Release of Radioactive Materials Due to Fukushima Daiichi NPS Accident

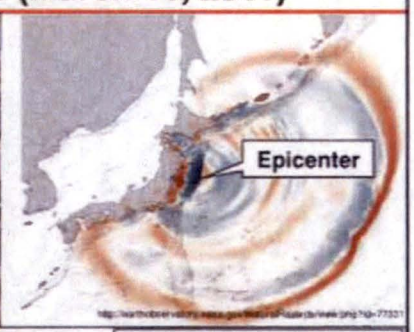
U.S. NRC Regulatory Information Conference
Technical Session T-5

North Bethesda, Maryland
March 10th, 2015

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company, Washington Office
tateiwa.kenji@tepco.co.jp

Great East Japan Earthquake (March 11, 2011)



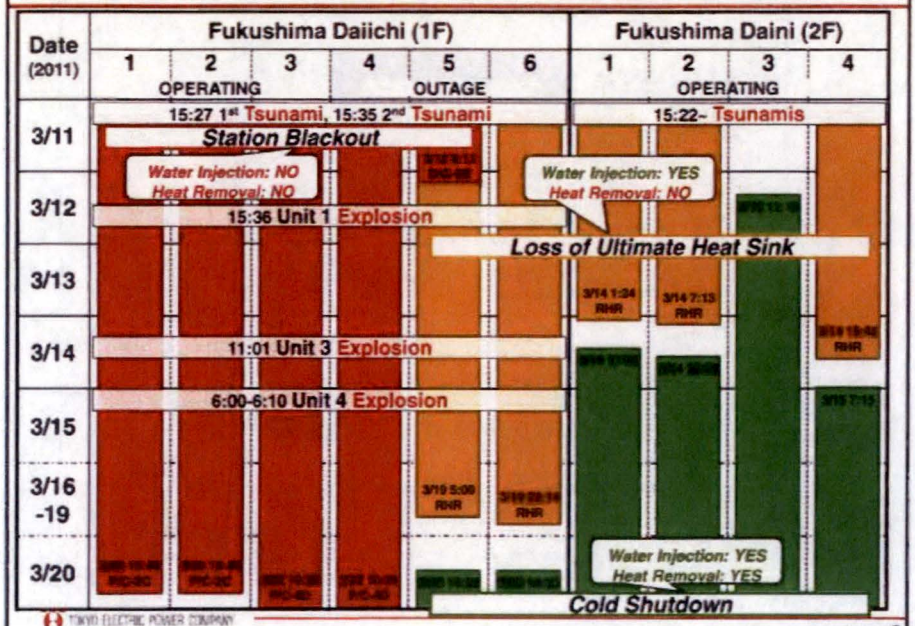


- ***Largest* earthquake (M9.0) and tsunami (M9.1) in recorded history of Japan**
- ***20+ m* tsunami run-up in coast line spanning *200 km***
- ***560 km² flooded (10x Manhattan)***
- ***19,000 dead/missing***

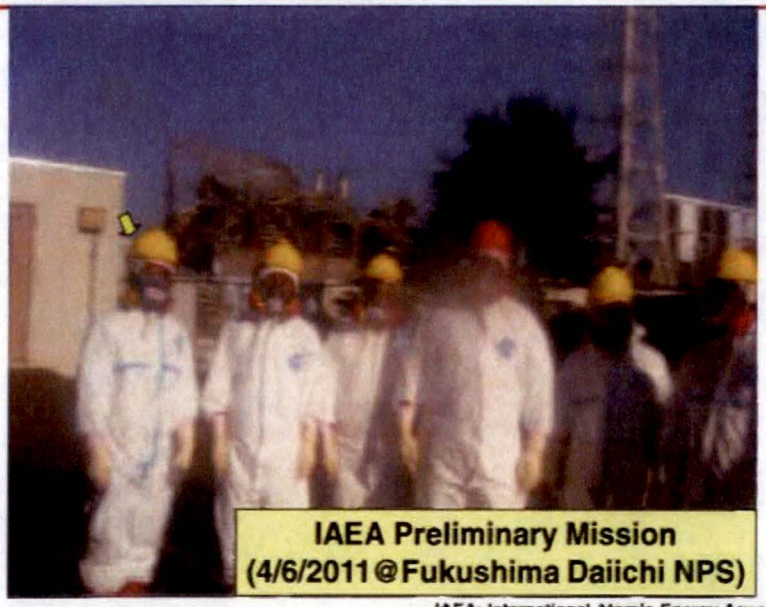
TOKYO ELECTRIC POWER COMPANY

2

Overview of the 10-Unit Simultaneous Accidents



My Post-Accident Activities



IAEA Preliminary Mission
(4/6/2011@Fukushima Daiichi NPS)

IAEA: International Atomic Energy Agency

TOKYO ELECTRIC POWER COMPANY

4

How Much Radioactivity Was Released?

Estimation of Radioactive Material Released to the Atmosphere During the Fukushima Daiichi NPS Accident

May 2012
Tokyo Electric Power Company

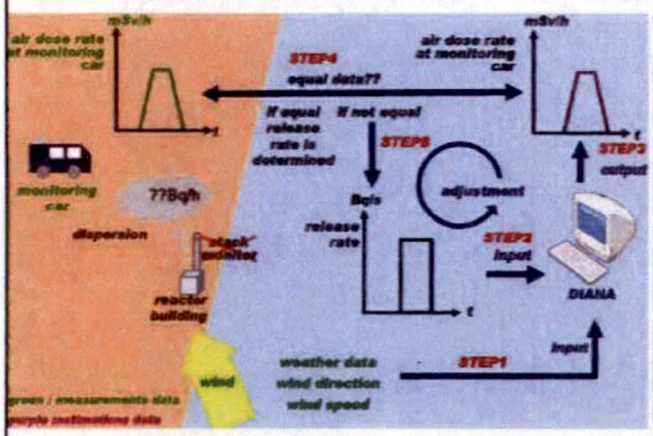
"*DIANA*" code used to estimate radioactivity release
http://www.tepco.co.jp/en/press/corp-com/release/2012/1204659_1870.html

Dose **I**nformation **A**nalysis for **N**uclear **A**ccident
(3-D Atmospheric Diffusion Model)

TOKYO ELECTRIC POWER COMPANY

5

Estimation of Release Rate

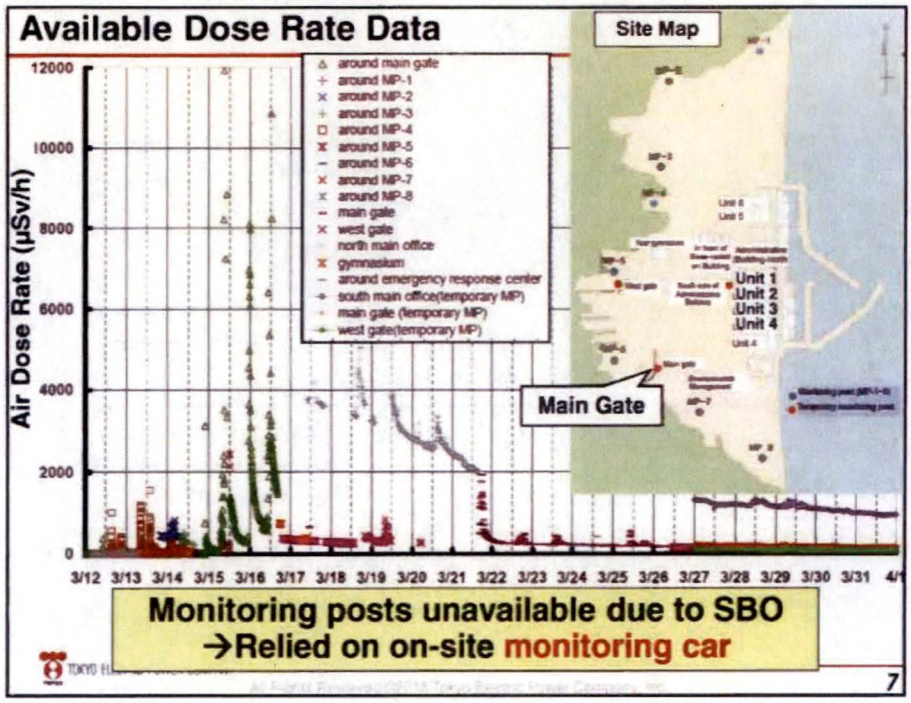


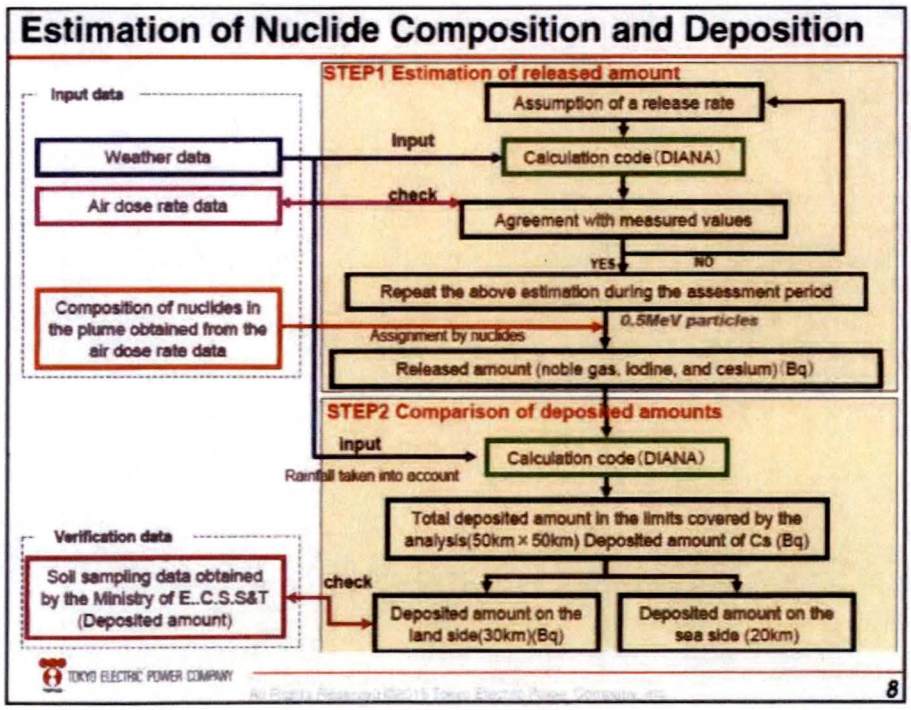
Release rate assumption
→Dose rate calculation by DIANA
→Calibration with observed data
→Updated release rate
(→ Iteration)

Back-calculated release rate based on observed air dose rate
(stack monitor was lost due to SBO)

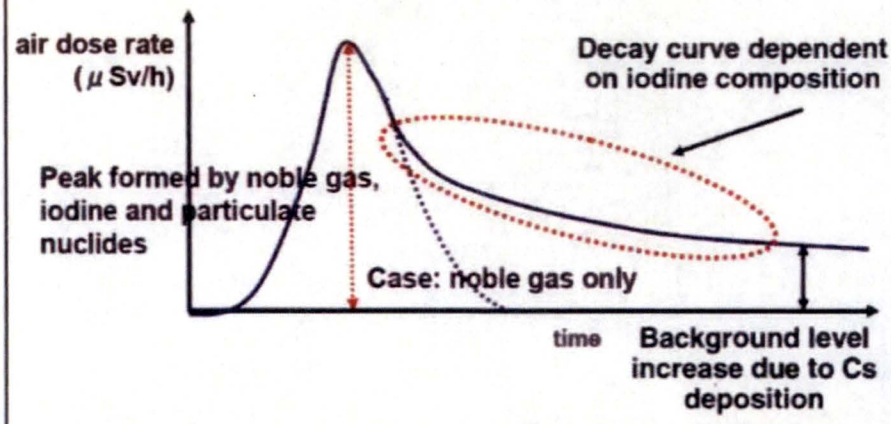
TOKYO ELECTRIC POWER COMPANY

6


Available Dose Rate Data
Site Map
Air Dose Rate (μSv/h)
12000
10000
8000
6000
4000
2000
0
3/12 3/13 3/14 3/15 3/16 3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31
around main gate
around MP-1
around MP-2
around MP-3
around MP-4
around MP-5
around MP-6
around MP-7
around MP-8
main gate
west gate
north main office
gymnasium
around emergency response center
south main office(temporary MP)
main gate (temporary MP)
west gate(temporary MP)
Unit 1
Unit 2
Unit 3
Unit 4
Main Gate
Monitoring posts unavailable due to SBO
→Relied on on-site monitoring car
7


Estimation of Nuclide Composition and Deposition
Input data
Weather data
Air dose rate data
Composition of nuclides in the plume obtained from the air dose rate data
STEP1 Estimation of released amount
Assumption of a release rate
Input
Calculation code (DIANA)
check
Agreement with measured values
YES
NO
Repeat the above estimation during the assessment period
0.5MeV particles
Assignment by nuclides
Released amount (noble gas, iodine, and cesium) (Bq)
STEP2 Comparison of deposited amounts
Input
Calculation code (DIANA)
Rainfall taken into account
Total deposited amount in the limits covered by the analysis(50km × 50km) Deposited amount of Cs (Bq)
Verification data
Soil sampling data obtained by the Ministry of E..C.S.S&T (Deposited amount)
check
Deposited amount on the land side(30km)(Bq)
Deposited amount on the sea side (20km)
TOKYO ELECTRIC POWER COMPANY
8

Estimating Nuclide Composition from Dose Rate Curve



Breaking down single source estimate into multiple radionuclides based on observed data

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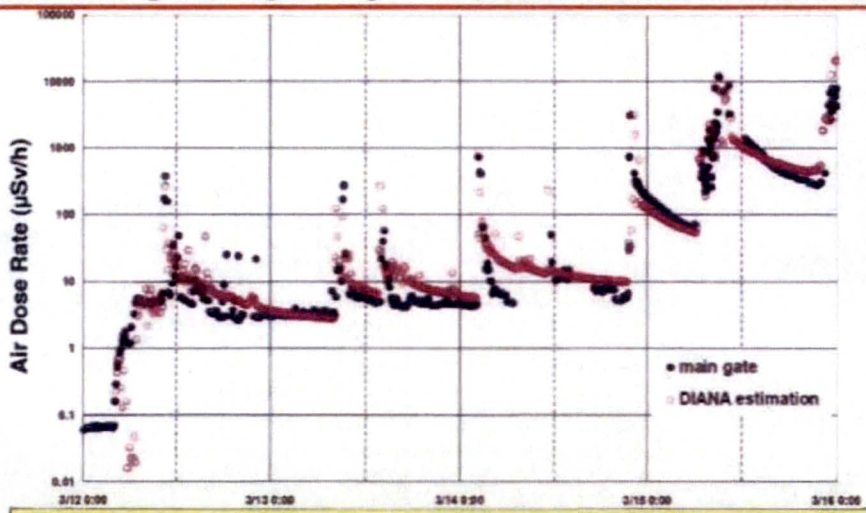
9

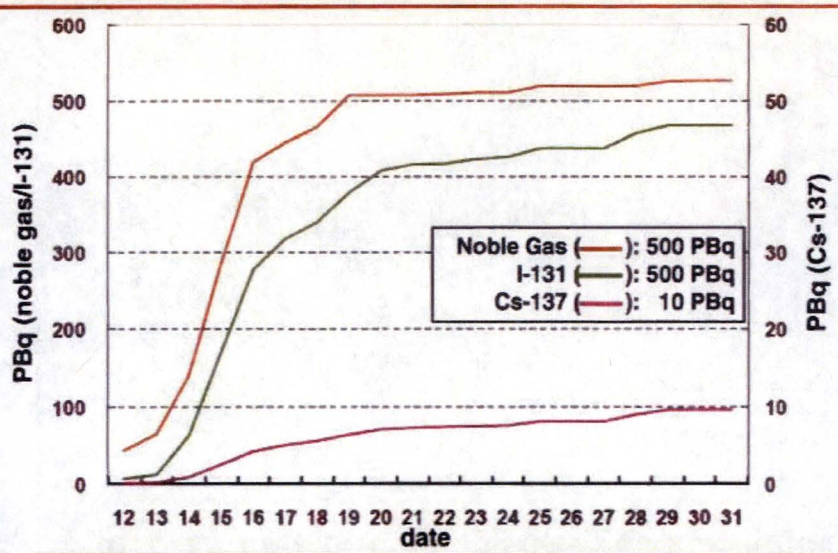
Estimating Susceptibility of Release of Radionuclides



Best matches observed data assuming following ratio
(compared to core inventory)
noble gas : iodine : cesium = 100 : 10 : 1

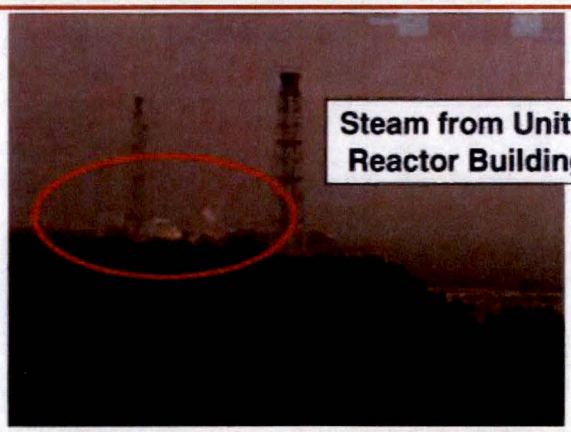
10

Estimated Cumulative Release



Cumulative release of radioactivity in March 2011

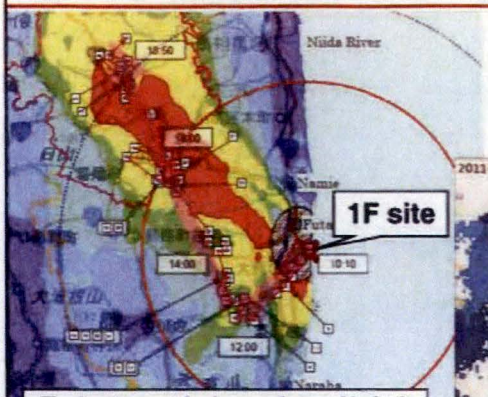
Land Contamination in Northwest Area



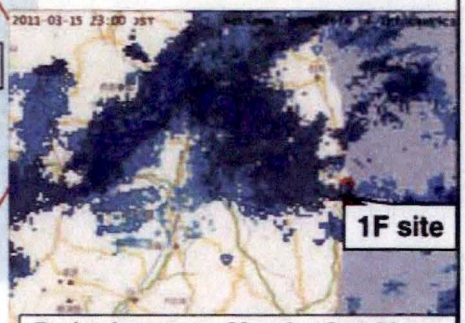
[Morning of March 15, 2011]

- **Max. dose rate at main gate: 10 mSv/h**
- **Significant drop in Unit 2 drywell pressure**
- **Steam observed near Unit 2 reactor building**

Land Contamination in Northwest Area (cont'd)



Trajectory of plume from Unit 2 on March 15



Radar image on March 15 at 11 pm

Rainfall caused deposition of radionuclides in plume from Unit 2, resulting in land contamination

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13

Summary Results

Release Mode	Noble Gas (PBq)	I-131 (PBq)	Cs-134 (PBq)	Cs-137 (PBq)	INES (PBq) (I-equivalent)
Containment Venting	5	1	0.02	0.01	-
Reactor Building Explosion	10	3	0.07	0.05	-
Uncontrolled Release from R/B	500	500	10	10	-
Total	500	500	10	10	900
Cf. Chernobyl	*6,500*	*1,800*	-	*85*	*5,200*

Dominant release path assumed to be uncontrolled release from reactor buildings *(not venting or explosion)*

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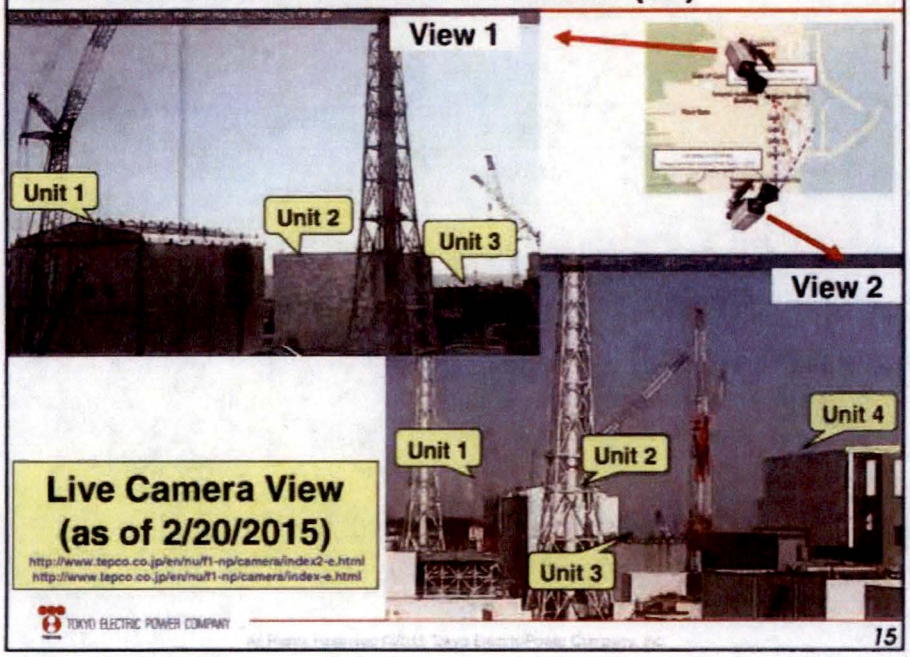
14

Current Status of Fukushima Daiichi (1F)



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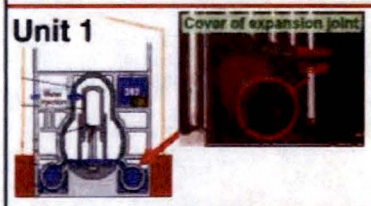
15

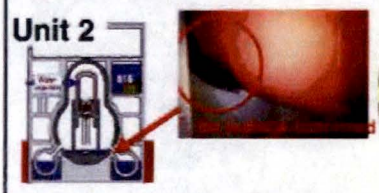
Investigation Insights of 1F Units 1, 2, and 3

Unit 1



- Two locations of leakage found in torus room
- Indication of leakage in drywell shell

Unit 2



- No leakage confirmed in torus room
- Likely leakage near bottom of suppression chamber

Unit 3

- Leakage from drywell to reactor building found at main steam line penetration
- No indication of leakage from suppression chamber

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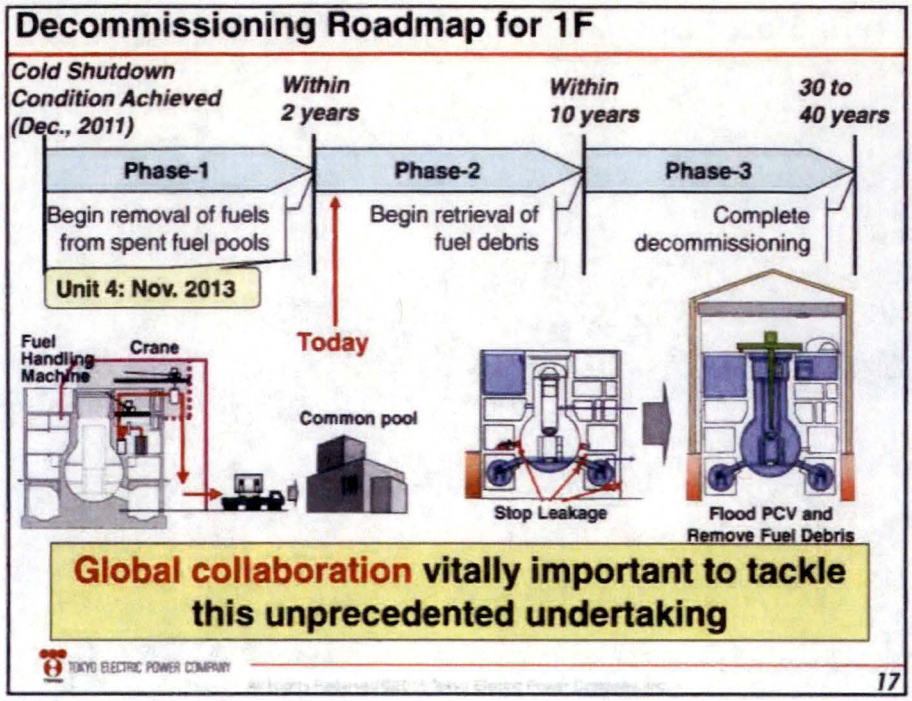
16


Decommissioning Roadmap for 1F
Cold Shutdown Condition Achieved (Dec., 2011)
Within 2 years
Within 10 years
30 to 40 years
Phase-1
Begin removal of fuels from spent fuel pools
Phase-2
Begin retrieval of fuel debris
Phase-3
Complete decommissioning
Unit 4: Nov. 2013
Today
Fuel Handling Machine
Crane
Common pool
Stop Leakage
Flood PCV and Remove Fuel Debris
Global collaboration vitally important to tackle this unprecedented undertaking
TOKYO ELECTRIC POWER COMPANY
17


TEPCO's Post-Accident Activities in the U.S.
Nuclear Industry
Gov't Agencies
Global Organizations
Academia
Professional Organizations, Think Tanks, NPOs, Media
TEPCO
Committed to sharing lessons learned; making nuclear power plants safer; carrying out decommissioning safely
→ Hosting Weekly Update Teleconferences
18

Thompson, Shannon

From: Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>
Sent: Friday, March 13, 2015 12:22 PM
To: Thompson, Shannon
Subject: Thank you letter for the RIC

Shannon,

It was a pleasure meeting you at the NRC RIC this week.
Thank you for inviting me to talk in Session T5.

Sorry I missed your call regarding your kind offer to write a thank you letter to my boss.
Please find below his name and title.

Mr. Takao Onuki
Director, Washington Office
Tokyo Electric Power Company
Please email me a scanned image of the letter and I will forward it to him.
Thank you in advance.

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116

(b)(6)

Thompson, Shannon

From: Thompson, Shannon
Sent: Friday, February 20, 2015 11:01 AM
To: RICMST Resource
Cc: Kipfer, Lorna; Tateiwa, Kenji; Santiago, Patricia
Subject: FW: TEPCO Revised slides: RIC 2015 Presentation

Lorna,

Attached is Kenji Tateiwa's power point presentation for RIC session T5 - this is the final version which replaces the pdf I sent you yesterday. This completes our submission of severe accident presentations, pending any additional comments from NRC management.

Thank you, Shannon

Shannon Thompson, PhD
Reactor Systems Engineer
RIC 2015 Severe Accident Session Coordinator

shannon.thompson@nrc.gov 301-251-7685
US Nuclear Regulatory Commission
RES/DSA/AAB

-----Original Message-----
From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, February 19, 2015 10:01 PM
To: Thompson, Shannon
Subject: RE: TEPCO Revised slides: RIC 2015 Presentation review and feedback

Shannon,

Thank you for your positive words.
Please find attached Power Point version of my presentation.

I have made 2 minor modifications from yesterday:
(slide 15) Inserted latest Live Camera View of Fukushima Daiichi (slide 18) Inserted logo of NIST, where I gave a presentation today

I look forward to speaking at the RIC.

All the best,
Kenji

On Thu, 19 Feb 2015 10:10:20 -0500

"Thompson, Shannon" <Shannon.Thompson@nrc.gov> wrote:

> Kenji,
>
> Thank you - your presentation is greatly improved.
>
> Do you have it as a power point? Even though it could be a larger file, it helps the RICMST team not to convert from a pdf. Some features - image positions, resolution, etc. may be lost in conversion, so they have asked me to obtain native power points, if available.
>
> I agree that the human factor is critical, both in terms of the response actions, and putting the story into perspective.
>
> Regards, Shannon
>
> From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
> Sent: Wednesday, February 18, 2015 11:37 PM
> To: Thompson, Shannon
> Cc: Santiago, Patricia
> Subject: TEPCO Revised slides: RIC 2015 Presentation review and
> feedback
>
> Shannon,
>
> Apologies for the very late submittal of my revised slides.
>
> I tried to incorporate all of the valuable comments from your colleagues.
> I did however, preserve slide 4 since I strongly believe that reminding people of the fact that this was a real event involving real human beings on site is very important before jumping into detailed discussion on computer calculation, etc.
>
> I hope my approach is acceptable.
> In change, I shaved off a few slides to fit 18 slides in 15 minutes.
>
> All the best,
> Kenji
> ----- Original Message -----
> From: Santiago, Patricia<mailto:Patricia.Santiago@nrc.gov>
> To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp> ; Thompson,
> Shannon<mailto:Shannon.Thompson@nrc.gov>
> Sent: Monday, February 09, 2015 8:57 AM
> Subject: RE: RIC 2015 Presentation review and feedback
>
> Hi Kenji
> I am sure Feb 17th is acceptable and thank you again for your support to this session.
> Best Regards,
> Pat
>
> From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
> Sent: Monday, February 09, 2015 8:26 AM
> To: Thompson, Shannon
> Cc: Santiago, Patricia
> Subject: Re: RIC 2015 Presentation review and feedback

>
> Shannon,
>
> Thank you for the feedback.
> As my schedule for this week is extremely tight, I would appreciate if you could extend the deadline to Tue, Feb. 17th.
>
> All the best,
> Kenji
> ----------
> Kenji Tateiwa
> Manager, Nuclear Power Programs
> Tokyo Electric Power Company
> Washington Office
> 2121 K Street, NW Suite 910
> Washington, DC 20037
> tel: +1-202-457-0790 (ext.)116 (b)(6)

> ----- Original Message -----
> From: Thompson, Shannon<mailto:Shannon.Thompson@nrc.gov>
> To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
> Cc: Santiago, Patricia<mailto:Patricia.Santiago@nrc.gov>
> Sent: Friday, February 06, 2015 11:16 AM
> Subject: RIC 2015 Presentation review and feedback
>
> Hello Mr. Tateiwa,
>
> We reviewed your presentation for the Severe Accident Session and commented in the attached pdf file. The feedback comes from the NRC Severe Accident Analysis Branch. Please review our feedback in the spirit of respect, openness, and cooperation as our comments and suggestions are intended to improve the message, clarity, and impact to the audience.
>
> Most of our comments and suggestions seek clarification. Also, there are a lot of slides to cover in 15 minutes. It is important that the audience learn from your experience, so if you feel that you cannot remove slides to tell the whole story, then we may be able to extend up to 20 minutes.
>
> We look forward to your revisions. Please return to me by the end of next week, so we can submit to the RICMST committee. If you cannot respond by 2/13/2015, please let me know when you can.
>
> If you have any questions or concerns, do not hesitate to contact me. I will be out of the office after 12:30 pm today. Thank you for your time and energy!
>
> Best, Shannon

Thompson, Shannon

From: Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>
Sent: Wednesday, February 18, 2015 11:37 PM
To: Thompson, Shannon
Cc: Santiago, Patricia
Subject: TEPCO Revised slides: RIC 2015 Presentation review and feedback
Attachments: Fukushima Release@RIC_03102015r1.pdf

Shannon,

Apologies for the very late submittal of my revised slides.

I tried to incorporate all of the valuable comments from your colleagues.
I did however, preserve slide 4 since I strongly believe that reminding people of the fact that this was a real event involving real human beings on site is very important before jumping into detailed discussion on computer calculation, etc.

I hope my approach is acceptable.
In change, I shaved off a few slides to fit 18 slides in 15 minutes.

All the best,
Kenji

----- Original Message -----
From: Santiago, Patricia
To: Tateiwa, Kenji ; Thompson, Shannon
Sent: Monday, February 09, 2015 8:57 AM
Subject: RE: RIC 2015 Presentation review and feedback

Hi Kenji
I am sure Feb 17th is acceptable and thank you again for your support to this session.
Best Regards,
Pat

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Monday, February 09, 2015 8:26 AM
To: Thompson, Shannon
Cc: Santiago, Patricia
Subject: Re: RIC 2015 Presentation review and feedback

Shannon,

Thank you for the feedback.
As my schedule for this week is extremely tight, I would appreciate if you could extend the deadline to Tue, Feb. 17th.

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116

(b)(6)

From:	Nicholson, Thomas
To:	Gilbertson, Anders; andrew.Szilagyi@em.doe.gov; Marksberry, Don; judd@nuvisioneng.com; Buckingham, Rob; Tateiwa, Kenji; [illegible]
Subject:	FW: NEA document on needs for decommissioning
Date:	Friday, September 18, 2015 4:54:53 PM
Attachments:	R&D and Innovation Needs for Decommissioning Nuclear Facilities.pdf

Anders, Andy, Don, Lurie, Rob, Kenji and Takashi:

Jack Parrott, NRC/NMSS provided this report for our individual use in preparing our sessions.

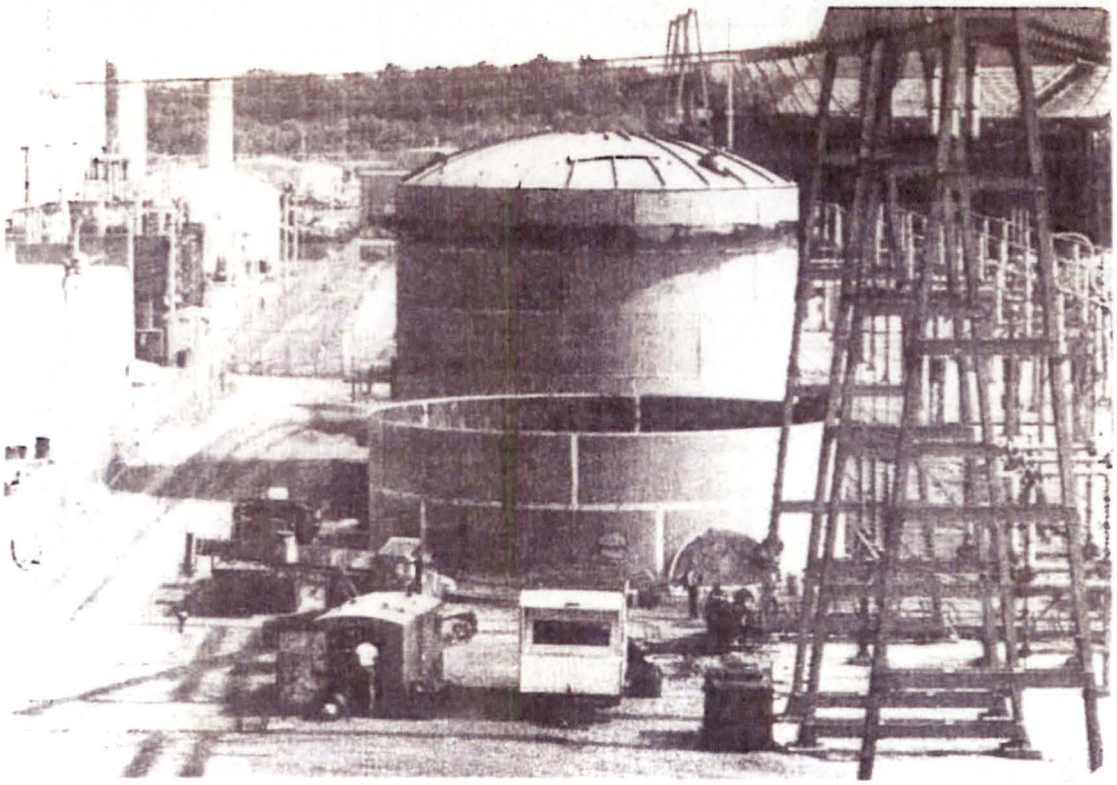
Thanks ..... Tom

Outside of Scope

The following document is available from the www

NEA, R&D and Innovation Needs for Decommissioning Nuclear Facilities
https://www.oecd-nea.org/rwm/pubs/2014/7191-rd-innovation-needs.pdf

From: Marksberry, Don
To: Nicholson, Thomas; Aird, David; Tanehiro, Kenji (tabewa.kenji@tepco.co.jp)
Subject: Photo: TMI-2 Processed Water Storage Tanks Under Construction
Date: Friday, February 21, 2014 1:20:31 PM
Attachments: image001.png



Outside of Scope

From: "Kenji Tateiwa" <tateiwa.kenji@tepco.co.jp>
To: "Joy Rempe" <jlrempe@cableone.net>, "sudhamay basu" <sudhamay.basu@nrc.gov>, RCBUNT@southernco.com, corradin@engr.wisc.edu, "phillip ellison" <phillip.ellison@ge.com>,

"Mitchell T. Farmer" <farmer@anl.gov>, "Matthew W.' 'Francis" <francismw@ornl.gov>, "Jeff R. Gabor" <jrgabor@erineng.com>, "Randall O' 'Gauntt" <rogaunt@sandia.gov>, "Richard' 'Lee" <Richard.Lee@nrc.gov>, "Roy R. 'Linthicum:(GenCo-Nuc)'" <roy.linthicum@exeloncorp.com>, btwillia@tva.gov, "Damian' 'Peko" (b)(6) <damian.peko@nuclear.energy.gov>, "Martin G' 'Plys" <Plys@Fauske.com>, "Steven' 'KRAFT" <spk@nei.org>, "cristian rabiti" <cristian.rabiti@inl.gov>, "Bob Lutz" [redacted] "Wison' 'Luangdilok" <Luangdilok@Fauske.com>, Paik@fauske.com, "Kevin R.' 'Robb" <robbkr@ornl.gov>, "Richard' 'Wachowiak" <rwachowiak@epri.com>, "Donald A' 'Kalinich" <dakalin@sandia.gov>, "Phillip M 'Amway:(GenCo-Nuc)'" <phillip.amway@exeloncorp.com>
Cc: "Resident Researcher - Yamada, Daichi" <dyamada@guestresearcher.epri.com>, "Yasunori YAMANAKA" <yamanaka.yasunori@tepco.co.jp>, "yamamoto masayuki" <yamamoto.masayuki@tepco.co.jp>, "takashi hara" <takashi.hara@tepco.co.jp>, "takahashi kosuke" <takahashi.kosuke@tepco.co.jp>, " 傳田 康貴" <yasutaka.denda@tepco.co.jp>, "鎌田 敏徳" <kamada.toshinori@tepco.co.jp>, "関田 俊介" <sekita.shunsuke@tepco.co.jp>, "山内 景介" <yamauchi.keisuke@tepco.co.jp>, "小瀧 拓也" <takuya.kotaki@tepco.co.jp>
Sent: Friday, September 11, 2015 8:46:31 AM
Subject: [1F Forensics Report] Trial Teleconference: Thu, Sept. 17 from 5 pm MDT

1F Forensics Team,

Based on my recent discussion with Joy and Mike, we have decided to do a "Trial Teleconference" as a first step towards establishing a framework for experts in the U.S. and Japan to have interactive dialogues on the topic of Fukushima Daiichi forensics and D&D-related issues.

Please find below details for the teleconference.

[Date/time]
Thu, Sept. 17, 2015 at 5 pm MDT/6 pm CDT/7 pm EDT
(Fri, Sept. 18 at 8 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number (New York): 718-354-1184
(b)(6) [redacted]

[Agenda]
1. **Briefing on 1F status (with focus on investigation activities)—Kenji**
1-1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (8/27/2015)
(Japanese)
Preparation for Fuel Debris Removal

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150827_08-j.pdf

1-2. Visual Investigation Results of Unit 3 Primary Containment Equipment Hatch (9/9/2015) (Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150909_12-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=aatm0o3t&catid=61699

2. My recent visit to 1F (on Sept. 2) —Kenji

3. Planned DOE work scope (pending FY16 authorization)—Joy

Apologies for the short notice and inconvenient time for those especially in the East Coast. Please let me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, August 29, 2015 3:41 PM
To: 'Joy Rempe'; 'sudhamay basu'; RCBUNT@southernco.com; corradin@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R.:(GenCo-Nuc)'; btwillia@tva.gov; 'Damian' 'Peko'; 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi'; 'Steven' 'KRAFT'; 'cristian rabiti'; 'Bob Lutz'; 'Wison' 'Luangdilok'; Paik@fauske.com; 'Kevin R.' 'Robb'; 'Richard' 'Wachowiak'; 'Yasunori YAMANAKA'; 'Donald A' 'Kalinich'; 'Amway, Phillip M:(GenCo-Nuc)'
Subject: [1F Forensics Report] Requests Incorporated in Unit 3 D/W Inspection Plan

Joy and all,

Some items in the wish list of the Forensics Report have been incorporated in TEPCO's plan to investigate inside the Unit 3 drywell planned in October 2015.

See pages 10/30 to 20/30 of the following presentation (in Japanese.)
3-5. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150827_08-j.pdf

I will be covering this material during the next Fukushima Update teleconference on Mon, Aug. 31 from 9 am EDT.
call number (New York): 718-354-1184
(b)(6) [redacted]

Let me know if you are interested in receiving future notices of my update call (many of you are already on my list.)

All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, July 18, 2015 6:03 PM
To: 'Amway, Phillip M:(GenCo-Nuc)'; 'Joy Rempe'
Cc: 'sudhamay basu'; RCBUNT@southernco.com;

corradin@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R.:(GenCo-Nuc)'; btwillia@tva.gov; 'Damian' 'Peko'; 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi'; 'Steven' 'KRAFT'; 'cristian rabiti'; 'Bob Lutz'; 'Wison' 'Luangdilok'; Paik@fauske.com; 'Kevin R.' 'Robb'; 'Richard' 'Wachowiak'; 'Yasunori YAMANAKA'; 'Donald A' 'Kalinich'
Subject: RE: TEPCO Comments: June 30 Draft of Forensics Report and Requests to Others

Joy and Phil,

Thank you for incorporating TEPCO's comments and coordinating among the U.S. stakeholders.

Joy,
As for your question regarding METI, you may want to refer to it as the "lead governmental organization" in Figure 3 (p. 23/101) in the box of "Japanese government."
The description of the new Roadmap in Section 2 looks OK.

All the best,
Kenji

Outside of Scope

Outside of Scope

From: "Kenji Tateiwa" <tateiwa.kenji@tepco.co.jp>
To: "Joy Rempe" <jlrempe@cableone.net>
Cc: "sudhamay basu" <sudhamay.basu@nrc.gov>, RCBUNT@southernco.com, corradin@engr.wisc.edu, "phillip ellison" <phillip.ellison@ge.com>, "Mitchell T. Farmer" <farmer@anl.gov>, "Matthew W.' 'Francis" <francismw@ornl.gov>, "Jeff R. Gabor" <jrgabor@erineng.com>, "Randall O' 'Gauntt" <rogaunt@sandia.gov>, "Richard' 'Lee" <Richard.Lee@nrc.gov>, "roy linthicum" <roy.linthicum@exeloncorp.com>, btwillia@tva.gov, "Damian' 'Peko" <damian.peko@nuclear.energy.gov>, "Martin G' 'Plys" <Plys@Fauske.com>, "Resident Researcher - Yamada, Daichi" <dyamada@guestresearcher.epri.com>, "Steven' 'KRAFT" <spk@nei.org>, "cristian rabiti" <cristian.rabiti@inl.gov>, "Bob Lutz"
(b)(6) [redacted] "Wison' 'Luangdilok" <Luangdilok@Fauske.com>, Paik@fauske.com, "Kevin R.' 'Robb" <robbkr@ornl.gov>, "Richard' 'Wachowiak" <rwachowiak@epri.com>,

"Yasunori YAMANAKA" <yamanaka.yasunori@tepco.co.jp>, "Donald A' 'Kalinich" <dakalin@sandia.gov>
Sent: Sunday, July 12, 2015 3:08:14 AM
Subject: TEPCO Comments: June 30 Draft of Forensics Report

Joy and all,

I am finally catching up with the massive backlog of emails that I had to respond during my transition period.

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(Including those comments from Daichi Yamada.)

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Change to:
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All the best,
Kenji
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1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

Outside of Scope

From: Tateiwa, Kenji

To: "Joy Rempe"; Basu, Sudhamay; RCBUNT@southernco.com; corradin@engr.wisc.edu; "phillip ellison"; "Mitchell T. Farmer"; "Matthew W." "Francis"; "Jeff R. Gabor"; "Randall O" "Gauntt"; Lee, Richard; "Linthicum, Roy R.: (GenCo-Nuc)"; btwillia@tva.gov; "Damian" "Peko"; "Martin G" "Plys"; "Steven" "KRAFT"; "cristian rabiti"; "Bob Lutz"; "Wison" "Luangdilok"; Paik@fauske.com; "Kevin R." "Robb"; "Richard" "Wachowiak"; "Donald A" "Kalinich"; "Amway, Phillip M:(GenCo-Nuc)"; dlluxat@erineng.com; Marksberry, Don; West, Steven; Algama, Don; "Resident Researcher - Yamada, Daichi"; "Yasunori YAMANAKA"; yamamoto.masayuki@tepco.co.jp; takashi.hara@tepco.co.jp; takahashi.kosuke@tepco.co.jp; "[illegible]"; "[illegible]"; "[illegible]"; "山内 [illegible]"; "小澤 拓也"

Subject: [External_Sender] RE: Followup From [1F Forensics Report] Trial Teleconference: Thu, Sept. 17 from 5 pm MDT - PLEASE RESPOND BY SEPTEMBER 22 or SOONER

Date: Saturday, September 19, 2015 2:10:58 AM

1F Forensics Team,

Thank you for joining the "Trial" teleconference yesterday.

I appreciate everyone's keen interest and passion to be involved in this important undertaking.
Thank you, Joy for the follow-up email.

As for the follow-up item #1, I would like to get your insights on what investigation/measurements would be important from a "Decommissioning Safety" perspective for future activities at Units 1, 2, and 3.
Put another way, we would like to know if there is additional value in certain investigation/measurements on top of "traditional" nuclear safety perspective (focused on operating reactors.)

Release b5 here not applicable to this group.

For example, if there is a way to estimate how much erosion of the pedestal occurred due to MCCI (by chemical analysis of water samples in the drywell or by some other creative means), we may be able to evaluate the long-term seismic robustness of the structure.

We would like to be able to say with some level of confidence that the pedestal will not give way during an earthquake and drop the RPV; at least until we finished removing the fuel debris—in the next several decades (hopefully earlier than that.)

Thank you for allowing us to pick your top-notch brains in advance.

All the best,
Kenji

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Based on my recent discussion with Joy and Mike, we have decided to do a "Trial Teleconference" as a first step towards establishing a framework for experts in the U.S. and Japan to have interactive dialogues on the topic of Fukushima Daiichi forensics and D&D-related issues.

Please find below details for the teleconference.

[Date/time]
Thu, Sept. 17, 2015 at 5 pm MDT/6 pm CDT/7 pm EDT
(Fri, Sept. 18 at 8 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number (New York): 718-354-1184

(b)(6)

[Agenda]
1. **Briefing on 1F status (with focus on investigation activities)—Kenji**
1-1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (8/27/2015)
(Japanese)
Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150827_08-j.pdf

1-2. Visual Investigation Results of Unit 3 Primary Containment Equipment Hatch (9/9/2015)
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2. My recent visit to 1F (on Sept. 2) —Kenji

3. Planned DOE work scope (pending FY16 authorization)—Joy

Apologies for the short notice and inconvenient time for those especially in the East Coast. Please let me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
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1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

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Sent: Saturday, August 29, 2015 3:41 PM
To: 'Joy Rempe'; 'sudhamay basu'; RCBUNT@southernco.com; corradin@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R.:(GenCo-Nuc)'; btwillia@tva.gov; 'Damian' 'Peko'; 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi'; 'Steven' 'KRAFT'; 'cristian rabiti'; 'Bob Lutz'; 'Wison' 'Luangdilok'; Paik@fauske.com; 'Kevin R.' 'Robb'; 'Richard' 'Wachowiak'; 'Yasunori YAMANAKA'; 'Donald A' 'Kalinich'; 'Amway, Phillip M: (GenCo-Nuc)'
Subject: [1F Forensics Report] Requests Incorporated in Unit 3 D/W Inspection Plan

Joy and all,

Some items in the wish list of the Forensics Report have been incorporated in TEPCO's plan to investigate inside the Unit 3 drywell planned in October 2015.

See pages 10/30 to 20/30 of the following presentation (in Japanese.)
3-5. Preparation for Fuel Debris Removal
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I will be covering this material during the next Fukushima Update teleconference on Mon, Aug. 31 from 9 am EDT.
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(b)(6) [redacted]

Let me know if you are interested in receiving future notices of my update call (many of you are already on my list.)

All the best,
Kenji

Outside of Scope

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On 8/5/2015 7:10 PM, Tateiwa, Kenji wrote:

Joy and all.

I have been involved in TEPCO's internal meetings to discuss what investigation should be done when conducting various entries into the reactor buildings and primary containments of 1F.

I provided the draft Forensics Report to my colleagues in charge of such investigations (their focus is fuel debris removal), and they are willing to take into consideration the requests included in the report (to the extent possible.)

They may ask you for clarification on why you would like to obtain certain information.
Although the rationale of your requests is described in the report, it may not be sufficient to justify the additional burden.

I will let you know when my colleagues come up with specific questions.
It may make sense to set up a teleconference between the TEPCO fuel debris removal team and your team at some point.

All the best,
Kenji

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, July 18, 2015 6:03 PM
To: 'Amway, Phillip M:(GenCo-Nuc)'; 'Joy Rempe'
Cc: 'sudhamay basu'; RCBUNT@southernco.com; corradin@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R.:(GenCo-Nuc)'; btwillia@tva.gov; 'Damian' 'Peko'; 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi'; 'Steven' 'KRAFT'; 'cristian rabiti'; 'Bob Lutz'; 'Wison' 'Luangdilok'; Paik@fauske.com; 'Kevin R.' 'Robb'; 'Richard' 'Wachowiak'; 'Yasunori YAMANAKA'; 'Donald A' 'Kalinich'
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All the best,
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Outside of Scope

Page 0128 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Outside of Scope

From: "Kenji Tateiwa" <tateiwa.kenji@tepco.co.jp>
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office: +81-3-6373-4751
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Outside of Scope

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From: Tateiwa, Kenji
To: "Ferrer, Mitchell T."; "Michael Corradini"; "Joy L Rempe"; Basu, Sudhamay; "Burt, Randy C."; "phillip ellison"; "Matthew W." "Francis"; "Jeff R. Gabor"; "Randall O" "Gauntt"; Lee, Richard; "Linthicum, Roy R.:(GenCo-Nuc)"; "Williamson, Bill T JI"; "Damian Peko"; "Marty Plys"; "Steven KRAFT"; "cristian rabitz"; "Bob Lutz"; "Wison" "Luanadjok"; "Park, Chan Y"; "Kevin R." "Robb"; "Rick Wachowiak"; "Donald A" "Kalinich"; "Amway, Philip M:(GenCo-Nuc)"; "David L. Lurat"; Marksberry, Don; West, Steven; Akiama, Don; "Resident Researcher - Yamada, Daichi"; "Yasunori YAMANAKA"; yamamoto.masayuki@tepco.co.jp; takashi.hara@tepco.co.jp; takahashi.kosuke@tepco.co.jp; "[illegible]"; "[illegible]"; "Grandy, Christopher"; "[illegible]"; "[illegible]"; "[illegible]"
Subject: [External_Sender] RE: Followup From (1F Forensics Report) Trial Teleconference: Thu, Sept. 17 from 5 pm MDT - PLEASE RESPOND BY SEPTEMBER 22 or SOONER
Date: Tuesday, September 22, 2015 8:44:44 AM

Hi all,

Thank you, Mitch, Mike, and Sud for your insights.

Mike, we are still struggling to remove the shield block to get access into the Unit 2 drywell, where we are planning to look inside the pedestal region.
It will probably take a few more months

Mitch, your idea about using ultrasonic for concrete diagnostic may be worth exploring

Kevin, can you share with us your NURETH presentation that Mitch mentioned?

All the best,
Kenji

Kenji Tateiwa
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passcode 25057200#

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http://photo.tepco.co.jp/en/date/2013/201307-e/130708-02e.html

(p. 75/102 and 86/102)
"Inspect sampling of Daiichi U5 and U6 irradiated fuel to evaluate if any damage from shortterm temperature/pressure excursion"
âSince the RPV pressure was controlled within the safety valve lift pressure and the fuels never got exposed, there may not be any interesting findings

(p 101/102)
"Inspect containment vent line if used for venting during post ELAP event response. Determine condition of rupture disc "
aVenting did not take place at Dain

"Determine degree of galvanized and aluminum oxidation in the primary containment and evaluate in terms of a source for hydrogen production "
aThis should be done at Daini

All the best.
Kenji
(Please ignore the error message you might receive from my DC office email account that has been disabled)

Kenji Tatewa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office +81-3-6373-4751
(b)(6) [redacted]
tatewa.kenji@tepco.co.jp

Outside of Scope

From: Tateiwa, Kenji
To: "Robb, Kevin R."; "Farmer, Mitchel T."
Cc: "Michael Corradini"; "Joy L. Rempe"; Basu, Sudhamay; "Bunt, Randy C."; "phillip ellison"; "Francis, Matthew W."; "Jeff R. Gabor"; "Randall O'"; "Gauntt"; Lee, Richard; "Linthicum, Roy R.(GenCo-Nuc)"; "Williamson, Bill T II"; "Damian Peko"; "Marty Plys"; "Steven KRAFT"; "cristian rabiti"; "Bob Lutz"; "Wison"; "Luangdilok"; "Paik, Chan Y"; "Rick Wachowiak"; "Donald A"; "Kalinich"; "Amway, Phillip M:(GenCo-Nuc)"; "David L. Luxat"; Marksberry, Don; West, Steven; Algama, Dan; "Resident Researcher - Yamada, Daichi"; "Yasunori YAMANAKA"; yamamoto.masayuki@tepco.co.jp; takashi.hara@tepco.co.jp; takahashi.kosuke@tepco.co.jp; "傳田 康貴"; "鐵田 敏徳"; "Grandy, Christopher"; "関田 俊介"; "山内 景介"; "小瀬 拓也"
Subject: [External Sender] RE: Followup From [1F Forensics Report] Trial Teleconference: Thu, Sept. 17 from 5 pm MDT - PLEASE RESPOND BY SEPTEMBER 22 or SOONER
Date: Thursday, September 24, 2015 7:00:37 AM

Mitch and Kevin.

Thank you for the additional information
Very interesting.

All the best.
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Tuesday, September 22, 2015 7:44 AM
To: Farmer, Mitchell T.; 'Michael Corradini'; 'Joy L.Rempe', 'sudhamay basu', 'Bunt, Randy C.'; 'phillip ellison'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard Lee', 'Linthicum, Roy R.'(GenCo-Nuc)', 'Williamson, Bill T II'; 'Damian Peko'; 'Marty Plys', 'Steven KRAFT'; 'cristian rabiti'; 'Bob Lutz'; 'Wison' 'Luangdilok', 'Paik, Chan Y', 'Kevin R.' 'Robb', 'Rick Wachowiak', 'Donald A' 'Kalinich'; 'Amway, Phillip M:(GenCo-Nuc)'; 'David L. Luxat', 'Marksberry, Don', steven.west@nrc.gov; dan.algama@nrc.gov; 'Resident Researcher - Yamada, Daichi'; 'Yasunori YAMANAKA', yamamoto.masayuki@tepco.co.jp; takashi.hara@tepco.co.jp, takahashi.kosuke@tepco.co.jp; '傳田 康貴'; '鐵田 敏徳', Grandy, Christopher, '関田 俊介'; '山内 景介'; '小瀬 拓也'
Subject: RE: Followup From [1F Forensics Report] Trial Teleconference: Thu, Sept. 17 from 5 pm MDT - PLEASE RESPOND BY SEPTEMBER 22 or SOONER

Hi all,

Thank you, Mitch, Mike, and Sud for your insights

Mike, we are still struggling to remove the shield block to get access into the Unit 2 drywell, where we are planning to look inside the pedestal region
It will probably take a few more months

Mitch your idea about using ultrasonic for concrete diagnostic may be worth exploring

Kevin, can you share with us your NURETH presentation that Mitch mentioned?

All the best
Kenji

Kenji Tateiwa
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Outside of Scope

Outside of Scope

On Sep 19, 2015, at 1:10 AM, Tatelwa, Kenji <tatelwa.kenji@tepco.co.jp> wrote:

Remove b5

1F Forensics Team,

Thank you for joining the "Trial" teleconference yesterday.

I appreciate everyone's keen interest and passion to be involved in this important
Thank you Joy for the follow-up email.

As for the follow-up item #1, I would like to get your insights on what investigation/measurements would be important from a "Decommissioning Safety" perspective for future activities at Units 1, 2, and 3.
Put another way, we would like to know if there is additional value in certain investigation/measurements on top of "traditional" nuclear safety perspective (focused on operating reactors.)

For example, if there is a way to estimate how much erosion of the pedestal occurred due to MCCI (by chemical analysis of water samples in the drywell or by some other creative means), we may be able to evaluate the long-term seismic robustness of the structure.

We would like to be able to say with some level of confidence that the pedestal will not give way during an earthquake and drop the RPV, at least until we finished removing the fuel debris—in the next several decades (hopefully earlier than that.)

Thank you for allowing us to pick your top-notch brains in advance.

All the best,
Kenji

Outside of Scope

Outside of Scope

On 9/11/2015 8 46 AM, Tateiwa, Kenji wrote

1F Forensics Team.

Based on my recent discussion with Joy and Mike, we have decided to do a "Trial Teleconference" as a first step towards establishing a framework for experts in the U.S. and Japan to have interactive dialogues on the topic of Fukushima Daiichi forensics and D&D-related issues.

Please find below details for the teleconference

[Date/time]
Thu, Sept 17, 2015 at 5 pm MDT/6 pm CDT/7 pm EDT
(Fri, Sept. 18 at 8 am JST)

[Call-In Information] (Please record your name and organization when joining the call)
call number (New York) 718-354-1184

(b)(6) [redacted]

[Agenda]
1. **Briefing on 1F status (with focus on investigation activities)—Kenji**
1-1 Working-level Meeting of Decommissioning & Contaminated Water Issues Team (8/27/2015) (Japanese)
Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150827_08-j.pdf

1-2. Visual Investigation Results of Unit 3 Primary Containment Equipment Hatch (9/9/2015) (Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150909_12-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=aatm0o3t&catid=61699

2. My recent visit to 1F (on Sept. 2) —Kenji

3. Planned DOE work scope (pending FY16 authorization)—Joy

Apologies for the short notice and inconvenient time for those especially in the East Coast
Please let me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
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Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, August 29, 2015 3:41 PM
To: 'Joy Rempe'; 'sudhamay basu', RCBUNT@southernco.com, corradin@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer', 'Matthew W' 'Francis'; 'Jeff R. Gabor', 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R. (GenCo-Nuc)', btwilia@tva.gov; 'Damian' 'Peko', 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi', 'Steven' 'KRAFT'; 'cristian rabiti', 'Bob Lutz', 'Wison' 'Luangdilok'; Paik@fauske.com, 'Kevin R.' 'Robb', 'Richard' 'Wachowiak', 'Yasunori YAMANAKA', 'Donald A' 'Kalinich', 'Amway, Philip M.(GenCo-Nuc)'
Subject: [1F Forensics Report] Requests Incorporated in Unit 3 D/W Inspection Plan

Joy and all,

Some items in the wish list of the Forensics Report have been incorporated in TEPCO's plan to investigate inside the Unit 3 drywell planned in October 2015

See pages 10/30 to 20/30 of the following presentation (in Japanese)
3-5. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150827_08-j.pd'

I will be covering this material during the next Fukushima Update teleconference on Mon, Aug. 31 from 9 am EDT
call number (New York): 718-354-1184

(b)(6) [redacted]

Let me know if you are interested in receiving future notices of my update call (many of you are already on my list.)

All the best
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, July 18, 2015 6:03 PM
To: 'Amway, Phillip M (GenCo-Nuc)'; 'Joy Rempe'
Cc: 'sudhamay basu'; RCBUNT@southernco.com; corradini@engr.wisc.edu; 'phillip ellison'; 'Mitchell T. Farmer'; 'Matthew W.' 'Francis'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Richard' 'Lee'; 'Linthicum, Roy R (GenCo-Nuc)'; ptwillia@tva.gov; 'Damian' 'Peko'; 'Martin G' 'Plys'; 'Resident Researcher - Yamada, Daichi'; 'Steven' 'KRAFT', 'cristian rabiti', 'Bob Lutz'; 'Wison' 'Luangdilok', Park@fauske.com; 'Kevin R.' 'Robb', 'Richard' 'Wachowiak'; 'Yasunori YAMANAKA', 'Donald A' 'Kalinich'
Subject: RE: TEPCO Comments June 30 Draft of Forensics Report and Requests to Others

Joy and Phil

Thank you for incorporating TEPCO's comments and coordinating among the U.S. stakeholders

Joy
As for your question regarding METI, you may want to refer to it as the "lead governmental organization" in Figure 3 (p. 23/101) in the box of "Japanese government."
The description of the new Roadmap in Section 2 looks OK

All the best.
Kenji

Outside of Scope

Outside of Scope

From: "Kenji Tateiwa" <tateiwa.kenji@tepco.co.jp>
To: "Joy Rempe" <jlrempe@cableone.net>
Cc: "sudhamay basu"
<sudhamay.basu@nrc.gov>, RCBUNT@southernco.com, corradin@engr.wisc.edu,
"phillip ellison" <phillip.ellison@ge.com>, "Mitchell T. Farmer" <farmer@anl.gov>,
"Matthew W." "Francis" <francismw@ornl.gov>, "Jeff R. Gabor"
<jrgabor@ernieng.com>, "Randall O." "Gauntt" <rogaunt@sandia.gov>, "Richard" "Lee"
<Richard.Lee@nrc.gov>, "roy linthicum"
<roy.linthicum@exeloncorp.com>, btwilia@tva.gov, "Damian" "Peko"
<damian.peko@nuclear.energy.gov>, "Martin G." "Plys" <Plys@Fauske.com>,
"Resident Researcher - Yamada, Daichi" <dyamada@guestresearcher.epri.com>,
"Steven" "KRAFT" <sok@nei.org>, "cristian rabiti" <cristian.rabiti@inl.gov>, "Bob Lutz"
(b)(6) [redacted] "Wison" "Luangdilok"
<Luangdilok@Fauske.com>, Paik@fauske.com, "Kevin R." "Robb" <robbkr@ornl.gov>,
"Richard" "Wachowiak" <rwachowiak@epri.com>, "Yasunori YAMANAKA"

<yamanaka.yasunori@tepco.co.jp>, "Donald A" "Kalinich" <dakalin@sandia.gov>
Sent: Sunday, July 12, 2015 3:08:14 AM
Subject: TEPCO Comments: June 30 Draft of Forensics Report

Joy and all,

I am finally catching up with the massive backlog of emails that I had to respond during my transition period.

Please find below some comments on the draft report dated 6-30-15
(Including those comments from Daichi Yamada)

(p 22/102)
"Appendix D contains roadmaps produced by TEPCO that detail planned D&D activities."
Change to:
"Appendix D contains roadmaps produced by the Japanese Government that detail planned D&D activities "

(p 31/102)
"dose rates (in mSv/hr) are being obtained from Unit 1 using gamma cameras"
Change to:
"dose rates (in mSv/hr) are being obtained from Unit 1 using dosimeter mounted on a robot"

(p 36/102 and 50/102)
Inside of the box of "Stakeholder Socialization" in Figure 14
Add "METI"

(p 69/102)
PC-12 "To determine if failure of TIP tubes and SRV/IRM tubes outside the RPV led to depressurization"
aAlthough we have not conducted direct investigation into this issue, we had attempted to insert a fiber scope through the TIP guide tube of Unit 2
However, the fiber scope got stuck at the TIP indexer and could not get pass that location
http://photo.tepco.co.jp/en/date/2013/201307/e/130708-02e.html

(p 75/102 and 86/102)
"Inspect sampling of Daichi U5 and U6 irradiated fuel to evaluate if any damage from shortterm temperature/pressure excursion"
aSince the RPV pressure was controlled within the safety valve lift pressure and the fuels never got exposed, there may not be any interesting findings

(p 101/102)
"Inspect containment vent line if used for venting during post ELAP event response Determine condition of rupture disc "
aVenting did not take place at Diai

"Determine degree of galvanized and aluminum oxidation in the primary containment and evaluate in terms of a source for hydrogen production "
aThis should be done at Daiai

All the best
Kenji
(Please ignore the error message you might receive from my DC office email account that has been disabled)

Kenji Tateiwa
Safety Engineering Group Manager
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Tokyo, Japan
office: +81-3-6373-4751
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tateiwa.kenji@tepco.co.jp

Outside of Scope

Outside of Scope

From: Basu, Sudhamay
To: Joy Rempe; Tateiwa, Kenji
Cc: RCBUNT@southernco.com; Michael Corradini; phillip.ellison@ge.com; Mitchell T. Farmer; Frances Marshall; Jeff R. Gabor; Randall O" "Gauntt; Lee, Richard; roy.linthicum@exeloncorp.com; btwillia@tva.gov; Peko, Damian; Plys, Martin G; KRAFT, Steven; cristian.rabiti@inl.gov; Bob Lutz; Luangdilok, Wison; Palk@fauske.com; Robb, Kevin R.; Kalinich, Donald A; Amway, Phillip M:(GenCo-Nuc); Resident Researcher - Yamada, Daichi; Yasunori YAMANAKA; yamamoto masayuki; takashi hara; takahashi kosuke; 櫻田 康豊; 鎌田 敏信; 関田 俊介; 山内 景介; 小瀬 拓也; dlluxat@erineng.com; Marksberry, Don; Atdjama, Don; West, Steven; Richard.Reister@nuclear.energy.gov; Smith-Kevern, Rebecca; Kelly, John E (NE); Wachowiak, Richard
Subject: RE: RE: Followup From September 17 Teleconference and a "Save the Date" for Our Next Bi-Annual Expert Meeting
Date: Wednesday, September 30, 2015 10:31:27 AM

Joy and Kenji,

I will participate in the teleconference; however, I will not be available for the November meeting. Thanks you.

Regards.

Sud

Outside of Scope

Page 0151 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

From: Tateiwa, Kenji
To: "Joy Rempe"; Basu, Sudhamay; RCBUNT@southernco.com; "Michael Corradini"; phillip.ellison@ge.com; "Mitchell T. Farmer"; "Frances Marshall"; "Jeff R. Gabor"; "Randall O" "Gauntt"; Lee, Richard; roy.linthicum@exeloncorp.com; btwillia@tva.gov; "Peko, Damian"; "Plys, Martin G"; "KRAFT, Steven"; cristian.rabiti@inl.gov; "Bob Lutz"; "Luangdilok, Wison"; Paik@fauske.com; "Robb, Kevin R."; "Wachowiak, Richard"; "Yang, Rosa"; "Kalinich, Donald A"; "Amway, Phillip M:(GenCo-Nuc)"; dlluxat@erineng.com; Marksberry, Don; Algama, Don; West, Steven; Richard.Reister@nuclear.energy.gov; "Smith-Kevern, Rebecca"; "Kelly, John E (NE)"; Edgardo.Deleon@em.doe.gov
Cc: "takashi hara"; "Yasunori YAMANAKA"; "yamamoto masayuki"; "takahashi kosuke"; yasutaka.denda@tepco.co.jp; kamada.toshinori@tepco.co.jp; sekita.shunsuke@tepco.co.jp; yamauchi.keisuke@tepco.co.jp; takuya.kotaki@tepco.co.jp; mizokami.shinya@tepco.co.jp; murano.kenji@tepco.co.jp; "Resident Researcher - Yamada, Daichi"
Subject: [External_Sender] [Expert Panel on 1F Forensics] 2nd Trial Teleconference: Thu, Oct. 15 from 6 pm MDT
Date: Saturday, October 10, 2015 5:43:51 AM
Attachments: [TEPCO Fukushima Update Call] Mon, Oct. 5, 2015.pdf

---

1F Forensics Team,

Please find below details for the 2nd trial teleconference on Fukushima Daiichi forensics and D&D-related issues.

[Date/time]
Thu, Oct. 15, 2015 at 6 pm MDT/ 7 pm CDT/ 8 pm EDT
(Fri, Oct. 16 at 9 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)
(b)(6) [redacted]

[Agenda (tentative)] ***Please provide comments.***
1. Briefing on 1F status (with focus on investigation activities)—Kenji
1-1. Preparation for Fuel Debris Removal (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_08-j.pdf
(page 1/30) Unit 3 drywell investigation schedule
(pages 4/30-13/30) Unit 1 reactor building 1st floor investigation
(pages 14/30-20/30) Unit 2 drywell penetration shield block removal
(pages 21/30-30/30) Unit 3 drywell equipment hatch investigation

1-2. Radioactive Waste Processing (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_09-j.pdf
(pages 12/27-27/27) Radionuclides analyses of samples taken from Units 1-3 reactor buildings

(FYI, attached is a copy of my notification email for the monthly update call on Oct. 5th.)

2. Agenda for the Nov. 9-10 Face-to-face meeting in DC—Joy

Please let Joy and me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
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(b)(6) [redacted]

fateiwa.kenji@tepco.co.jp

Outside of Scope

Page 0154 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]

Sent: Saturday, October 10, 2015 5:44 AM
To: 'Joy Rempe' <jlrempe@cableone.net>; Basu, Sudhamay <Sudhamay.Basu@nrc.gov>; RCBUNT@southernco.com; 'Michael Corradini' <corradin@cae.wisc.edu>; phillip.ellison@ge.com; 'Mitchell T. Farmer' <farmer@anl.gov>; 'Frances Marshall' [redacted] 'Jeff R. Gabor' <jrgabor@erineng.com>; 'Randall O' 'Gauntt' <rogaunt@sandia.gov>; Lee, Richard <Richard.Lee@nrc.gov>; roy.linthicum@exeloncorp.com; btwilliams@tva.gov; 'Peko, Damian' <damian.peko@nuclear.energy.gov>; 'Plys, Martin G' <Plys@Fauske.com>; 'KRAFT, Steven' <spk@nei.org>; cristian.rabiti@inl.gov; 'Bob Lutz' [redacted] 'Luangdilok, Wison' <Luangdilok@Fauske.com>; Paik@fauske.com; 'Robb, Kevin R.' <robbkr@ornl.gov>; 'Wachowiak, Richard' <rwachowiak@epri.com>; 'Yang, Rosa' <RYANG@epri.com>; 'Kalinich, Donald A' <dakalin@sandia.gov>; 'Amway, Phillip M:(GenCo-Nuc)' <phillip.amway@exeloncorp.com>; dlluxat@erineng.com; Marksberry, Don <Don.Marksberry@nrc.gov>; Algama, Don <Don.Algama@nrc.gov>; West, Steven <Steven.West@nrc.gov>; Richard.Reister@nuclear.energy.gov; 'Smith-Kevern, Rebecca' <Rebecca.Smith-Kevern@nuclear.energy.gov>; 'Kelly, John E (NE)' <JohnE.Kelly@Nuclear.Energy.Gov>; Edgardo.Deleon@em.doe.gov
Cc: 'takashi hara' <takashi.hara@tepco.co.jp>; 'Yasunori YAMANAKA' <yamanaka.yasunori@tepco.co.jp>; 'yamamoto masayuki' <yamamoto.masayuki@tepco.co.jp>; 'takahashi kosuke' <takahashi.kosuke@tepco.co.jp>; yasutaka.denda@tepco.co.jp; kamada.toshinori@tepco.co.jp; sekita.shunsuke@tepco.co.jp; yamauchi.keisuke@tepco.co.jp; takuya.kotaki@tepco.co.jp; mizokami.shinya@tepco.co.jp; murano.kenji@tepco.co.jp; 'Resident Researcher - Yamada, Daichi' <dyamada@guestresearcher.epri.com>
Subject: [External_Sender] [Expert Panel on 1F Forensics] 2nd Trial Teleconference: Thu, Oct. 15 from 6 pm MDT

(b)(6)

1F Forensics Team,

Please find below details for the 2nd trial teleconference on Fukushima Daiichi forensics and D&D-related issues.

[Date/time]
Thu, Oct. 15, 2015 at 6 pm MDT/ 7 pm CDT/ 8 pm EDT
(Fri, Oct. 16 at 9 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)

(b)(6) [redacted]

[Agenda (tentative)] ***Please provide comments.***
1. Briefing on 1F status (with focus on investigation activities)—Kenji
1-1. Preparation for Fuel Debris Removal (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_08-j.pdf
(page 1/30) Unit 3 drywell investigation schedule
(pages 4/30-13/30) Unit 1 reactor building 1st floor investigation
(pages 14/30-20/30) Unit 2 drywell penetration shield block removal
(pages 21/30-30/30) Unit 3 drywell equipment hatch investigation

1-2. Radioactive Waste Processing (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_09-j.pdf
(pages 12/27-27/27) Radionuclides analyses of samples taken from Units 1-3 reactor buildings

(FYI, attached is a copy of my notification email for the monthly update call on Oct. 5th.)

2. Agenda for the Nov. 9-10 Face-to-face meeting in DC—Joy

Please let Joy and me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
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office: +81-3-6373-4751
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tateiwa.kenji@tepco.co.jp

Outside of Scope

Page 0158 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

From: Tateiwa, Kenji
To: "Joy Rempe"; Basu, Sudhamay; RCBUNT@southernco.com; "Michael Corradini"; phillip.ellison@ge.com; "Mitchell T. Farmer"; "Frances Marshall"; "Jeff R. Gabor"; "Randall O' "Gauntt"; Lee, Richard; roy.linthicum@exeloncorp.com; btwillia@tva.gov; "Peko, Damian"; "Plys, Martin G"; "KRAFT, Steven"; cristian.rabiti@inl.gov; "Bob Lutz"; "Luangdilok, Wison"; Paik@fauske.com; "Robb, Kevin R "; "Wachowiak, Richard"; "Yang, Rosa"; "Kalinich, Donald A"; "Amway, Phillip M:(GenCo-Nuc)"; dlluxat@erineng.com; Marksberry, Don; Algama, Don; West, Steven; Richard.Reister@nuclear.energy.gov; "Smith-Kevern, Rebecca"; "Kelly, John E (NE)"; Edgardo.Deleon@em.doe.gov
Cc: "takashi hara"; "Yasunori YAMANAKA"; "yamamoto masayuki"; "takahashi kosuke"; yasutaka.denda@tepco.co.jp; kamada.toshinori@tepco.co.jp; sekita.shunsuke@tepco.co.jp; yamauchi.keisuke@tepco.co.jp; takuya.kotaki@tepco.co.jp; mizokami.shinya@tepco.co.jp; murano.kenji@tepco.co.jp; "Resident Researcher - Yamada, Daichi"
Subject: [External_Sender] [Expert Panel on 1F Forensics] Pre-meeting Teleconference: Fri, Oct. 30 from 8 am EDT
Date: Wednesday, October 28, 2015 6:04:38 AM

1F Forensics Team,

Please find below details for the pre-meeting teleconference on Fukushima Daiichi forensics.

[Date/time]
Fri, Oct. 30, 2015 at 8 am EDT
(Fri, Oct. 30 at 9 pm JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)
(b)(6) [redacted]

[Agenda (tentative)]
1. Introduction of Mr. Takashi Hara, new Washington DC Representative—TEPCO
(Hara-san will be participating in the Nov. 9-10 meeting in DC and will be the main contact person in the future.)

2. Briefing on 1F status (with focus on investigation activities)—TEPCO
2-1. Unit 3 drywell internal investigation results (10/22/2015)
http://photo.tepco.co.jp/en/date/2015/201510-e/151022-01e.html
2-2. Other latest information to be posted on TEPCO website tomorrow evening (Thu, Oct. 29 Japan time).

3. Agenda for the Nov. 9-10 Face-to-face meeting—Joy

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, October 10, 2015 6:44 PM
To: 'Joy Rempe'; 'Basu, Sudhamay'; 'RCBUNT@southernco.com'; 'Michael Corradini'; 'phillip.ellison@ge.com'; 'Mitchell T. Farmer'; 'Frances Marshall'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Lee, Richard'; 'roy.linthicum@exeloncorp.com'; 'btwillia@tva.gov'; 'Peko, Damian'; 'Plys, Martin G';

'KRAFT, Steven'; 'cristian.rabiti@inl.gov'; 'Bob Lutz'; 'Luangdilok, Wison'; 'Paik@fauske.com'; 'Robb, Kevin R.'; 'Wachowiak, Richard'; 'Yang, Rosa'; 'Kalinich, Donald A'; 'Arnway, Phillip M:(GenCo-Nuc)'; 'dlluxat@erineng.com'; 'Marksberry, Don'; 'don.algama@nrc.gov'; 'steven.west@nrc.gov'; 'Richard.Reister@nuclear.energy.gov'; 'Smith-Kevem, Rebecca'; 'Kelly, John E (NE)'; 'Edgardo.Deleon@em.doe.gov'
Cc: 'takashi hara'; 'Yasunori YAMANAKA'; 'yamamoto masayuki'; 'takahashi kosuke'; 'yasutaka.denda@tepco.co.jp'; 'kamada.toshinori@tepco.co.jp'; 'sekita.shunsuke@tepco.co.jp'; 'yamauchi.keisuke@tepco.co.jp'; 'takuya.kotaki@tepco.co.jp'; 'mizokami.shinya@tepco.co.jp'; 'murano.kenji@tepco.co.jp'; 'Resident Researcher - Yamada, Daichi'
Subject: [Expert Panel on 1F Forensics] 2nd Trial Teleconference: Thu, Oct. 15 from 6 pm MDT

1F Forensics Team,

Please find below details for the 2nd trial teleconference on Fukushima Daiichi forensics and D&D-related issues.

[Date/time]
Thu, Oct. 15, 2015 at 6 pm MDT/ 7 pm CDT/ 8 pm EDT
(Fri, Oct. 16 at 9 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)
(b)(6) [redacted]

[Agenda (tentative)] ***Please provide comments.***
1. Briefing on 1F status (with focus on investigation activities)—Kenji
1-1. Preparation for Fuel Debris Removal (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_08-j.pdf
(page 1/30) Unit 3 drywell investigation schedule
(pages 4/30-13/30) Unit 1 reactor building 1st floor investigation
(pages 14/30-20/30) Unit 2 drywell penetration shield block removal
(pages 21/30-30/30) Unit 3 drywell equipment hatch investigation

1-2. Radioactive Waste Processing (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_09-j.pdf
(pages 12/27-27/27) Radionuclides analyses of samples taken from Units 1-3 reactor buildings

(FYI, attached is a copy of my notification email for the monthly update call on Oct. 5th.)

2. Agenda for the Nov. 9-10 Face-to-face meeting in DC—Joy

Please let Joy and me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

Page 0161 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Page 0162 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

From: Tateiwa, Kenji

To: "Joy Rempe"; "takashi hara"; Basu, Sudhamay; RCBUNT@southernco.com; "Michael Corradini"; "phillip ellison"; "Mitchell T. Farmer"; "Jeff R. Gabor"; "Randall O' "Gauntt"; Lee, Richard; "roy linthicum"; btwillia@tva.gov; "Damian" "Peko"; "Martin G" "Plys"; "Steven" "KRAFT"; "cristian rabiti"; "Bob Lutz"; "Wison" "Luangdilok"; Park@fauske.com; "Kevin R." "Robb"; "Richard" "Wachowiak"; "Rosa" "Yang"; "Phillip M. "Amway:(GenCo Nuc)""; dlluxat@erineng.com; Marksberry, Don; Algama, Don; West, Steven; "Richard Reister"; "Rebecca" "Smith-Kevern"; "John E "Kelly (NE)""; "Edgardo Deleon"; "Yasunori YAMANAKA"; "yamamoto masayuki"; "takahashi kosuke"; "yasutaka denda"; "kamada toshinori"; "sekita shunsuke"; "yamauchi keisuke"; "takuya kotaki"; "mizokami shinya"; "murano kenji"; "Resident Researcher - Yamada, Daichi"; Salay, Michael; nandrew@sandia.gov

Subject: [External Sender] Latest 1F Info. [Expert Panel on 1F Forensics] Pre-meeting Teleconference: Fri, Oct. 30 from 8 am EDT

Date: Friday, October 30, 2015 5:37:59 AM

1F Forensics Team,

Please find below links to TEPCO's website (Japanese) with the latest update on 1F.

[Working-level Meeting of Decommissioning & Contaminated Water Issues Team (10/29/2015)]
1. Preparation for Fuel Removal from Spent Fuel Pools
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151029_07-j.pdf
(pages 12/29-17/29) Investigation plan for Unit 1 reactor building refueling floor

2. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151029_08-j.pdf
(pages 4/45-16/45) Investigation results inside Unit 1 reactor building TIP room
(pages 17/45-22/45) Investigation results of contamination in front of Unit 2 reactor building X-6 penetration
(pages 23/45-37/45) Investigation results inside Unit 3 drywell

Talk to you in a few hours.

All the best,
Kenji

Outside of Scope

Outside of Scope

From: "Kenji Tateiwa" <tateiwa.kenji@tepco.co.jp>
To: "Joy Rempe" <jlrempe@cableone.net>, "Sudhamay' 'Basu" <Sudhamay.Basu@nrc.gov>, RCBUNT@southernco.com, "Michael Corradini" <corradin@cae.wisc.edu>, "phillip ellison" <phillip.ellison@ge.com>, "Mitchell T. Farmer" <farmer@anl.gov>, "Frances Marshall" [redacted], "Jeff R. Gabor" <jrgabor@erineng.com>, "Randall O' 'Gauntt" <rogaunt@sandia.gov>, "Richard' 'Lee" <Richard.Lee@nrc.gov>, "roy linthicum" <roy.linthicum@exeloncorp.com>, btwillia@tva.gov, "Damian' 'Peko"

(b)(6)

<damian.peko@nuclear.energy.gov>, "Martin G' 'Plys" <Plys@Fauske.com>, "Steven' 'KRAFT" <spk@nei.org>, "cristian rabiti" <cristian.rabiti@inl.gov>, "Bob Lutz" [redacted] (b)(6)
"Wison' 'Luangdilok" <Luangdilok@Fauske.com>, Pajk@fauske.com, "Kevin R.' 'Robb" <robbkr@ornl.gov>, "Richard' 'Wachowiak" <rwachowiak@epri.com>, "Rosa' 'Yang" <RYANG@epri.com>, "Donald A' 'Kalinich" <dakalin@sandia.gov>, "Phillip M 'Amway:(GenCo-Nuc)" <phillip.amway@exeloncorp.com>, dlluxat@erineng.com, "Don' 'Marksberry" <Don.Marksberry@nrc.gov>, "don algama" <don.algama@nrc.gov>, "steven west" <steven.west@nrc.gov>, "Richard Reister" <Richard.Reister@nuclear.energy.gov>, "Rebecca' 'Smith-Kevern" <Rebecca.Smith-Kevern@nuclear.energy.gov>, "John E 'Kelly (NE)" <JohnE.Kelly@Nuclear.Energy.Gov>, "Edgardo Deleon" <Edgardo.Deleon@em.doe.gov>
Cc: "takashi hara" <takashi.hara@tepco.co.jp>, "Yasunori YAMANAKA" <yamanaka.yasunori@tepco.co.jp>, "yamamoto masayuki" <yamamoto.masayuki@tepco.co.jp>, "takahashi kosuke" <takahashi.kosuke@tepco.co.jp>, "yasutaka denda" <yasutaka.denda@tepco.co.jp>, "kamada toshinori" <kamada.toshinori@tepco.co.jp>, "sekita shunsuke" <sekita.shunsuke@tepco.co.jp>, "yamauchi keisuke" <yamauchi.keisuke@tepco.co.jp>, "takuya kotaki" <takuya.kotaki@tepco.co.jp>, "mizokami shinya" <mizokami.shinya@tepco.co.jp>, "murano kenji" <murano.kenji@tepco.co.jp>, "Resident Researcher, - Yamada, Daichi" <dyamada@guestresearcher.epri.com>
Sent: Wednesday, October 28, 2015 4:04:28 AM
Subject: [Expert Panel on 1F Forensics] Pre-meeting Teleconference: Fri, Oct. 30 from 8 am EDT

1F Forensics Team,

Please find below details for the pre-meeting teleconference on Fukushima Daiichi forensics.

[Date/time]
Fri, Oct. 30, 2015 at 8 am EDT
(Fri, Oct. 30 at 9 pm JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)
(b)(6) [redacted]

[Agenda (tentative)]
1. Introduction of Mr. Takashi Hara, new Washington DC Representative—TEPCO
(Hara-san will be participating in the Nov. 9-10 meeting in DC and will be the main contact person in the future.)

2. Briefing on 1F status (with focus on investigation activities)—TEPCO
2-1. Unit 3 drywell internal investigation results (10/22/2015)
http://photo.tepco.co.jp/en/date/2015/201510-e/151022-01e.html
2-2. Other latest information to be posted on TEPCO website tomorrow evening (Thu, Oct. 29 Japan time).

3. Agenda for the Nov. 9-10 Face-to-face meeting—Joy

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]

tateiwa.kenji@tepco.co.jp

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Saturday, October 10, 2015 6:44 PM
To: 'Joy Rempe'; 'Basu, Sudhamay'; 'RCBUNT@southernco.com'; 'Michael Corradini'; 'phillip.ellison@ge.com'; 'Mitchell T. Farmer'; 'Frances Marshall'; 'Jeff R. Gabor'; 'Randall O' 'Gauntt'; 'Lee, Richard'; 'roy.linthicum@exeloncorp.com'; 'btwillia@tva.gov'; 'Peko, Damian'; 'Plys, Martin G'; 'KRAFT, Steven'; 'cristian.rabiti@inl.gov'; 'Bob Lutz'; 'Luangdilok, Wison'; 'Paik@fauske.com'; 'Robb, Kevin R.'; 'Wachowiak, Richard'; 'Yang, Rosa'; 'Kalinich, Donald A'; 'Amway, Phillip M.(GenCo-Nuc)'; 'dlluxat@erineng.com'; 'Marksberry, Don'; 'don.algama@nrc.gov'; 'steven.west@nrc.gov'; 'Richard.Reister@nuclear.energy.gov'; 'Smith-Kevern, Rebecca'; 'Kelly, John E (NE)'; 'Edgardo.Deleon@em.doe.gov'
Cc: 'takashi hara'; 'Yasunori YAMANAKA'; 'yamamoto masayuki'; 'takahashi kosuke'; 'yasutaka.denda@tepco.co.jp'; 'kamada.toshinori@tepco.co.jp'; 'sekita.shunsuke@tepco.co.jp'; 'yamauchi.keisuke@tepco.co.jp'; 'takuya.kotaki@tepco.co.jp'; 'mizokami.shinya@tepco.co.jp'; 'murano.kenji@tepco.co.jp'; 'Resident Researcher - Yamada, Daichi'
Subject: [Expert Panel on 1F Forensics] 2nd Trial Teleconference: Thu, Oct. 15 from 6 pm MDT

1F Forensics Team,

Please find below details for the 2nd trial teleconference on Fukushima Daiichi forensics and D&D-related issues.

[Date/time]
Thu, Oct. 15, 2015 at 6 pm MDT/ 7 pm CDT/ 8 pm EDT
(Fri, Oct. 16 at 9 am JST)

[Call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184 (New York) / 03-6328-1972 (Tokyo)

(b)(6) [redacted]

[Agenda (tentative)] ***Please provide comments.***
1. Briefing on 1F status (with focus on investigation activities)—Kenji
1-1. Preparation for Fuel Debris Removal (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_08-j.pdf
(page 1/30) Unit 3 drywell investigation schedule
(pages 4/30-13/30) Unit 1 reactor building 1st floor investigation
(pages 14/30-20/30) Unit 2 drywell penetration shield block removal
(pages 21/30-30/30) Unit 3 drywell equipment hatch investigation

1-2. Radioactive Waste Processing (10/1/2015)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d151001_09-j.pdf
(pages 12/27-27/27) Radionuclides analyses of samples taken from Units 1-3 reactor buildings

(FYI, attached is a copy of my notification email for the monthly update call on Oct. 5th.)

2. Agenda for the Nov. 9-10 Face-to-face meeting in DC—Joy

Please let Joy and me know if you can join the call.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company

Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6) [redacted]
tateiwa.kenji@tepco.co.jp

Outside of Scope

Page 0168 of 2257

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Page 0169 of 2257

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of the Freedom of Information and Privacy Act

Page 0170 of 2257

Withheld pursuant to exemption

Outside of Scope

of the Freedom of Information and Privacy Act

Siu, Nathan

From: Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>
Sent: Thursday, November 06, 2014 7:36 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Nov. 7 at 3 pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Nov. 7, 2014 at 3 pm Eastern Standard Time
(Next call will be on **THU, Nov. 13** at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
[redacted] (b)(6)

[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (10/30/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_04-j.pdf

1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_05-j.pdf

1-3. Preparation for Unit 3 Containment Vessel Internal Investigation
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_06-j.pdf

1-4. Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_07-j.pdf

1-5. Environmental Radiation Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_08-j.pdf

1-6. Improvement of Work Environment
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_09-j.pdf

1-7. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_10-j.pdf

1-8. R&D Related to Core Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_11-j.pdf

1-9. Storage of Solid Radioactive Waste
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141030_12-j.pdf

2. NRA Special Facilities Monitoring and Evaluation Committee (10/31/2014)
(only in Japanese)
2-1. Waterproofing Connection between Underground Seawater Piping Trench and Turbine Building
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0028_01.pdf

2-2. Testing of Subdrain Water Treatment Facility
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0028_02.pdf

2-3. Increase in Radioactivity at Unit 1 Discharge Canal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0028_03.pdf

2-4. Effectiveness of Groundwater Bypass System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0028_05.pdf

2-5. Use of Dry Storage Casks at Fukushima Daiichi
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0028_06.pdf

3. Completion of Transferring Spent Fuels from Unit 4 SFP (11/6/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_141106_07-j.pdf

4. Nuclear Safety Reform Plan--2014 Q2 Progress Report (11/5/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1243826_5892.html

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, October 29, 2014 6:56 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, Oct. 30 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
THU, Oct. 30, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Nov. 7** at 3 pm Eastern Standard Time.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (10/27/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l141027_03-j.pdf

1-2. Response to Issues Raised at the Coordination Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l141027_04-j.pdf

2. Fukushima Fishermen's Association Meeting (10/29/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_141029_07-j.pdf

3. "FORMER U.S. NUCLEAR CHIEF DALE KLEIN CITES FUKUSHIMA PROGRESS,CHALLENGES TEPCO TO DEEPEN SAFETY CULTURE, ESTABLISH KPI'S" (10/29/2014)
Speech at the American Chamber of Commerce in Japan
http://www.tepco.co.jp/en/press/corp-com/release/2014/1243683_5892.html

3-1. Overview of the Seven Water Treatment Facilities at 1F
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_141016_04-e.pdf

3-2. Activities of TEPCO's Nuclear Reform Monitoring Committee Members
http://www.nrmc.jp/en/news/detail/index-e.html#date_20141029-103000

4. "On the Brink: The Inside Story of Fukushima Daiichi" (10/7/2014)
Long-awaited English translation of the book that vividly describes the human element of the accident.
http://www.amazon.com/dp/4902075547/?tag=kurodahanpres-20

5. "Fukushima Update" (Sept.-Oct. 2014)
Attached file is a pdf copy of the Nuclear Plant Journal article reprinted and distributed with permission.

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, October 09, 2014 8:27 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Oct. 10 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Oct. 10, 2014 at 3 pm Eastern Daylight Time
(No call next 2 weeks. Next call will be on Thu, Oct. 30 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Facilities Monitoring and Evaluation Committee (10/3/2014)
(only in Japanese)
1-1. New Postulated Earthquake and Tsunami at Fukushima Daiichi and Risk Mitigation Measures
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_141003_04-j.pdf

(page 3/42) Risk mitigation measures
(page 10/42) New postulated earthquake and tsunami results
(page 13/42) Various earthquakes that were considered
(page 25/42) Probability of exceedance for postulated earthquake
(page 28/42) Various tsunamis that were considered
(page 34/42) Probability of exceedance for postulated tsunami
(page 35/42) Risk evaluation and mitigation measures

1-2. Status of Isolating Units 2/3 Seawater Piping Trenches from Turbine Buildings
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_141003_03-j.pdf

(page 4/38) Temperature reduction effect of ice injection into the trench
(page 5/38) Assumed water flow preventing formation of ice barrier
(page 18/38) Injection of grout and concrete to fill gap
(page 21/38) Transferring and processing accumulated water in the trench
(page 23/38) Backfilling the trench with anti-washout cement
(page 28/38) Schedule

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, October 02, 2014 8:53 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Oct. 3 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Oct. 3, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Oct. 10** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (9/22/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140922_03-j.pdf

1-2. Response to Issues Raised at the Coordination Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140922_04-j.pdf

2. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (9/25/2014)
(only in Japanese)

2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_04-j.pdf

2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_05-j.pdf

2-3. Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_07-j.pdf

2-4. Environmental Radiation
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_08-j.pdf

2-5. Fuel Removal from SFPs
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_10-j.pdf

2-6. Unit 2 S/C Lower Outer Surface Investigation
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_11-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=x04s084o&catid=61699

2-7. Radioactive Waste Management
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140925_12-j.pdf

3. Investigation Status of ALPS Train B (9/29/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140929_04-j.pdf

4. Start Operation of Mobile Sr Removal System (10/2/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_141002_06-j.pdf

5. Technical Cooperation Agreement with UK Sellafield Ltd. (9/30/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140930_04-e.pdf

6. "False Report on Fukushima: The Company Responds" (9/22/2014)
TEPCO President's Letter to the Editor of the NY Times
http://mobile.nytimes.com/2014/09/23/opinion/false-report-on-fukushima-the-company-responds.html?_r=0

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 18, 2014 9:38 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 19 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]

Fri, Sept. 19, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, Oct. 3** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Fukushima Prefectural Conference on Decommissioning (9/10/2014)
(only in Japanese)
1- 1. Radioactivity Dispersion Mitigation Measures for Unit 1 Reactor Building Cover Dismantling
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/e140910_01-j.pdf

1-2. Improvements of Work Environment at Fukushima Daiichi
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/e140910_02-j.pdf

1-3. Status on Contaminated Water Issues and Actions Taken
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/e140910_03-j.pdf

2. Hot Test Run Begins for Additional ALPS (9/17/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1242012_5892.html
(reference material)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140911_04-e.pdf

3. Japan Times article on the vivid account of Fukushima Daiichi first responders
3-1. "Workers grappled with darkness at start of Fukushima nuclear crisis"
http://www.japantimes.co.jp/news/2014/09/02/national/workers-grappled-darkness-start-fukushima-nuclear-crisis/#.VAeHZLywaEJ

3-2. "Response stymied by loss of electricity"
http://www.japantimes.co.jp/news/2014/09/02/national/response-stymied-loss-electricity/#.VAeLSbywaEI

3-3. "Fukushima workers tried to save reactor 1 through venting"
http://www.japantimes.co.jp/news/2014/09/02/national/workers-tried-save-reactor-1-venting/#.VAeLBbywaEI

3-4. "Hydrogen explosion left Fukushima No. 1 workers sure they would die"
http://www.japantimes.co.jp/news/2014/09/10/national/hydrogen-explosion-left-fukushima-no-1-workers-sure-they-would-die/#.VBJFfGR_t8k

3-5. "Fukushima No. 2 scrambled to avoid same fate as sister site Fukushima No. 1"
http://www.japantimes.co.jp/news/2014/09/10/national/fukushima-2-scrambled-avoid-fate-sister-site-fukushima-1/#.VBI_jmR_t8I

3-6. "Yoshida's call on seawater kept reactor cool as Tokyo dithered"
http://www.japantimes.co.jp/news/2014/09/14/national/yoshidas-call-seawater-kept-reactor-cool-tokyo-dithered/#.VBc--WR_t8I

3-7. "A melted shoe and a farewell letter in the dark"
http://www.japantimes.co.jp/news/2014/09/14/national/melted-shoe-farewell-letter-dark-fukushima-1/#.VBdGimR_t8I

3-8. "Responders cowed by explosion at reactor 3 building of Fukushima No. 1"
http://www.japantimes.co.jp/news/2014/09/14/national/responders-cowered-by-explosion-at-no-3-reactor-building/#.VBc-8GR_t8I

All the best,
Kenji

Siu, Nathan

From: Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>
Sent: Thursday, March 26, 2015 8:53 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 27, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 27, 2015 at 3 pm Eastern Daylight Time
(No Call Next Week. Next call will be on **THU, April 9** at 3 pm EDT.)

[call-in Information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Muon Tomography Preliminary Results (3/19/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150319_01-e.pdf

2. Contaminated Water Committee (3/17/2015)
(only in Japanese)
2-1. Studies Related to Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150317_07-j.pdf

2-2. Studies Related to High-Performance ALPS
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150317_08-j.pdf

3. NRA Special Facilities Monitoring and Evaluation Committee (3/25/2015)
(only in Japanese)
3-1. "K" Drainage Line Investigation and Actions
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150325_04-j.pdf

3-2. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150325_08-j.pdf

4. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (3/26/2015)
(only in Japanese)
4-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_04-j.pdf

4-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_05-j.pdf
(English translation as of 2/26/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150226_01-e.pdf

4-3. Contaminated Water Treatment
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_07-j.pdf

4-4. Environmental Radiation Issues *(large file size: 56 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_08-j.pdf

4-5. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_10-j.pdf

4-6. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_11-j.pdf

4-7. Radioactive Waste Processing (Radionuclide Analyses of Samples Taken from Units 1-3 R/B)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_12-j.pdf

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 12, 2015 8:50 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 13, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 13, 2015 at 3 pm Eastern Daylight Time
(No Call Next Week. Next call will be on **Fri, March 27** at 3 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Facilities Monitoring and Evaluation Committee (3/2/2015)
(only in Japanese)
1-1. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150304_05-j.pdf

1-2. Measures to Reduce Radioactivity in "K" Drainage Line
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150304_06-j.pdf

1-3. Investigation on Temporary Increase in Radioactivity in Downstream of "B and C" Drainage Line
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150304_07-j.pdf

1-4. Water Level Management after Operation of Frozen-Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150304_08-j.pdf

2. Rain Water Level Drop in Outer Weir of H4 Area Tank (3/12/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150312_04-j.pdf

3. New Disclosure Policy and Independent Audit in Light of Recent Drainage Water Issue (3/6/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1248564_6844.html

4. TEPCO President's Remarks on 4th Anniversary of Great East Japan Earthquake (3/11/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1248663_6844.html

5. "Nuclear Energy in Japan Since Fukushima " (2/17/2015)
TEPCO's presentation at the Platts Nuclear Energy Conference.
http://www.platts.com/IM.Platts.Content/ProductsServices/ConferenceandEvents/2015/pc509/presentations/Kenji_Tateiwa.pdf

6. "Estimated Amount of Radioactive Materials Released into the Air by the Fukushima Daiichi NPS Accident" (3/10/2015)
TEPCO's presentation at the US NRC Regulatory Information Conference (RIC.)
https://ric.nrc-gateway.gov/docs/abstracts/tateiwak-t5-hv-r1.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 26, 2015 10:50 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 27, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 27, 2015 at 3 pm Eastern Standard Time
(**No Call Next Week**. Next call will be on **Fri, March 13** at 3 pm **EDT**.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (2/23/2015)
(only in Japanese)
1-1. Water Contamination Monitoring and Effectiveness of Groundwater Bypass System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150223_04-j.pdf

1-2. Dismantling Plan for Unit 1 Reactor Building Cover
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150223_05-j.pdf

1-3. Occupational Safety Corrective Actions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150223_06-j.pdf

1-4. Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150223_12-j.pdf

2. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (2/26/2015)
(only in Japanese)

2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_04-j.pdf

2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_05-j.pdf
(English translation as of 1/29/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150129_01-e.pdf

2-3. Re-insertion of Thermocouple into Unit 2 RPV Bottom via SLC Line
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_06-j.pdf

2-4. Contaminated Water Treatment
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_07-j.pdf

2-5. Environmental Radiation Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_08-j.pdf

2-6. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_10-j.pdf

2-7. Preparation for Fuel Debris Removal (3D Laser Scanning, Muon Tomography)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_11-j.pdf

2-8. D&D-Related R&D Progress and Future Plans
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_13-j.pdf

2-9. Selection of Technologies to Undergo Tritium-Separation Demonstration Testing
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_14-j.pdf

2-10. Establishment of Global Decommissioning Joint Research Center
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150226_15-j.pdf

3. Temporary Increase in Radioactivity in Downstream of "B and C" Drainage Line (2/24/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1248327_6844.html

4. Unit 2 Reactor Building Truck Bay Door Roof Likely Source of Radioactivity in "K" Drainage Line (2/24/2015)
www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150224_01-e.pdf

5. Briefing to Fishermen's Association in Fukushima Prefecture Regarding Contaminated Water Issues (2/25/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150225_05-j.pdf

6. Unit 1 Reactor Building 4th Floor Inspection by Technical Committee of Niigata Prefecture (2/21/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150221_06-j.pdf

7. Third IAEA Review of Fukushima Daiichi Decommissioning Roadmap (2/17/2015)
https://www.iaea.org/newscenter/pressreleases/iaea-team-completed-third-review-japans-plans-decommission-fukushima
(photos)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150217_03-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji

To: Tateiwa, Kenji
Sent: Thursday, February 12, 2015 10:37 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 13, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 13, 2015 at 3 pm Eastern Standard Time
(**No Call Next Week.** Next call will be on **Fri, Feb. 27** at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Facilities Monitoring and Evaluation Committee (2/9/2015)
(only in Japanese)
1-1. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_02.pdf

1-2. Water Level Management after Operation of Frozen-Soil Wall (summary)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_03.pdf

1-3. Water Level Management after Operation of Frozen-Soil Wall (reference information)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_08.pdf

2. Installation of Muon Detectors for Fuel Debris Detection at Unit 1 (2/9/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1248057_6844.html
(photos)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150209_01-e.pdf

3. *"The Great Race: The Global Quest for the Car of the Future"*
http://amzn.com/B00LD1OP0Q
This book features TEPCO's current Chief Nuclear Officer, Takafumi Anegawa, as a visionary who jump started Japan's electric vehicle industry.

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 05, 2015 9:24 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 6, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 6, 2015 at 3 pm Eastern Standard Time
(Next call will be on **Fri, Feb. 13** at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]

1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (1/30/2015)
(only in Japanese)

1-1. Water Contamination Monitoring and Effectiveness of Groundwater Bypass System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_03-j.pdf

1-2. Wind Velocity Simulation Inside Unit 1 Reactor Building Cover
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_04-j.pdf

1-3. Response to Various Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_07-j.pdf
(page 6/116) ALPS Status
(page 10/116) Various Water Treatment Systems
(page 19/116) Filling Up Seawater Piping Trenches
(page 38/116) Subdrain System
(page 41/116) Frozen Soil Wall
(page 85/116) Radioactivity in Units 1-3 Discharge Canal

2. Causes of Significant Occupational Safety Issues at 1F/2F/KK and Countermeasures (2/3/2015)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu15_j/images/150202j0301.pdf

3. Nuclear Safety Reform Plan 2014 Q3 Progress Report (2/3/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1247946_6844.html

4. IAEA OSART Preparatory Meeting at Kashiwazaki Kariwa (2/2~5/2015)
(only in Japanese)
http://www.tepco.co.jp/kk-np/data/publication/pdf/2014/270205.pdf

5. Removal of Highly Contaminated Water Inside Seawater Piping Trenches (1/28/2015)
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=iwz87j2v&catid=69631

6. TEPCO Official English YouTube
https://www.youtube.com/user/OfficialTEPCOen

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Siu, Nathan

From: Tateiwa, Kenji <tateiwa.kenji@tepco.co.jp>
Sent: Thursday, May 21, 2015 9:22 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 22, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 22, 2015 at 3pm Eastern Daylight Time
(No Call Next Week. Next call will be on **Fri, June 5** at 3pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. IAEA Peer Review Mission Report #3 (5/14/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150514_01-e.pdf

"IAEA Issues Report on Fukushima Decommissioning Review" (IAEA Press Release)
https://www.iaea.org/newscenter/pressreleases/iaea-issues-report-fukushima-decommissioning-review

2. Fukushima Nuclear Accident Unresolved Issues Progress Report # 3 (5/20/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1250927_6844.html

(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu15_e/images/150520e0101.pdf

(Japanese Full Report: 503 pages, 27 MB)
http://www.tepco.co.jp/cc/press/betu15_j/images/150520j0102.pdf

3. High-Level Meeting of Decommissioning & Contaminated Water Issues Team (5/21/2015)
(only in Japanese)
3-1. Basic Policy regarding the Mid-and-Long-Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_05-j.pdf

3-2. Straw Man for the Mid-and-Long-Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_06-j.pdf

3-3. Enhanced Coordination on R&D Activities for Decommissioning and Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_03-j.pdf

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
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(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, May 07, 2015 9:07 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 8, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 8, 2015 at 3 pm Eastern Daylight Time
(**No Call Next Week**. Next call will be on **Fri, May 22** at 3 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Drywell Internal Investigation by Transforming Robots: Summary of Findings (4/30/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150430_01-j.pdf

2. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (4/30/2015)
(only in Japanese)
2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_04-j.pdf

2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_05-j.pdf
(English translation as of 3/26/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150326_01-e.pdf

2-3. Contaminated Water Treatment *(file size: 14 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_07-j.pdf

2-4. Environmental Radiation Issues *(file size: 17 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_08-j.pdf

2-5. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_10-j.pdf

2-6. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_11-j.pdf

2-7. Radioactive Waste Processing
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_12-j.pdf

2-8. NDF's 2015 Technical Strategy Plan in Preparation for Revising the Mid-to-Long Term Decommissioning Roadmap *(file size: 18 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_14-j.pdf

2-9. Identification of Risk Factors Related to Off-site Radiological Impact
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_15-j.pdf

2-10. Preparation for Disclosing All Radiological Data
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_16-j.pdf

2-11. Government-Funded Demonstration Testing Results for 5 Contaminated Water Treatment Systems
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_17-j.pdf

3. Test Operation of Brine Circulation for Frozen Soil Wall (4/30/2015)
http://photo.tepco.co.jp/en/date/2015/201504-e/150430-02e.html

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 23, 2015 10:42 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 24, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 24, 2015 at 3 pm Eastern Daylight Time
(**No Call Next Week**. Next call will be on **Fri, May 8** at 3 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Drywell Internal Investigation by Transforming Robots (4/10~19/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1249780_6844.html

(April 10 Results)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150413_01-e.pdf
(video clip for April 10)
http://photo.tepco.co.jp/en/date/2015/201504-e/150413-01e.html

(April 15 Results)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150416_01-e.pdf
(video clip for April 15)
http://photo.tepco.co.jp/en/date/2015/201504-e/150416-01e.html

(April 16 Results)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150417_01-e.pdf
(video clip for April 16)
http://photo.tepco.co.jp/en/date/2015/201504-e/150417-01e.html

(April 18-19 Results)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150420_01-e.pdf
(video clip for April 18-19)
http://photo.tepco.co.jp/en/date/2015/201504-e/150420-01e.html

2. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (4/13/2015)
(only in Japanese)

2-1. Water Contamination Monitoring and Effectiveness of Groundwater Bypass System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_04-j.pdf

2-2. Preparation for Dismantling Unit 1 Reactor Building Cover
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_05-j.pdf

2-3. Outdoor Cable Fire
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_11-j.pdf

2-4. Status Report on Identification of Risk Factors Related to Off-site Radiological Impact
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_12-j.pdf

2-5. New Framework and Organization Related to Disclosure of All Radiological Data
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_13-j.pdf

2-6. NDF's Draft 2015 Technical Strategy Plan in Preparation for Revising the Mid-to-Long Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_15-j.pdf

2-7. Draft Straw Man for the Revised Mid-to-Long Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_18-j.pdf

2-8. Status Report on Various Issues (155 pages, 13.3 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150413_19-j.pdf

3. NRA Special Facilities Monitoring and Evaluation Committee (4/22/2015)
(only in Japanese)

3-1. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.nsr.go.jp/data/000104663.pdf

3-2. Water Collected on Lid of High-Intensity Container Inside a Box Culvert
http://www.nsr.go.jp/data/000104664.pdf

3-3. Groundwater Inflow Mitigation Measures and Water Level Management
http://www.nsr.go.jp/data/000104677.pdf

3-4. Reduction of Radioactivity in Drainage Channels
http://www.nsr.go.jp/data/000104668.pdf

4. Inadvertent Stop of Drainage Pumps at K Drainage Channel--Now Restored (4/21, 23/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1249920_6844.html
(Detailed Info)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150421_01-e.pdf

5. IAEA Delegation Visit to Fukushima Daiichi (4/19/2015)
http://photo.tepco.co.jp/en/date/2015/201504-e/150421-01e.html

** If you cannot display Japanese characters, please install the following font packs:*

http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
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Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, April 08, 2015 8:25 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, April 9, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
THU, April 9, 2015 at 3 pm Eastern Daylight Time
(**No Call Next Week.** Next call will be on **Fri, April 24** at 3 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 3 Shield Plug in Front of Containment Vessel Equipment Hatch: Assumed Cause of Movement (3/30/2015)
Shield plug could have moved due to pressure differential between containment vessel and reactor building when R/B hydrogen explosion occurred.
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150330_04-j.pdf

2. Unit 3 Spent Fuel Pool Gate Condition (4/6/2015)
Visual inspection found no significant impact to one of the two layers of gates (G1) maintaining water-tightness of pool.
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150406_04-j.pdf

3. Crawler Robot to Investigate Inside Unit 1 Drywell (4/6/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150406_01-e.pdf

4-1. Nuclear Safety Reform Plan: Quarterly Progress Report (3/30/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1249285_6844.html

4-2. Full Report
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu15_j/images/150330j0102.pdf

4-3. TEPCO's Nuclear Reform Monitoring Committee
http://www.nrmc.jp/en/report/detail/1249278_5233.html

4-4. "Reviewing the Two Years of Nuclear Safety Reform"
http://www.nrmc.jp/en/report/detail/__icsFiles/afieldfile/2015/04/02/E-5.pdf

5-1. *"Trace Amounts of Fukushima Radioactivity Detected Along Shoreline of British Columbia"* (4/6/2015)
Press release by the Woods Hole Oceanographic Institution.
http://www.whoi.edu/news-release/fukushima-ucluelet

5-2. TEPCO's Sea Water Sampling Data
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/index-e.html

5-3. TEPCO's Seawater Monitoring Plan (4/1/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150401_06-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 26, 2015 8:53 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 27, 2015 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 27, 2015 at 3 pm Eastern Daylight Time
(**No Call Next Week.** Next call will be on **THU, April 9** at 3 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Muon Tomography Preliminary Results (3/19/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150319_01-e.pdf

2. Contaminated Water Committee (3/17/2015)
(only in Japanese)
2-1. Studies Related to Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150317_07-j.pdf

2-2. Studies Related to High-Performance ALPS
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150317_08-j.pdf

3. NRA Special Facilities Monitoring and Evaluation Committee (3/25/2015)
(only in Japanese)
3-1. "K" Drainage Line Investigation and Actions
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150325_04-j.pdf

3-2. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150325_08-j.pdf

4. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (3/26/2015)
(only in Japanese)

4-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_04-j.pdf

4-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_05-j.pdf
(English translation as of 2/26/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150226_01-e.pdf

4-3. Contaminated Water Treatment
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_07-j.pdf

4-4. Environmental Radiation Issues *(large file size: 56 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_08-j.pdf

4-5. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_10-j.pdf

4-6. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_11-j.pdf

4-7. Radioactive Waste Processing (Radionuclide Analyses of Samples Taken from Units 1-3 R/B)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150326_12-j.pdf

All the best,
Kenji

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Wednesday, October 09, 2013 10:32 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Thu, Oct. 10 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Thu, Oct. 10, 2013 at 3 pm Eastern Time
(No calls for the next 2 weeks due to business trip to Tokyo. Next call will be on **Fri, Nov. 1** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Estimation of Tsunami Arrival Time at 1F Reconfirms Conclusion that On-site Power was Lost Due to Tsunami, Not Earthquake (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_03-j.pdf

2. Seismic Analysis Shows Units 1&2 Main Exhaust Stack with Broken Beams will Remain Intact with Design-basis Earthquake (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_06-j.pdf

3. Inadvertent Temporary Shutdown of Power Supply to Unit 1 Core Injection Pump and Immediate Recovery (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_08-j.pdf

4. Leak Paths Identified at Bottom of H4 Area Tank #5 (10/8/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131008_03-j.pdf

5. Water Leak Halted After Pipe Mistakenly Taken Off at Desalination System; Minor Contamination of Workers (10/9/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131009_04-j.pdf

6. Second On-Site Coordination Meeting on Contaminated Water Issues (10/9/2013)
(only in Japanese)
6-1. Current Status Regarding H4 Area Tank Leakage Detection, Seawater/Groundwater Contamination, Emergency Measures, ALPS, Subdrain System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_03-j.pdf

6-2. Revamping Contaminated Water Management
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_04-j.pdf

6-3. Contaminated Water Issues, Countermeasures and Progress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_05-j.pdf

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http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

All the best,
Kenji

Kenji Tateiwa
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(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, October 03, 2013 10:49 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Oct. 4 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Oct. 4, 2013 at 3 pm Eastern Time
(Next call will be on **Thu, Oct. 10** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Niigata Prefectural Governor's Approval to Apply for Regulatory Standard Compliance Review of Kashiwazaki-Kariwa Units 6 and 7 (9/26/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230926_5130.html

2. Application for Regulatory Standard Compliance Review of KK Units 6 and 7 (9/27/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230976_5130.html
Attachment (only in Japanese)
http://www.tepco.co.jp/cc/press/betu13_j/images/130927j0101.pdf

3. Eighth Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (9/26/2013)
(only in Japanese)

3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_04-j.pdf

3-2. Summary Status of Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_05-j.pdf

3-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_07-j.pdf

4. Seventh Gov't-TEPCO Meeting on Contaminated Water Issues (9/27/2013)
4-1. Identification of Risks Related to Contaminated Water and Examination of Countermeasures
http://www.meti.go.jp/english/earthquake/nuclear/decommissioning/pdf/20130927_001a.pdf

4-2. On-site Progress Related to Contaminated Water Issues
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130927_05-j.pdf

5. Seventh NRA Working Group Meeting on Contaminated Water Issues (9/30/2013)
(only in Japanese)
5-1. Investigation Status on Leakage from Partially-treated Water Tank
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_01.pdf

5-2. Investigation Status on Groundwater Contamination Near Bank Protection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_02.pdf

5-3 Glitch Found in Train C of ALPS
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_03.pdf

6. Current Status and Countermeasures Against Contaminated Water Issues (9/30/2013)
6-1. Summary
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_01.pdf

6-2. Fundamental Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_02.pdf

6-3. Emergency Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_03.pdf

6-4. Current Status of H4 Area Tank #5 Leakage
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_04.pdf

6-5. Risk Reduction Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_05.pdf

7. Desalinated Water Leakage from B-Area South Tank (10/3/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131003_01-e.pdf

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All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 19, 2013 11:18 PM

Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 20 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 20, 2013 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri, Oct. 4th** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Video Tour of Fukushima Daiichi NPS (9/17/2013)
http://photo.tepco.co.jp/en/date/2013/201309-e/130917-03e.html

2. Broken Beam found in Units 1&2 Main Exhaust Stack (9/18/2013)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130918_13-j.pdf

3. Sixth NRA Working Group Meeting on Contaminated Water Issues (9/12/2013)
(only in Japanese)
3-1. Investigation Status on Leakage from Partially-treated Water Tank
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0006_05r.pdf

3-2. Investigation Status on Groundwater Contamination Near Bank Protection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0006_06.pdf

4. Sixth Gov't-TEPCO Meeting on Contaminated Water Issues (9/13/2013)
(only in Japanese)
4-1. Framework for Worldwide Technology Solicitation Through IRID
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_04-j.pdf

4-2. Examples of Technologies Subject to Solicitation Through IRID
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_05-j.pdf

(Website of International Research Institute for Nuclear Decommissioning)
http://www.irid.or.jp/en/index.html

4-3. Fundamental Countermeasures for Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_07-j.pdf

4-4. Investigation Status on Leakage from Partially-treated Water Tank
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_08-j.pdf

4-5. Investigation Status on Groundwater Contamination Near Bank Protection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_09-j.pdf

4-6. METI Minister Motegi's Presentation on Basic Policy for Decommissioning and Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130913_13-j.pdf

5. History of Studies Related to Implementation of Underground Barrier (9/13/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130913_06-j.pdf

6. Overview of Contaminated Water Issues and Countermeasures (9/13/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130913_01-e.pdf

7. Accumulated Rainwater Discharged from Dam Surrounding Partially-treated Contaminated Water Tanks (9/17/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/water/13091701-e.html

8. Radioactivity in Water Samples from Various Locations of Water Treatment System (9/18/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/water_130918-e.pdf

9. H4 Area Tank #5 being Dismantled (9/19/21013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130919_04-j.pdf

10. Prime Minister Abe Visits Fukushima Daiichi (9/19/2013)
(only in Japanese)
http://photo.tepco.co.jp/date/2013/201309-j/130719-02j.html

11. Response to Prime Minister's Requests Regarding Actions Related to Contaminated Water Issues (9/19/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230730_5130.html

12. No Abnormality Found at Fukushima Daiichi Due to M 5.8 Earthquake (9/20/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230749_5130.html

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http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

All the best,
Kenji

---- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, September 13, 2013 9:35 PM
Subject: Follow-up [TEPCO Weekly Fukushima Update Call] Fri, Sept. 13 at 3pm EDT

Nuclear Sector Colleagues,

Please find below major points that we discussed today during the call (for those material available only in Japanese):

1. Development and Demonstration of Suppression Chamber Water Level Measurement Robot (9/12/2013)
- The robots utilize ultrasonic probe to measure the water level of the suppression chamber from outside the torus shell.
- Demonstration at Unit 5 is ongoing followed by demonstration at Unit 2 next week.

2. Preparation to Dismantle Unit 1 Reactor Building Cover (9/12/2013)
- The cover will have to dismantle to remove rubble from the refueling floor.
- Exhaust system of the Unit 1 reactor building cover will be stopped on Sept. 17th in preparation of dismantling the cover from around March 2014.
- Conservative estimate of incremental dose rate due to removal of the cover is only 5E-5 micro-Sievert per hour at a location 5 km away from Unit 1.

8. Current Status on Contaminated Water Issues (9/9/2013)
(page 11/45) Partially-treated contaminated water that leaked from H 4 Area Tank #5 may have flowed through the above ground draining trench to the sea; however, only minimal amount of Cs-137 was detected from the seawater near the discharge of the trench and gross-beta was below detectable level.

(pages 22/45 to 25/45) Results of sea water contamination survey conducted by NRA showed minimal to no Cs-134/137, tritium and gross-beta at locations within 20-km radius of 1F.

9. Investigation of Partially-Treated Contaminated Water Leakage from H4 Area Tank (9/12/2013)
(pages 3 to 38) Inspection of H 4 Area Tank #5 and integrity assessment of steel tanks.
(page 53) Samples taken from groundwater observation holes E-1 and E-2 showed high concentration of tritium and gross-beta. Tritium concentration in E-1 is rapidly increasing.
(pages 61-64) Samples taken from groundwater of the Bypass System showed no gross-beta and there has been no significant increase in tritium concentration.

10. Status of Groundwater Contamination Near Bank Protection and Countermeasures (9/12/2013)
(page 4) Maximum concentration of tritium and gross-beta from various sampling points.
(page 13) No gross-beta has been detected from seawater inside the port of 1F other than in the immediate vicinity of Units1-4 intake structures.
(page 24-27) Highly contaminated water accumulated in Unit 2 branching trench has been transferred and the trench was filled with concrete and mortar. However, water seems to have backflowed from the turbine building into the trench.

On topic 5, there was a question on what kind of level gauge will be use to monitor the water level of flange-type tanks. We will be installing a level gauge on top of the tank and fix it with a flange bolt; the gauge will emit radar towards the water surface and measure the level based on the speed of the wave and time of reflection.

Have a great weekend.

All the best,
Kenji

—— Original Message ——
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 12, 2013 9:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 13 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 13, 2013 at 3 pm Eastern Time
(Next call will be on **Fri, Sept. 20** at 3 pm)

[Major topics]
1. Development and Demonstration of Suppression Chamber Water Level Measurement Robot (9/12/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130912_11-j.pdf

2. Preparation to Dismantle Unit 1 Reactor Building Cover (9/12/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130912_08-j.pdf

3. English Website on Contaminated Water Issues and Countermeasures
http://www.tepco.co.jp/en/nu/fukushima-np/water/index-e.html

4. TEPCO President Mr. Hirose's Video Message on Contaminated Water Issues (9/5/2013)
http://tepco.webcdn.stream.ne.jp/www11/tepco/download/130905_01e.wmv

5. Installation of Water Level Monitoring System in Tank Farms (9/6/2013)

http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130906_09-e.pdf

6. Gross-beta and Tritium Detected from Groundwater Near Leakage from H4 Area Tank (9/11/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/south_discharge_130911-3-e.pdf

7. Radioactivity in H4 Area #5 Tank (9/12/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/south_discharge_130912-2-e.pdf

8. Current Status on Contaminated Water Issues (9/9/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l130909_04-j.pdf

9. Investigation of Partially-Treated Contaminated Water Leakage from H4 Area Tank (9/12/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130912_05-j.pdf

10. Status of Groundwater Contamination Near Bank Protection and Countermeasures (9/12/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130912_06-j.pdf

11. Mr. Lake Barrett to Advise TEPCO on Contaminated Water Issues (9/10/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230443_5130.html

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Saturday, September 07, 2013 1:27 PM
Subject: Follow-up [TEPCO Weekly Fukushima Update Call] Fri, Sept. 6 at 3pm EDT

Nuclear Sector Colleagues,

Pleaese find below answers to questions that I received related to the call on Sept. 6th.

(Q-1) What are the composition of contaminated water in the underground trenches near the port?
(A-1) Sampling results as of 7/31/2013 were as follows:

Unit 2 seawater piping trench vertical shaft C (depth 1m)
Cs-134: 1.1E+8 Bq/liter
Cs-137: 2.3E+8 Bq/liter
Gross beta: 3.3E+8 Bq/liter
Tritium: 2.4E+6 Bq/liter

Unit 3 seawater piping trench vertical shaft B (depth 1m)
Cs-134: 1.3E+7 Bq/liter
Cs-137: 2.6E+7 Bq/liter
Gross beta: 3.2E+7 Bq/liter
Tritium: 3.6E+5 Bq/liter

(reference: trench water analysis results (Japanese))
http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2013/images/trench0203_130802-j.pdf

(Q-2) How is the number of thermometers in the primary containment regulated?
(A-2) In page 758/3230 of the "Implementation Plan for Specific Reactor Facility", which is a Tech. Spec.-equivalent licensing document for Fukushima Daiichi NPS, it is stipulated as follows:

"Multiple thermometers shall be installed in the RPV and PCV in the circumferential direction and vertical direction."
"Thermometers deemed disfunctional shall be excluded."
"Installation of new thermometers shall be planned and implemented in anticipation of thermometers becoming disfunctional."

(reference: Implementation Plan for Specific Reactor Facility (Japanese))
http://www.tepco.co.jp/cc/press/betu13_j/images/130812j0201.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 05, 2013 11:54 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 6 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 6, 2013 at 3 pm Eastern Time
(Next call will be on **Fri, Sept. 13** at 3 pm)

[Major topics]
1. Monthly Reliability Report on Thermometers Installed in Units 1-3 PCV (9/2/2013)
(attachment is only in Japanese)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230239_5130.html

2. Jib Mast of a Large Crane Used at Unit 3 Bent (9/5/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130905_06-j.pdf

3. Groundwater Inflow Location Identified at Unit 1 Turbine Building and HTI Building (9/4/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130904_07-e.pdf

Video Clip (Turbine Building)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=590448354002

Video Clip (HTI Building)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=590448355002

4. Highly Contaminated Water Storage and Treatment Status (9/4/2013)
http://www.tepco.co.jp/en/press/corp-com/release/betu13_e/images/130904e0301.pdf

5. Contaminated Groundwater Issues Near the Port
5-1. Status on Contaminated Groundwater Issues and Estimate of Sr/Cs Leakage into Sea (8/30/2013)
(only in Japanese)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0005_01.pdf

5-2. Latest and Highest Results of Groundwater Contamination Near the Port (9/4/2013)

http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/2tb-east_13090403-e.pdf

6. Partially-Treated Contaminated Water Leakage from Tanks
6-1. Status on Partially-Treated Contaminated Water Leakage from H4 Area Tank (8/30/2013)
(only in Japanese)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0005_02.pdf

6-2. The 1,800 mSv/h Dose Rate Observed Near Tank was Mostly Beta-Radiation (9/1/2013)
http://www.tepco.co.jp/en/announcements/2013/1230191_5502.html

6-3. H3, 4, 5 Area Tank Patrol Results (9/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130902_04-e.pdf

6-4. H3 Area Tank Patrol Results (9/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130902_05-e.pdf

6-5. Video Clip of Tank Patrol (9/4/2013)
http://photo.tepco.co.jp/en/date/2013/201309-e/130904-01e.html

6-6. Contamination Survey Results Related to H4 Area Tank Leakage (9/5/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/south_discharge_130905-1-e.pdf

6-7. Possible Groundwater Contamination Due to H4 Area Tank Leakage (9/5/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230333_5130.html

6-8. Effective Shielding of Beta-Radiation at H3 Area Tank (9/5/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130905_01-j.pdf

7. Presentations on Contaminated Water Issues to the Local Fisheries Association (9/3/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130903_04-j.pdf
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130903_03-j.pdf
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130903_01-j.pdf
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130903_02-j.pdf

8. Government Announces "Basic Policy on Contaminated Water Issues" (9/3/2013)
http://www.meti.go.jp/english/earthquake/nuclear/decommissioning/pdf/20130904_01a.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, August 30, 2013 12:40 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 30 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.
(Pardon my harsh voice due to sore throat, in advance.)

[Date/time]
Fri, Aug. 30, 2013 at 3 pm Eastern Time
(Next call will be on **Fri, Sept. 6** at 3 pm)

[Major topics]
1. Status on Contaminated Groundwater Issues and Estimate of Sr/Cs Leakage into Sea (8/27/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130827_05-j.pdf

2. Establishment of "Contaminated Water and Tank Task Force" and Risk Mitigation Actions (8/26/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130826_07-j.pdf

3. Status on Partially-Treated Contaminated Water Leakage from H4 Area Tank (8/27/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130827_04-j.pdf

4-1. NRA Revises INES Scale to 3 for H4 Area Tank Water Leakage Event (8/28/2013)
(only in Japanese)
http://www.nsr.go.jp/activity/bousai/trouble/20130828-1.html

4-2. IAEA's Comments Regarding Applicability of INES to This Event
http://www.nsr.go.jp/activity/bousai/trouble/data/20130828-1.pdf

5-1. Cs Concentration in Fish within 20-km Radius of 1F (8/28/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130828_06-j.pdf

5-2. Cs Concentration in Fish and Seawater within 20-km Radius of 1F (8/28/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130828_04-j.pdf

6. Seventh Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (8/29/2013)
(only in Japanese)
6-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130829_04-j.pdf

6-2. Summary Status of Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130829_05-j.pdf

6-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130829_06-j.pdf

6-4. Establishment of International Research Institute for Nuclear Decommissioning (IRID)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130829_08-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, August 23, 2013 4:00 AM
Subject: [TEPCO Weekly Fukushima Update Call] Email only for Fri, Aug. 23

Nuclear Sector Colleagues,

There will be **no call this week** due to my business trip to California.

(Next call will be on **Fri, Aug. 30** at 3 pm Eastern Time.)

However, please find below latest information on Fukushima and do feel free to contact me should you have any questions.

[Major topics]
1. Preliminary Estimation of Amount of Tritium, Cesium and Strontium Released to the Sea (8/21/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130821_07-e.pdf

2. Status and Countermeasures on Contaminated Groundwater Issues: Presented to the NRA Working Group (8/21/2013)
(only in Japanese; 78 pages/10 MB file)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130821_10-j.pdf
- Includes detailed assumptions and methodologies applied to estimate the amount of tritium, Cs, Sr released to the sea.

3. Summary Status and Countermeasures on Contaminated Groundwater Issues: Presented to the Local Fisheries Association (8/22/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130822_02-j.pdf
- Explains both immediate and fundamental measures to prevent contaminated water from entering into the sea.

http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130822_03-j.pdf
- Explains concept of groundwater bypass system and very low or not detectable amount of radioactivity found in the groundwater.

4. Contaminated Water Leakage from H4 Area Tank (8/21/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130821_01-e.pdf

5. Contaminated Water Leakage from H4 Area Tank: Detailed Material Presented to the NRA Working Group (8/21/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130821_12-j.pdf
- Estimated amount of leakage: 300 cubic meters.
- The tank contains RO concentrated water (treated to remove much of Cs but before removing Sr and other beta-nuclides.)
- The tank is "Flange Type" made of bolt-fastened steel.
- Distance from the tank to the sea: about 500 meters.

6. Inspection Results of All Bolt-Fastened "Flange Type" Tanks (8/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130822_02-e.pdf

7. Sampling Results Along Potential Leakage Paths of Contaminated Water from H4 Area Tank (8/23/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/south_discharge_130823-1e.pdf

8. Discussion at the NRA Commission Meeting Regarding INES Scale of H4 Area Tank Water Leakage (8/21/2013)
(only in Japanese)
http://www.nsr.go.jp/committee/kisei/data/0019_08r.pdf
- NRA considers this event should ordinarily be scaled as "Level 3" based on the amount of estimated radioactivity leakage and lack of defense in depth.
- However, given the unique situation at Fukushima Daiichi, NRA will consult with the IAEA on how to apply the INES scale to this event.

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji

To: Tateiwa, Kenji
Sent: Thursday, August 15, 2013 10:17 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 16 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Aug. 16, 2013 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri, Aug. 30** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Investigation Results Inside of Unit 2 PCV (8/12/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130812_06-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=571344891002

2. Investigation Results Inside of Unit 4 Reactor Well, Reactor Pressure Vessel and Spent Fuel Pool (8/9/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130809_07-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=569537891002

3-1. Summary Status and Countermeasures on Contaminated Groundwater Issues (8/8/2013)
http://www.meti.go.jp/english/earthquake/nuclear/decommissioning/pdf/20130808_01.pdf

3-2. Status and Countermeasures on Contaminated Groundwater Issues (7/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130722_07-e.pdf

3-3. Status and Countermeasures on Contaminated Groundwater Issues (8/12/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130812_03-j.pdf

4. Approval of Implementation Plan for Specific Reactor Facility (A Comprehensive Licensing Document for 1F) (8/14/2013)
(press release)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1229740_5130.html
(presentation: only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130814_10-j.pdf
(Implementatin Plan: only in Japanese; 146 MB)
http://www.tepco.co.jp/cc/press/betu13_j/images/130812j0201.pdf
(appendix: only in Japanese; 24.7 MB)
http://www.tepco.co.jp/cc/press/betu13_j/images/130812j0202.pdf

All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 01, 2013 11:27 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 2 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Aug. 2, 2013 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri, Aug. 16** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1-1. Hydrogen Gas Purge Test for Unit 2 Suppression Chamber (7/19/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130719_05-e.pdf

1-2. Test Results for Hydrogen Gas Purge Test for Unit 2 Suppression Chamber (7/26/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130726_07-j.pdf

2. Investigation Results of Unit 2 Reactor Building PCV Penetration Vicinity (7/24/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130724_08-e.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/movie-01j.html?bcpid=45149870002&bclid=347241149002&bctid=552615674002

3. Unsuccessful Attempt to Investigate Inside Unit 2 RPV Via TIP Guide Tube (7/25/2013)
(only in Japanese)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01h.pdf

4-1. Re-attempt to Investigate Inside Unit 2 PCV (7/25/2013)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01mm.pdf

4-2. Preparatory Investigation Inside Unit 2 PCV (7/31/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130731_09-j.pdf

5-1. Infrared Thermography Images of Unit 3 Reactor Building Refueling Floor (7/24/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130724_06-e.pdf

5-2. Ambient Dose Measured Near Shield Plug of Unit 3 Reactor Building Refueling Floor (7/24/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130724_05-e.pdf

5-3. Investigation on Steam Observed at Unit 3 Reactor Building Refueling Floor (7/25/2013)
(only in Japanese)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01e.pdf

6. Removal of Rubble Utilizing Robots in Unit 3 Reactor Building (7/26/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130726_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/movie-01j.html?bcpid=45149870002&bclid=347241149002&bctid=554496408002

7-1. Completion of Outer Wall and Roof Panel of Unit 4 Defueling Structure (7/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130722_05-e.pdf

7-2. Installation of Unit 4 Fuel Handling Machine (7/25/2013)
(only in Japanese)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01qq.pdf

8. Clarification on Difference in Estimated Thyroid Equivalent Dose between WHO and TEPCO Data (7/22/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130722_06-j.pdf

9. ALPS Tank Leakage due to Corrosion and Countermeasures (7/25/2013)
(only in Japanese)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01n.pdf

10. Groundwater Contamination Issue Near the Sea and Countermeasures (7/25/2013)
(only in Japanese)
http://www.meti.go.jp/earthquake/nuclear/pdf/130725/130725_01x.pdf

11. Issues Related to Public Announcement of Contaminated Water Leakage into 1F Port (7/26/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1229317_5130.html

12. Radioactivity of Fish Within 20-km Radius of 1F (7/26/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130726_04-j.pdf

13. Nuclear Safety Reform Plan Progress Report (7/26/2013)
http://www.tepco.co.jp/en/press/corp-com/release/betu13_e/images/130726e0402.pdf

All the best,
Kenji

---- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 18, 2013 11:21 AM
Subject: Additional topic [TEPCO Weekly Fukushima Update Call] Thu, July 18 at 3pm EDT

Nuclear Sector Colleagues,

I will also explain the following topic that just came out last night.

0. Steam Observed on Unit 3 Reactor Building Refueling Floor between Reactor Well and D/S Pit (7/18/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130718_03-j.pdf
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130718_02-j.pdf

No abnormal change in plant parameter (reactor coolant flow, RPV/PCV temperature, PCV pressure, radiation monitor, etc.) has been ovserved at this moment.

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 17, 2013 9:38 PM
Subject: [TEPCO Weekly Fukushima Update Call] Thu, July 18 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Thu, July 18, 2013 at 3 pm Eastern Time
(No call next week. Next call will be on Fri, Aug. 2 at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 2 TIP Guide Tube Borescope Investigation (7/8~11/2013)
(only in Japanese)
1-1. Day 1 (7/8)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130708_05-j.pdf
1-2. Day 2 (7/9)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130709_04-j.pdf
1-3. Day 3 (7/10)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130710_09-j.pdf
1-4. Day 4 (7/11)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130711_01-j.pdf
(video clip for day 4)
http://www.tepco.co.jp/tepconews/library/movie-01j.html?bcpid=45149870002&bclid=347241149002&bctid=542252254002

2. Radioactivity in Fish Caught Near 1F (7/17/2013)
2-1. Inside Port of 1F
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/fish01_130717-e.pdf
2-2. Within 20 km Radius of 1F (Outside Port of 1F)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/fish02_130717-e.pdf

3. Measures Taken to Prevent Fish from Leaving Port of 1F (7/12/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130712_02-e.pdf

4. Video Clip on Chemical Injection for Ground Improvement at Bank Protection between Units 1 and 2 (7/17/2013)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=546505066002

5. Basic Design of Filtered Containment Venting System for Kashiwazaki Kariwa Units 6/7 (7/17/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130717_03-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 11, 2013 9:53 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 12 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, July 12, 2013 at 3 pm Eastern Time

(Next call will be on Thu, July 18 at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Fifth Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (6/27/2013)
1-1. Mid-to-Long-Term Roadmap towards Decommissioning of 1F (summary)
http://www.meti.go.jp/english/press/2013/pdf/0627_01a.pdf

1-2. Mid-to-Long-Term Roadmap towards Decommissioning of 1F (full document)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130627_04-j.pdf

1-3. Status of Establishing International Technology Development Partnership
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130627_10-j.pdf

2. Core Injection Via Condensate Storage Tank Begins for Units 1-3 (7/5/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130705_02-j.pdf

3. Radioactive Materials Found in Naraha Town During Off-site Decontamination Work (7/8/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130708_05-e.pdf

4. Ground Improvement of Bank Protection by Chemical Injection (7/9/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130709_03-e.pdf

5. Sampling Results of Ground Water Near Bank Protection, etc. (7/10/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/2tb-east_13071003-e.pdf

6. Sampling Results of Unit 3 Trench Vertical Shaft A (7/11/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130711_04-j.pdf

7. Mr. Masao Yoshida, Former 1F Site Superintendent, Passed Away at Age 58 (7/9/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1228822_5130.html

All the best,
Kenji

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa@wash.tepco.com]
Sent: Monday, November 25, 2013 10:05 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Tue, Nov. 26 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Tue, Nov. 26, 2013 at 3 pm Eastern Time
(Next call will be on **Fri, Dec. 6** at 3 pm--pardon the irregular schedule)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. First Fuel Transportation Successfully Completed from Unit 4 SFP to Common SFP (11/21/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1232330_5130.html

(photos/videos)
Day 1 (11/18/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131118_03-e.pdf
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=662021536002

Day 3 (11/20/2013)
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=663150805002

Day 4 (11/21/2013)
http://photo.tepco.co.jp/en/date/2013/201311-e/131121-01e.html
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=664255047002

Day 5 (11/22/2013)
http://photo.tepco.co.jp/en/date/2013/201311-e/131122-01e.html
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=665354868002

2. Effectiveness Confirmed for Anti-Corrosion Measures for ALPS (11/15/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131115_03-j.pdf

(page 2/10) Inspection points indicated in red circle
(page 5/10 to 7/10) Effectiveness confirmed
(page 8/10) Corrosion found prior to implementing anti-corrosion measures

3. Ninth Gov't-TEPCO Meeting on Contaminated Water Issues (11/15/2013)
(only in Japanese)
3-1. Update from Subgroups
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c131115_04-j.pdf
(page 1/114 to 94/114) Subgroup 1: Groundwater and rainwater analysis and visualization
(page 95/114 to 114/114) Subgroup 2: Risk analysis related to contaminated water

3-2. Proposals in Response to Request for Information Regarding Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c131115_05-j.pdf
- 779 proposals were examined by expert group and categorized based on their relevance, etc.

3-3. Report from TEPCO
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c131115_06-j.pdf
(page 1/4 to 3/4) Status of sea-side impermeable wall installation
(page 4/4) Water quality investigation of lower-permeable layer near Unit 3 intake structure

4. Water Quality Investigation of Sub-drain Pits (11/25/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131125_05-j.pdf
(page 3/4) Map of Units 1-4 and location of sub-drain pits.

5. IAEA to Conduct 2nd Review of Roadmap towards Decommissioning (11/21/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1232331_5130.html

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
(New address from 11/18/2013)
2121 K Street NW, Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)
tateiwa.kenji@tepco.co.jp

—— Original Message ——
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, November 13, 2013 10:42 PM
Subject: [TEPCO Weekly Fukushima Update Call] Thu, Nov. 14 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Thu, Nov. 14, 2013 at 3 pm Eastern Time
(Next call will be on **Tue, Nov. 26** at 3 pm--pardon the irregular schedule)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Torus Investigation Preliminary Results; Identified 2 Leakage Locations (11/13/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131113_15-j.pdf
(page 2/7) Schematic of torus and boat used to obtain images and dose data
(page 4/7) Photos of stream of water observed near lower part of a vent pipe
(page 5/7) Photos of a broken sand-cushion drain pipe and water leakage
(page 6/7) Dose rate near boat route was 0.9 to 1.8 Sv/h

2. Urgent Safety Measures at Fukushima Daiichi (11/8/2013)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu13_j/images/131108l0102.pdf
(page 2/34 to 8/34) Improvement of work environment
(page 9/34 to 10/34) Organizational reinforcement
(page 11/34 to 16/34) Measures against rainwater
(page 17/34 to 22/34) Cause and measures for tank water leakage
(page 23/34 to 24/34) Reliability enhancement of ALPS
(page 25/34 to 34/34) Unit 4 fuel removal

3. Third On-Site Coordination Meeting on Contaminated Water Issues (11/11/2013)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131111_03-j.pdf
(page 4/24 to 6/24) Units 2/3 seawater piping trench; water treatment and water shutoff
(page 18/24 to 24/24) Hot testing results of ALPS

3-2. Issues Management List
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131111_05-j.pdf
(page 6/73) Schedule for tank water level gauge installation
(page 17/73) Increasing height of weir
(page 47/73) Installation of gutter to tanks to reduce rainwater accumulation inside weir
(page 71/73) Re-routing of drainage ditch and installation of continuous beta-monitor to detect tank leakage

4. Unit 4 Fuel Removal
(only in Japanese)
4-1. NRA Approval and Completion of Unit 4 Fuel Removal Structure (11/12/2013)
http://www.tepco.co.jp/cc/press/2013/1232115_5117.html

4-2. Overview and Schedule of Unit 4 Fuel Removal Process (11/13/2013)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131113_14-j.pdf
(page 3/7) Fuel removal to be commenced as soon as preparation work is completed
(page 4/7) One out of two on-site fuel transportation casks transported inside Unit 4
(page 6/7) Fuel removal process

5. Site Visit by Lake Barrett, Former NRC/DOE Expert and Advisor to TEPCO on Contaminated Water Issues (11/13/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131113_09-e.pdf

6. Sixth Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (11/14/2013)
6-1. Technical Requirements for Siting of Radioactive Material Analysis and Research Facility
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t131114_01-j.pdf

7. NRA Agrees to Commence Regulatory Standard Compliance Review of Kashiwazaki Kariwa Units 6/7 (11/13/2013)
(YouTube of NRA meeting in Japanese)
http://www.youtube.com/watch?v=6x9SOv8TLfI

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, November 07, 2013 8:31 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Nov. 8 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Nov. 8, 2013 at 3 pm Eastern Time
(Next call will be on **Thu, Nov. 14** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Fuel Removal from Unit 4 Spent Fuel Pool
1-1. Status of Unit 4 and Overview of Fuel Removal Procedure (10/30/2013)
http://photo.tepco.co.jp/library/131030_02e/131030_01-e.pdf

1-2. Preparation Work for Fuel Removal (8/26/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130826_07-e.pdf

1-3. Illustrative Video of Fuel Removal (10/30/2013)
http://photo.tepco.co.jp/en/date/2013/201310-e/131030-02e.html

1-4. Detailed Fuel Removal Procedure--only in Japanese (10/30/2013)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0015_07.pdf
(p. 19/30) Before and after removing debris from top of fuel bundles
(p. 22/30) Safety mechanism of the fuel handling machine
(p. 26/30) Safety mechanism of the overhead crane
(p. 29/30) Dose estimate for hypothetical fuel bundle drop accident
(p. 30/30) Dose estimate for hypothetical cask drop accident

1-5. Q&A Related to Safety of Fuel Removal--only in Japanese (3/1/2013)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0005_03.pdf
(p. 4/33) Dose estimate for hypothetical cask drop accident
(p. 8/33) Cask drop test by CRIEPI
(p. 15/33) Dose estimate for hypothetical fuel bundle drop accident
(p. 31/33) Overview of dry cask storage facility

1-6. Photo of On-site Fuel Transportation Cask
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131101_05-e.pdf

2. U.S. Energy Secretary Ernest Moniz Visits Fukushimda Daiichi (11/1/2013)
2-1. Comment by TEPCO President Naomi Hirose

http://www.tepco.co.jp/en/press/corp-com/release/2013/1231870_5130.html

2-2. Statement from Secretary Moniz
http://energy.gov/articles/statement-us-secretary-energy-ernest-moniz-regarding-fukushima

2-3. Technical Support Areas by U.S. DOE
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131101_03-e.pdf

2-4. Photos of Secretary Moniz at Fukushima Daiichi
http://photo.tepco.co.jp/en/date/2013/201311-e/131101-01e.html

3. Nuclear Safety Reform Plan: 2013-Q2 Progress Report (11/1/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1231860_5130.html

(Recap from last week due to technical issues related to the url.)
4. Ninth Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (10/31/2013)
(only in Japanese)
4-3. Status of Individual Projects (large 8 MB file)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131031_06-j.pdf
(page 3/232) Nitrogen injection into Unit 2 containment for hydrogen purge
(page 17/232) Hot testing of ALPS
(page 50/232) Managing rainwater in weir of tank farms
(page 61/232) Ice wall plan
(page 129/232) Unit 4 fuel removal safety analysis
(page 129/232) Unit 3 refueling floor large debris removal completed
(page 179/232) Suppression chamber water level measurement robot demonstration test
(page 187/232) Underwater robot development

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, October 31, 2013 4:02 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Nov. 1 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Nov. 1, 2013 at 3 pm Eastern Time
(Next call will be on **Fri, Nov. 8** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Eighth NRA Working Group Meeting on Contaminated Water Issues (10/15/2013)
(only in Japanese)
1-1. Investigation Status on Groundwater Contamination Near Bank Protection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0008_01.pdf
(page 4/78) Contamination map (max. observed)
(page 17/78) Cs-134, 137, gross-beta, tritium concentration in sea water

(page 32/78) Detailed monitoring of groundwater
(page 37/78) Highly-contaminated water removal from Units 2/3 seawater piping trenches utilizing ice barrier

1-2. Investigation Status on Leakage from Partially-treated Water Tank
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0008_02.pdf
(page 12/135) Leakage located by vacuum inspection
(page 15/135) Close-up photo of leak path
(page 65/135) Gross-beta not detected and no increase in tritium from groundwater bypass wells

1-3. Tentative Dischargeable Contamination Level
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0008_05.pdf

2. Eighth Gov't-TEPCO Meeting on Contaminated Water Issues (10/25/2013)
(only in Japanese)
2-1. Overview of Contaminated Water-Related Risks and Actions to be Summarized by Year-end
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c131025_03-j.pdf

2-2. Seven Hundred Seventy Nine Responses to Request for Information on Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c131025_04-j.pdf

2-3. On-site Efforts
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_05-j.pdf
(page 5/94) Tank leakage monitoring
(page 20/94) Rainwater control at tank farms
(page 29/94) Tank replacement plan
(page 50/94) Preventive measures for leak-out of contaminated water due to tsunami
(page 83/94) Restoration of sub-drain system
(page 90/94) Status of sea-side impermeable wall construction

3. Ninth Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (10/31/2013)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131031_04-j.pdf
(page 9/40) Core and containment cooling status
(page 19/40) Follow-up investigation on steam observed from Unit 3 reactor building refueling floor

3-2. Summary Status of Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131031_05-j.pdf

3-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131031_06-j.pdf
(page 3/232) Nitrogen injection into Unit 2 containment for hydrogen purge
(page 17/232) Hot testing of ALPS
(page 50/232) Managing rainwater in weir of tank farms
(page 61/232) Ice wall plan
(page 129/232) Unit 4 fuel removal safety analysis
(page 129/232) Unit 3 refueling floor large debris removal completed
(page 179/232) Suppression chamber water level measurement robot demonstration test
(page 187/232) Underwater robot development

4. Licensing Document Amendment in Relation to Fuel Removal Facility for Units 1-4 Approved by NRA (10/30/2013)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2013/1231805_5117.html

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, October 09, 2013 10:31 PM
Subject: [TEPCO Weekly Fukushima Update Call] Thu, Oct. 10 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Thu, Oct. 10, 2013 at 3 pm Eastern Time
(No calls for the next 2 weeks due to business trip to Tokyo. Next call will be on **Fri, Nov. 1** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Estimation of Tsunami Arrival Time at 1F Reconfirms Conclusion that On-site Power was Lost Due to Tsunami, Not Earthquake (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_03-j.pdf

2. Seismic Analysis Shows Units 1&2 Main Exhaust Stack with Broken Beams will Remain Intact with Design-basis Earthquake (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_06-j.pdf

3. Inadvertent Temporary Shutdown of Power Supply to Unit 1 Core Injection Pump and Immediate Recovery (10/7/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131007_08-j.pdf

4. Leak Paths Identified at Bottom of H4 Area Tank #5 (10/8/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131008_03-j.pdf

5. Water Leak Halted After Pipe Mistakenly Taken Off at Desalination System; Minor Contamination of Workers (10/9/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_131009_04-j.pdf

6. Second On-Site Coordination Meeting on Contaminated Water Issues (10/9/2013)
(only in Japanese)
6-1. Current Status Regarding H4 Area Tank Leakage Detection, Seawater/Groundwater Contamination, Emergency Measures, ALPS, Subdrain System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_03-j.pdf

6-2. Revamping Contaminated Water Management
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_04-j.pdf

6-3. Contaminated Water Issues, Countermeasures and Progress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l131009_05-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, October 03, 2013 10:49 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Oct. 4 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Oct. 4, 2013 at 3 pm Eastern Time
(Next call will be on **Thu, Oct. 10** at 3 pm)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Niigata Prefectural Governor's Approval to Apply for Regulatory Standard Compliance Review of Kashiwazaki-Kariwa Units 6 and 7 (9/26/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230926_5130.html

2. Application for Regulatory Standard Compliance Review of KK Units 6 and 7 (9/27/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1230976_5130.html
Attachment (only in Japanese)
http://www.tepco.co.jp/cc/press/betu13_j/images/130927j0101.pdf

3. Eighth Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (9/26/2013)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_04-j.pdf

3-2. Summary Status of Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_05-j.pdf

3-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130926_07-j.pdf

4. Seventh Gov't-TEPCO Meeting on Contaminated Water Issues (9/27/2013)
4-1. Identification of Risks Related to Contaminated Water and Examination of Countermeasures
http://www.meti.go.jp/english/earthquake/nuclear/decommissioning/pdf/20130927_001a.pdf

4-2. On-site Progress Related to Contaminated Water Issues
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130927_05-j.pdf

5. Seventh NRA Working Group Meeting on Contaminated Water Issues (9/30/2013)
(only in Japanese)
5-1. Investigation Status on Leakage from Partially-treated Water Tank
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_01.pdf

5-2. Investigation Status on Groundwater Contamination Near Bank Protection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_02.pdf

5-3 Glitch Found in Train C of ALPS
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0007_03.pdf

6. Current Status and Countermeasures Against Contaminated Water Issues (9/30/2013)
6-1. Summary
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_01.pdf

6-2. Fundamental Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_02.pdf

6-3. Emergency Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_03.pdf

6-4. Current Status of H4 Area Tank #5 Leakage
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_04.pdf

6-5. Risk Reduction Measures
http://www.tepco.co.jp/en/nu/fukushima-np/water/images/130930_05.pdf

7. Desalinated Water Leakage from B-Area South Tank (10/3/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131003_01-e.pdf

All the best,
Kenji

From: Nicholson, Thomas
To: tateiwa.kenji@tepco.co.jp
Cc: Marksberry, Don; Aird, David
Subject: RE: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 22 at 3pm EDT
Date: Friday, August 22, 2014 2:52:21 PM

Kenji:
Yes, I would like to be added to your distribution list for your weekly updates.
Thanks ..... Tom

Outside of Scope

From: Tateiwa, Kenji (mobile) [mailto:tateiwa@wash.tepco.com]
Sent: Thursday, August 21, 2014 8:19 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 22 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 22, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri. Sept. 5** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Demonstration Testing of Underwater Robot for Inspecting Lower-outer Surface of Torus (8/18/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140818_03-j.pdf
2. Verification Testing of High-performance ALPS (8/18/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140818_07-j.pdf
(photos: 8/20/2014)
http://photo.tepco.co.jp/_1212/140820-01j.html
3. NRA Special Facilities Monitoring and Evaluation Committee (8/19/2014)
(only in Japanese)
3-1. Status of Seawater Piping Trench "Ice Barrier" and Mockup Testing of Grout Injection, etc.
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_02-j.pdf
3-2. Estimated Release of Radioactivity Due to Unit 3 Reactor Building Rubble Removal
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_03-j.pdf
4. Construction Status of "Frozen Soil Wall" (8/21/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140821_05-j.pdf
5. Improved Process to Analyze Strontium-90 (8/19/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_05-j.pdf
** If you cannot display Japanese characters, please install the following font packs:*

http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)
tateiwa.kenji@tepco.co.jp

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 14, 2014 6:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 15 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 15, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 22** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Verification Testing of Subdrain Water Treatment Facility (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_04-e.pdf
2. Measures to Reduce Seawater Contamination (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_03-e.pdf
3. Difference between Ice Barrier of Trench and Frozen Soil Wall (8/5/2014)
(video clip)
https://www.youtube.com/watch?v=C6YSOrfS1Kc
4. Retiring Areva Water Treatment Facility (8/11/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140811_07-j.pdf
5. Construction Plan for Additional Solid Waste Storage Warehouse (8/13/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140813j0209.pdf
All the best,
Kenji

> ----- Original Message -----
> **From:** Tateiwa, Kenji
> **To:** Tateiwa, Kenji
> **Sent:** Thursday, August 07, 2014 5:16 PM
> **Subject:** [TEPCO Weekly Fukushima Update Call] Fri, Aug. 8 at 3pm EDT
> Nuclear Sector Colleagues,
> Please find below information for tomorrow's Weekly Fukushima Update Call.
> **[Date/time]**
> Fri, Aug. 8, 2014 at 3 pm Eastern Daylight Time
> (Next call will be on **Fri, Aug. 15** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Plan Towards a Full-Scale Operation of the Multi-Nuclide Removal Facility (ALPS) (7/31/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140731_01-e.pdf
2. Unit 1 Reactor Building Cover to be Dismantled (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239910_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140801_01-e.pdf
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/31/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_04-j.pdf
(page 6/8) Contaminated water storage volume trend.
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_05-j.pdf
(page 9/21) Seawater sampling results (inside the port)
(page 10/21) Seawater sampling results (outside the port)
3.3 Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_06-j.pdf
(page 3/300) Unit 1 RPV nitrogen purging from jet pump sensing line
(page 27/300) Construction status of frozen soil wall
(page 28/300) Status of ice barrier at Unit 2 seawater piping trench
(page 75/300) Estimated reduction of groundwater ingress by waterproofing HTI building
(page 121/300) Covering sea-bottom soil inside the port
(page 197/300) Unit 4 reactor building periodic integrity inspection results (9th)
(page 225/300) IRID development of PCV repair and waterproofing technologies
(page 260/300) IRID development of PCV internal investigation technologies
(page 272/300) IRID development of RPV internal investigation technologies
(page 282/300) IRID development of core debris criticality control technologies
4. Regulatory Approval for Subdrain Processing Facility and Verification Facility of Advanced ALPS (8/7/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2014/1240299_5851.html
5. Nuclear Safety Reform Plan FY2014-Q1 Progress Report (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239901_5892.html
(video message by Dr. Dale Klein, Chairman of TEPCO's Nuclear Reform Monitoring Committee)
http://www.nrmc.jp/en/report/detail/1239770_5233.html
6. Fukushima Nuclear Accident Unresolved Issues Progress Report # 2 (8/6/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1240140_5892.html
(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140806e0101.pdf
(Japanese Full Report: 23 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140806j0102.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 30, 2014 8:46 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri. Aug. 8** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24jaxhc&catid=61785
2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)
2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf
2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf
2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
All the best,
Kenji

---- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on THU, July 31 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)

http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,
Kenji

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, September 27, 2012 12:18 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 28 at 3pm EDT

Colleagues of nuclear-related U.S. Government agencies and National Laboratories,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 28 at 3 pm EDT
(No call next week (Oct. 5) due to conflict in my schedule. Next call will be on **Fri, Oct. 12** at 3 pm EDT)

[call-in information](Please record your name and company name when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Investigatin of steel beams dropped in Unit 3 SFP (Sept. 26)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120926_01-e.pdf

(video footages)
http://photo.tepco.co.jp/en/date/2012/201209-e/120926-01e.html

2. First look inside Unit 1 PCV (Sept. 27)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120927_02-e.pdf

(video footages)
http://photo.tepco.co.jp/en/date/2012/201209-e/120927-01e.html

3. Gov't-TEPCO Joint Meeting on Mid-to-Long Term Actions (Sept. 24)
(Only in Japanese)

3-a. Plant parameter
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01d.pdf

3-b. Storage status of accumulated water
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01e.pdf

3-c. Mock-up tests for Unit 2 RPV alternative thermometer installation
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01g.pdf

3-d. Purging residual gas (H2, Kr-85) from Unit 1 S/C by nitrogen gas
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01h.pdf

3-e. Unit 1 PCV internal investigation
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01j.pdf

3-f. Multi-nuclide removal system (ALPS) installation status
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01m.pdf

3-g. Ground water bypass system installation status
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01n.pdf

3-h. Additional water tanks installation plan
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01p.pdf

3-i. Estimate of additional release of radioactivity from reactor buildings
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01s.pdf

3-j. Status for removal of rubbles from Unit 3 reactor building
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01x.pdf

3-k. Status for removal of rubbles from Unit 4 reactor building
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01y.pdf

3-l. Unit 4 fresh fuel investigation results
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01z.pdf

3-m. Water chemistry control in common SFP
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01bb.pdf

3-n. Unit 1 reactor building accumulated water survery results
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01ee.pdf

3-o. Radionuclides analyses results of contaminated water
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01jj.pdf

3-p. Status of Mid-to-long-term Roadmap towards decommissioning
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01kk.pdf

4. Gov't-TEPCO Joint Meeting on Mid-to-Long Term R&D (Sept. 24)
(Only in Japanese)

4-a. Study on core debris characteristics and development of core debris handling technology
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02c.pdf

4-b. Development status of Remote Technology Task Force
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02d.pdf

4-c. Unmanned disaster response system by NEDO (New Energy and Industrial Technology Development Organization)
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02e.pdf

[TEPCO Public Information in English]
Press Releases
http://www.tepco.co.jp/en/press/corp-com/release/index-e.html

Photos and Video Footages
http://photo.tepco.co.jp/en/index-e.html

Press Conference Handouts
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/index-e.html

Rebuttals against Media Misinformation and Rumors
http://www.tepco.co.jp/en/nu/fukushima-np/info/index-e.html

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 13, 2012 11:44 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 14 at 3pm EDT

Colleagues of nuclear-related U.S. Government agencies and National Laboratories,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 14 at 3 pm EDT
(**No call next week (Sept. 21)** due to conflict in my schedule. Next call will be on **Fri, Sept. 28** at 3 pm EDT)

[call-in information](Please record your name and company name when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Current condition of 1F (Sept. 10)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120910_01-e.pdf

2. Foreign material assumed to have caused temporary decrease in Unit 1-3 core injection rate (Sept. 11)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120911_02-e.pdf

3. Newly released photos taken during the period of March 11-28, 2011 (Sept. 11)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120911_10-e.pdf

4. Investigation of inside Unit 3 SFP (Sept. 13)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120913_02-e.pdf

5. Unit 4 RPV head lowered from the refueling floor (Sept. 13)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120913_03-e.pdf

6. National Academy of Sciences Fukushima Lessons-learned Committee meeting (Sept. 6)
http://www.tvworldwide.com/events/nas/120906/

7. TEPCO and U.S. National Labs sign Feasibility Study contract for D&D of Fukushima (Sept. 6)

All the best,

Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
1901 L Street, NW Suite 720
Washington, DC 20036
tel: +1-202-457-0790 (ext.)116
(b)(6)

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, September 27, 2012 12:18 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 28 at 3pm EDT

Colleagues of nuclear-related U.S. Government agencies and National Laboratories,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 28 at 3 pm EDT
(**No call next week (Oct. 5)** due to conflict in my schedule. Next call will be on **Fri, Oct. 12** at 3 pm EDT)

[call-in information](Please record your name and company name when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Investigatin of steel beams dropped in Unit 3 SFP (Sept. 26)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120926_01-e.pdf

(video footages)
http://photo.tepco.co.jp/en/date/2012/201209-e/120926-01e.html

2. First look inside Unit 1 PCV (Sept. 27)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120927_02-e.pdf

(video footages)
http://photo.tepco.co.jp/en/date/2012/201209-e/120927-01e.html

3. Gov't-TEPCO Joint Meeting on Mid-to-Long Term Actions (Sept. 24)
(Only in Japanese)

3-a. Plant parameter
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01d.pdf

3-b. Storage status of accumulated water
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01e.pdf

3-c. Mock-up tests for Unit 2 RPV alternative thermometer installation
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01g.pdf

3-d. Purging residual gas (H2, Kr-85) from Unit 1 S/C by nitrogen gas
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01h.pdf

3-e. Unit 1 PCV internal investigation
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01j.pdf

3-f. Multi-nuclide removal system (ALPS) installation status
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01m.pdf

3-g. Ground water bypass system installation status
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01n.pdf

3-h. Additional water tanks installation plan
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01p.pdf

3-i. Estimate of additional release of radioactivity from reactor buildings
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01s.pdf

3-j. Status for removal of rubbles from Unit 3 reactor building
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01x.pdf

3-k. Status for removal of rubbles from Unit 4 reactor building
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01y.pdf

3-l. Unit 4 fresh fuel investigation results
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01z.pdf

3-m. Water chemistry control in common SFP
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01bb.pdf

3-n. Unit 1 reactor building accumulated water survery results
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01ee.pdf

3-o. Radionuclides analyses results of contaminated water
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01jj.pdf

3-p. Status of Mid-to-long-term Roadmap towards decommissioning
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_01kk.pdf

4. Gov't-TEPCO Joint Meeting on Mid-to-Long Term R&D (Sept. 24)

(Only in Japanese)

4-a. Study on core debris characteristics and development of core debris handling technology
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02c.pdf

4-b. Development status of Remote Technology Task Force
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02d.pdf

4-c. Unmanned disaster response system by NEDO (New Energy and Industrial Technology Development Organization)
http://www.meti.go.jp/earthquake/nuclear/pdf/120924/120924_02e.pdf

[TEPCO Public Information in English]

Press Releases
http://www.tepco.co.jp/en/press/corp-com/release/index-e.html

Photos and Video Footages
http://photo.tepco.co.jp/en/index-e.html

Press Conference Handouts
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/index-e.html

Rebuttals against Media Misinformation and Rumors
http://www.tepco.co.jp/en/nu/fukushima-np/info/index-e.html

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, September 13, 2012 11:44 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Sept. 14 at 3pm EDT

Colleagues of nuclear-related U.S. Government agencies and National Laboratories,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Sept. 14 at 3 pm EDT
(No call next week (Sept. 21) due to conflict in my schedule. Next call will be on **Fri, Sept. 28** at 3 pm EDT)

[call-in information](Please record your name and company name when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Current condition of 1F (Sept. 10)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120910_01-e.pdf

2. Foreign material assumed to have caused temporary decrease in Unit 1-3 core injection rate (Sept. 11)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120911_02-e.pdf

3. Newly released photos taken during the period of March 11-28, 2011 (Sept. 11)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120911_10-e.pdf

4. Investigation of inside Unit 3 SFP (Sept. 13)

http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120913_02-e.pdf

5. Unit 4 RPV head lowered from the refueling floor (Sept. 13)
http://www.tepco.co.jp/en/nu/fukushima-np/images/handouts_120913_03-e.pdf

6. National Academy of Sciences Fukushima Lessons-learned Committee meeting (Sept. 6)
http://www.tvworldwide.com/events/nas/120906/

7. TEPCO and U.S. National Labs sign Feasibility Study contract for D&D of Fukushima (Sept. 6)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
1901 L Street, NW Suite 720
Washington, DC 20036
tel: +1-202-457-0790 (ext.)116
(b)(6)

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, April 25, 2013 8:55 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 26 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 26, 2013 at 3 pm EDT
(Next call will be on Fri, May 3 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. 3rd Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (4/19/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130419_01-j.pdf

2. History on Installation of Underground Reservoirs and Estimated Cause of Leakage (4/19/2013)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130419_05-j.pdf

3. Response to Inquiries from Regulatory Oversight Committee Regarding Water Issues (4/19/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130419_07-e.pdf

4. Unit 2 PCV Investigation: Removal of Stuck Guide Pipe (4/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130422_10-e.pdf

5. Unit 3 Reactor Building Debris Removal (4/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130422_08-e.pdf

6. Work Status Related to Underground Reservoir Leakage (4/25/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130425_03-e.pdf

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
1901 L Street, NW Suite 720
Washington, DC 20036
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 18, 2013 9:34 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 19 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 19, 2013 at 3 pm EDT
(Next call will be on Fri, April 26 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Establishment of Emergency Response H/Q for 1F Reliability Improvement (4/8/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130408_02-e.pdf

2. Unit 1 Reactor Building 1st Floor Personnel Airlock Investigation Results (4/9/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130409_10-e.pdf

3. Unit 4 Fuel Removal Structure Construction Status (4/11/2013)
http://photo.tepco.co.jp/en/date/2013/201304-e/130411-02e.html

4. Unit 2 Torus Room Investigation Results (4/12/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130412_08-e.pdf

5. Unit 2 MSIV Room Investigation Results (4/16/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130416_06-e.pdf

6. IAEA Review of 1F Decommissioning Status (4/17/2013)
http://photo.tepco.co.jp/en/date/2013/201304-e/130417-01e.html

7. Status of Contaminated Water Leakage from Underground Reservoirs (4/17/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130417_02-j.pdf

(schematic of reservoirs)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130407_02-e.pdf

(water transfer plan as of April 18)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130418_05-e.pdf

(work performed on April 18)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130418_02-e.pdf

(radionuclide analysis results as of April 19)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/chosui_13041901-e.pdf

All the best,
Kenji

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 04, 2013 11:15 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 5 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 5, 2013 at 3 pm EDT
(No call next week. Next call will be on Fri, April 19 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Progress Status of Groundwater Bypass System Construction (3/27/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130327_03-e.pdf

2. Outline of On-site Power Supply Failure Incident for 1F Units 1-4 (3/28/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130328_02-e.pdf

3. Status of Unit 1 Reactor Building 4th Floor (3/28/2013)
http://photo.tepco.co.jp/en/date/2013/201303-e/130328-01e.html

4. Verification Tests on Remote Decontamination Technologies (3/29/2013)
http://photo.tepco.co.jp/en/date/2013/201303-e/130329-02e.html

5. Overview of ALPS System (3/29/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130329_01-e.pdf

6. Progress Status of Sea-side Impermeable Wall Construction (4/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130402_01-e.pdf

7. 1st Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (3/28/2013)
(only in Japanese; 9.6 MB; 160 pages)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130328_05-j.pdf

8. 2nd Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (4/2/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130402_01-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji

Sent: Thursday, March 21, 2013 5:52 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 22 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 22, 2013 at 3 pm EDT
(No call next week. Next call will be on Fri, April 5 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 2 Reactor Building Blow-out Panel Opening Closed (3/11/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130311_01-e.pdf

2. Completion of 3rd Layer of Steel Frame for Unit 4 Fuel Removal Structure (3/13/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130313_01-e.pdf

3. Unit 2 Vent Pipe Investigation Results (3/15/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130315_01-e.pdf
(video clips)
http://photo.tepco.co.jp/en/date/2013/201303-e/130315-01e.html

4. Unit 3 Spent Fuel Pool Desalination Completed (3/18/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130318_01-e.pdf

5. Unit 2 PCV Internal Investigation Results (3/19/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130319_03-e.pdf
(video clips)
http://photo.tepco.co.jp/en/date/2013/201303-e/130319-01e.html

6. Temporary Loss of Power (and Subsequent Recovery) of SFP Cooling System (3/20/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130320_02-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 07, 2013 10:47 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 8 at 3pm EST

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 8, 2013 at 3 pm EST
(No call next week. Next call will be on Fri, March 22 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Discussion on Tritium at Fukushima Daiichi (2/28/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130228_04-e.pdf

2. Unit 2 TIP Guide Tube Inspection Results (3/1/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130301_03-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130301-01e.html

3. Unit 2 PCV Internal Investigation and Installation of Permanent Instrumentation (3/1/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130301_02-e.pdf

4-1. Unit 2 Vent Pipe Investigation Results (3/5/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130305_01-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130305-01e.html

4-2. Unit 2 Vent Pipe Investigation Results (cont'd) (3/6/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130306_03-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130306-03e.html

5. First Meeting of Gov't-TEPCO-Industry Council on Promotion of Fukushima Daiichi Decommissioning (3/7/2013)
5-1. Agenda and Discussion
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130307_01-j.pdf

5-2. Progress Status towards Decommissioning
(only in Japanese: 12 MB, 246 pages)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130307_01-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, February 27, 2013 7:27 AM
Subject: TODAY/Update [TEPCO Weekly Fukushima Update Call] WED, Feb. 27 at 3pm EST

Please find below updated agenda for today's conference call (topic 2-2 was added).

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Monday, February 25, 2013 8:57 PM
Subject: [TEPCO Weekly Fukushima Update Call] WED, Feb. 27 at 3pm EST

(NOTE: Schedule changed from Fri, March 1 to Wed, Feb. 27. Apologies for the short notice.)
Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for this week's Weekly Fukushima Update Call.

[Date/time]
Wed, Feb. 27, 2013 at 3 pm EST
(Next call will be on Fri, March 8 at 3 pm EST)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 4 Reactor Building Structural Integrity: 4th Inspection Results (Feb. 13, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130213_02-e.pdf

2-1. Unit 1 SFP Sloshing May Have Caused Water Leakage on 4th Floor of Reactor Building (Feb. 18, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130218_02-e.pdf

2-2. Video Clip of Unit 1 Reactor Building 4th Floor Investigation Conducted on Nov. 30, 2012 (Feb. 15, 2013)
http://photo.tepco.co.jp/en/date/2013/201302-e/130215-01e.html

3. Unit 3 SFP Underwater Investigation Results (Feb. 21, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130221_01-e.pdf

4. Unit 1 Torus Room Inside Investigation: Day 1 Results (Feb. 21, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130221_02-e.pdf

5. Unit 1 Torus Room Inside Investigation: Day 2 Results (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_05-e.pdf

6. Unit 2 Reactor Building Refueling Floor Gamma Camera Image (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_04-e.pdf

7. Unit 2 TIP Guide Tube Inspection (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_06-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 07, 2013 6:14 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 8 at 3pm EST

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 8, 2013 at 3 pm EST
(No call for the next 2 weeks. Next call will be on Fri, March 1 at 3 pm EST)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Status of Roadmap Towards Decommissioning Units 1-4 (Jan. 31)
(only in Japanese; 151 pages in total; 6 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130131_01-j.pdf

2. Additional Photos of Fukushima Daiichi Recently Made Public Taken During the Period of March 15 to April 11, 2011 (Feb. 1)
http://photo.tepco.co.jp/en/date/2013/201302-e/130201-01e.html

3. Removal of Debris from Upper Part of Unit 3 Reactor Building (Feb. 4, 6)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130204_01-e.pdf
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130206_01-e.pdf

4. Video Clip Taken Inside Unit 1 Reactor Building on 10/18/2011 Shown to the Diet Investigation Committee on 2/28/2012 (Feb. 7)
(only in Japanese; 22 minutes)
http://www.tepco.co.jp/tepconews/library/movie-01j.html?bcpid=45149870002&bclid=347241149002&bctid=400011946002

All the best,
Kenji

Siu, Nathan

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, May 02, 2013 6:50 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 3 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 3, 2013 at 3 pm EDT
(No call next week. Next call will be on Fri, May 17 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Status of Ground Water Bypass System (4/26/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130426_09-e.pdf

2. Investigation Plan for Underground Reservoirs (5/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130502_08-e.pdf

3. Progress of Water Transfer from Underground Reservoirs (5/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130502_07-e.pdf

4. 2nd Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (4/26/2013)
(only in Japanese)
4-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130426_03-j.pdf

4-2. Summary Status of Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130426_04-j.pdf

4-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130426_05-j.pdf

4-4. Status of Leakage from Underground Reservoirs
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130426_07-j.pdf

4-5. IAEA Press Release
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130426_08-j.pdf

5. 1st Meeting of Contaminated Water Treatment Committee (4/26/2013)
(only in Japanese)
5-1. Short-term Actions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130426_04-j.pdf

5-2. Permanent Measures to Stop Ground Water Ingress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130426_05-j.pdf

5-3. Tritium Treatment Methodologies
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c130426_06-j.pdf

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
1901 L Street, NW Suite 720
Washington, DC 20036
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 25, 2013 8:54 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 26 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 26, 2013 at 3 pm EDT
(Next call will be on Fri, May 3 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. 3rd Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (4/19/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130419_01-j.pdf

2. History on Installation of Underground Reservoirs and Estimated Cause of Leakage (4/19/2013)

http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130419_05-j.pdf

3. Response to Inquiries from Regulatory Oversight Committee Regarding Water Issues (4/19/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130419_07-e.pdf

4. Unit 2 PCV Investigation: Removal of Stuck Guide Pipe (4/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130422_10-e.pdf

5. Unit 3 Reactor Building Debris Removal (4/22/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130422_08-e.pdf

6. Work Status Related to Underground Reservoir Leakage (4/25/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130425_03-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 18, 2013 9:34 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 19 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 19, 2013 at 3 pm EDT
(Next call will be on Fri, April 26 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Establishment of Emergency Response H/Q for 1F Reliability Improvement (4/8/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130408_02-e.pdf

2. Unit 1 Reactor Building 1st Floor Personnel Airlock Investigation Results (4/9/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130409_10-e.pdf

3. Unit 4 Fuel Removal Structure Construction Status (4/11/2013)
http://photo.tepco.co.jp/en/date/2013/201304-e/20130411-02e.html

4. Unit 2 Torus Room Investigation Results (4/12/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130412_08-e.pdf

5. Unit 2 MSIV Room Investigation Results (4/16/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130416_06-e.pdf

6. IAEA Review of 1F Decommissioning Status (4/17/2013)
http://photo.tepco.co.jp/en/date/2013/201304-e/130417-01e.html

7. Status of Contaminated Water Leakage from Underground Reservoirs (4/17/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2013/images/handouts_130417_02-j.pdf

(schematic of reservoirs)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130407_02-e.pdf

(water transfer plan as of April 18)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130418_05-e.pdf

(work performed on April 18)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130418_02-e.pdf

(radionuclide analysis results as of April 19)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2013/images/chosui_13041901-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 04, 2013 11:15 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 5 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 5, 2013 at 3 pm EDT
(No call next week. Next call will be on Fri, April 19 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Progress Status of Groundwater Bypass System Construction (3/27/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130327_03-e.pdf

2. Outline of On-site Power Supply Failure Incident for 1F Units 1-4 (3/28/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130328_02-e.pdf

3. Status of Unit 1 Reactor Building 4th Floor (3/28/2013)
http://photo.tepco.co.jp/en/date/2013/201303-e/130328-01e.html

4. Verification Tests on Remote Decontamination Technologies (3/29/2013)
http://photo.tepco.co.jp/en/date/2013/201303-e/130329-02e.html

5. Overview of ALPS System (3/29/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130329_01-e.pdf

6. Progress Status of Sea-side Impermeable Wall Construction (4/2/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130402_01-e.pdf

7. 1st Working-level Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (3/28/2013)
(only in Japanese; 9.6 MB; 160 pages)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130328_05-j.pdf

8. 2nd Meeting of Gov't-TEPCO-Industry Council on Promotion of 1F Decommissioning (4/2/2013)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130402_01-j.pdf

All the best,

Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 21, 2013 5:52 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 22 at 3pm EDT

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 22, 2013 at 3 pm EDT
(No call next week. Next call will be on Fri, April 5 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 2 Reactor Building Blow-out Panel Opening Closed (3/11/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130311_01-e.pdf

2. Completion of 3rd Layer of Steel Frame for Unit 4 Fuel Removal Structure (3/13/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130313_01-e.pdf

3. Unit 2 Vent Pipe Investigation Results (3/15/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130315_01-e.pdf
(video clips)
http://photo.tepco.co.jp/en/date/2013/201303-e/130315-01e.html

4. Unit 3 Spent Fuel Pool Desalination Completed (3/18/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130318_01-e.pdf

5. Unit 2 PCV Internal Investigation Results (3/19/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130319_03-e.pdf
(video clips)
http://photo.tepco.co.jp/en/date/2013/201303-e/130319-01e.html

6. Temporary Loss of Power (and Subsequent Recovery) of SFP Cooling System (3/20/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130320_02-e.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 07, 2013 10:47 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 8 at 3pm EST

Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 8, 2013 at 3 pm EST
(No call next week. Next call will be on Fri, March 22 at 3 pm EDT)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Discussion on Tritium at Fukushima Daiichi (2/28/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130228_04-e.pdf

2. Unit 2 TIP Guide Tube Inspection Results (3/1/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130301_03-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130301-01e.html

3. Unit 2 PCV Internal Investigation and Installation of Permanent Instrumentation (3/1/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130301_02-e.pdf

4-1. Unit 2 Vent Pipe Investigation Results (3/5/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130305_01-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130305-01e.html

4-2. Unit 2 Vent Pipe Investigation Results (cont'd) (3/6/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130306_03-e.pdf
(video clip)
http://photo.tepco.co.jp/en/date/2013/201303-e/130306-03e.html

5. First Meeting of Gov't-TEPCO-Industry Council on Promotion of Fukushima Daiichi Decommissioning (3/7/2013)
5-1. Agenda and Discussion
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t130307_01-j.pdf

5-2. Progress Status towards Decommissioning
(only in Japanese: 12 MB, 246 pages)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d130307_01-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, February 27, 2013 7:27 AM
Subject: TODAY/Update [TEPCO Weekly Fukushima Update Call] WED, Feb. 27 at 3pm EST

Please find below updated agenda for today's conference call (topic 2-2 was added).

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Monday, February 25, 2013 8:57 PM
Subject: [TEPCO Weekly Fukushima Update Call] WED, Feb. 27 at 3pm EST

(NOTE: Schedule changed from Fri, March 1 to Wed, Feb. 27. Apologies for the short notice.)
Colleagues of nuclear-related U.S. government agencies, national labs and academia,

Please find below information for this week's Weekly Fukushima Update Call.

[Date/time]
Wed, Feb. 27, 2013 at 3 pm EST
(Next call will be on Fri, March 8 at 3 pm EST)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 4 Reactor Building Structural Integrity: 4th Inspection Results (Feb. 13, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130213_02-e.pdf

2-1. Unit 1 SFP Sloshing May Have Caused Water Leakage on 4th Floor of Reactor Building (Feb. 18, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130218_02-e.pdf

2-2. Video Clip of Unit 1 Reactor Building 4th Floor Investigation Conducted on Nov. 30, 2012 (Feb. 15, 2013)
http://photo.tepco.co.jp/en/date/2013/201302-e/130215-01e.html

3. Unit 3 SFP Underwater Investigation Results (Feb. 21, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130221_01-e.pdf

4. Unit 1 Torus Room Inside Investigation: Day 1 Results (Feb. 21, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130221_02-e.pdf

5. Unit 1 Torus Room Inside Investigation: Day 2 Results (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_05-e.pdf

6. Unit 2 Reactor Building Refueling Floor Gamma Camera Image (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_04-e.pdf

7. Unit 2 TIP Guide Tube Inspection (Feb. 22, 2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_130222_06-e.pdf

All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji (mobile) [mailto:tateiwa@wash.tepco.com]
Sent: Thursday, August 21, 2014 8:19 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 22 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 22, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri. Sept. 5** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Demonstration Testing of Underwater Robot for Inspecting Lower-outer Surface of Torus (8/18/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140818_03-j.pdf
2. Verification Testing of High-performance ALPS (8/18/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140818_07-j.pdf
(photos: 8/20/2014)
http://photo.tepco.co.jp/_1212/140820-01j.html
3. NRA Special Facilities Monitoring and Evaluation Committee (8/19/2014)
(only in Japanese)
3-1. Status of Seawater Piping Trench "Ice Barrier" and Mockup Testing of Grout Injection, etc.
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_02-j.pdf
3-2. Estimated Release of Radioactivity Due to Unit 3 Reactor Building Rubble Removal
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_03-j.pdf
4. Construction Status of "Frozen Soil Wall" (8/21/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140821_05-j.pdf
5. Improved Process to Analyze Strontium-90 (8/19/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140819_05-j.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company

Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)
tateiwa.kenji@tepco.co.jp

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 14, 2014 6:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 15 at 3pm EDT

Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 15, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 22** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Verification Testing of Subdrain Water Treatment Facility (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_04-e.pdf
2. Measures to Reduce Seawater Contamination (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_03-e.pdf
3. Difference between Ice Barrier of Trench and Frozen Soil Wall (8/5/2014)
(video clip)
https://www.youtube.com/watch?v=C6YSOrfS1Kc
4. Retiring Areva Water Treatment Facility (8/11/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140811_07-j.pdf
5. Construction Plan for Additional Solid Waste Storage Warehouse (8/13/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140813j0209.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 07, 2014 5:16 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 8 at 3pm EDT

Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 8, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 15** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Plan Towards a Full-Scale Operation of the Multi-Nuclide Removal Facility (ALPS) (7/31/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140731_01-e.pdf
2. Unit 1 Reactor Building Cover to be Dismantled (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239910_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140801_01-e.pdf

3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/31/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_04-j.pdf
(page 6/8) Contaminated water storage volume trend.
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_05-j.pdf
(page 9/21) Seawater sampling results (inside the port)
(page 10/21) Seawater sampling results (outside the port)
3.3 Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_06-j.pdf
(page 3/300) Unit 1 RPV nitrogen purging from jet pump sensing line
(page 27/300) Construction status of frozen soil wall
(page 28/300) Status of ice barrier at Unit 2 seawater piping trench
(page 75/300) Estimated reduction of groundwater ingress by waterproofing HTI building.
(page 121/300) Covering sea-bottom soil inside the port
(page 197/300) Unit 4 reactor building periodic integrity inspection results (9th)
(page 225/300) IRID development of PCV repair and waterproofing technologies
(page 260/300) IRID development of PCV internal investigation technologies
(page 272/300) IRID development of RPV internal investigation technologies
(page 282/300) IRID development of core debris criticality control technologies
4. Regulatory Approval for Subdrain Processing Facility and Verification Facility of Advanced ALPS (8/7/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2014/1240299_5851.html
5. Nuclear Safety Reform Plan FY2014-Q1 Progress Report (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239901_5892.html
(video message by Dr. Dale Klein, Chairman of TEPCO's Nuclear Reform Monitoring Committee)
http://www.nrmc.jp/en/report/detail/1239770_5233.html
6. Fukushima Nuclear Accident Unresolved Issues Progress Report # 2 (8/6/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1240140_5892.html
(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140806e0101.pdf
(Japanese Full Report: 23 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140806j0102.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 30, 2014 8:46 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 8** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24iaxhc&catid=61785

2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)
2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf
2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf
2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on THU, July 31 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)

3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, August 14, 2014 6:44 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 15 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Aug. 15, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri. Aug. 22** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6) (b)(6)
[Major topics]
1. Verification Testing of Subdrain Water Treatment Facility (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_04-e.pdf
2. Measures to Reduce Seawater Contamination (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_03-e.pdf
3. Difference between Ice Barrier of Trench and Frozen Soil Wall (8/5/2014)
(video clip)
https://www.youtube.com/watch?v=C6YSOrfS1Kc
4. Retiring Areva Water Treatment Facility (8/11/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140811_07-j.pdf
5. Construction Plan for Additional Solid Waste Storage Warehouse (8/13/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140813j0209.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 07, 2014 5:16 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 8 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 8, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri. Aug. 15** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Plan Towards a Full-Scale Operation of the Multi-Nuclide Removal Facility (ALPS) (7/31/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140731_01-e.pdf
2. Unit 1 Reactor Building Cover to be Dismantled (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239910_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140801_01-e.pdf

3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/31/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_04-j.pdf
(page 6/8) Contaminated water storage volume trend.
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_05-j.pdf
(page 9/21) Seawater sampling results (inside the port)
(page 10/21) Seawater sampling results (outside the port)
3.3 Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_06-j.pdf
(page 3/300) Unit 1 RPV nitrogen purging from jet pump sensing line
(page 27/300) Construction status of frozen soil wall
(page 28/300) Status of ice barrier at Unit 2 seawater piping trench
(page 75/300) Estimated reduction of groundwater ingress by waterproofing HTI building
(page 121/300) Covering sea-bottom soil inside the port
(page 197/300) Unit 4 reactor building periodic integrity inspection results (9th)
(page 225/300) IRID development of PCV repair and waterproofing technologies
(page 260/300) IRID development of PCV internal investigation technologies
(page 272/300) IRID development of RPV internal investigation technologies
(page 282/300) IRID development of core debris criticality control technologies
4. Regulatory Approval for Subdrain Processing Facility and Verification Facility of Advanced ALPS (8/7/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2014/1240299_5851.html
5. Nuclear Safety Reform Plan FY2014-Q1 Progress Report (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239901_5892.html
(video message by Dr. Dale Klein, Chairman of TEPCO's Nuclear Reform Monitoring Committee)
http://www.nrmc.jp/en/report/detail/1239770_5233.html
6. Fukushima Nuclear Accident Unresolved Issues Progress Report # 2 (8/6/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1240140_5892.html
(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140806e0101.pdf
(Japanese Full Report: 23 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140806j0102.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 30, 2014 8:46 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri. Aug. 8** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24iaxhc&catid=61785

2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)
2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf
2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf
2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on THU, July 31 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)

3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 02, 2014 10:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 3 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 3, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, July 18** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (6/27/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_04-j.pdf
1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_05-j.pdf
1-3. Insertion of Thermometer and Water Level Gauge inside Unit 2 Drywell
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_06-j.pdf
1-4. Status of ALPS, Sr-Immobilization, Groundwater Bypass, Subdrain System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_07-j.pdf
1-5. Status of Groundwater and Seawater Contamination
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_08-j.pdf
1-6. Dismantling of Unit 1 Reactor Building Cover, Decontamination of Unit 3 Reactor Building Refueling Floor, Change in Unit 4 SFP Fuel Transfer Plan
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_10-j.pdf
1-7. Investigation and R&D in Preparation for Fuel Debris Retrieval
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_11-j.pdf
1-8. Radioactive Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_12-j.pdf
1-9. Candidate Site for Construction of Radioactive Material Analysis and Research Facility
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_13-j.pdf
1-10. MEXT's Plan for Establishing International Joint R&D Center for Decommissioning

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_14-j.pdf
1-11. Request for Proposal (RFP) for Innovative Approach for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_17-j.pdf
(See following site for English information on this RFP.)
http://en.dccc-program.jp/2014/07/02/?p=186
2. Final Investigation Report on H4 #5 Tank Leakage of RO-Concentrated Water (6/30/2014)
(only in Japanese)
2-1. Full Report
http://www.tepco.co.jp/cc/press/betu14_j/images/140630j0401.pdf
2-2. Estimated Leakage of Sr-90 and Recovery Rate
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140630_06-j.pdf
3. "How the Other Fukushima Plant Survived" Harvard Business Review Article on 2F Available for Free
http://hbr.org/2014/07/how-the-other-fukushima-plant-survived/ar/1
All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, August 14, 2014 6:44 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 15 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 15, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 22** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Verification Testing of Subdrain Water Treatment Facility (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_04-e.pdf
2. Measures to Reduce Seawater Contamination (8/11/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140811_03-e.pdf
3. Difference between Ice Barrier of Trench and Frozen Soil Wall (8/5/2014)
(video clip)
https://www.youtube.com/watch?v=C6YSOrfS1Kc
4. Retiring Areva Water Treatment Facility (8/11/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140811_07-j.pdf
5. Construction Plan for Additional Solid Waste Storage Warehouse (8/13/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140813j0209.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, August 07, 2014 5:16 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 8 at 3pm EDT

Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 8, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 15** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Plan Towards a Full-Scale Operation of the Multi-Nuclide Removal Facility (ALPS) (7/31/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140731_01-e.pdf
2. Unit 1 Reactor Building Cover to be Dismantled (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239910_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140801_01-e.pdf
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/31/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_04-j.pdf
(page 6/8) Contaminated water storage volume trend.
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_05-j.pdf
(page 9/21) Seawater sampling results (inside the port)
(page 10/21) Seawater sampling results (outside the port)
3.3 Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_06-j.pdf
(page 3/300) Unit 1 RPV nitrogen purging from jet pump sensing line
(page 27/300) Construction status of frozen soil wall
(page 28/300) Status of ice barrier at Unit 2 seawater piping trench
(page 75/300) Estimated reduction of groundwater ingress by waterproofing HTI building
(page 121/300) Covering sea-bottom soil inside the port
(page 197/300) Unit 4 reactor building periodic integrity inspection results (9th)
(page 225/300) IRID development of PCV repair and waterproofing technologies
(page 260/300) IRID development of PCV internal investigation technologies
(page 272/300) IRID development of RPV internal investigation technologies
(page 282/300) IRID development of core debris criticality control technologies
4. Regulatory Approval for Subdrain Processing Facility and Verification Facility of Advanced ALPS (8/7/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2014/1240299_5851.html
5. Nuclear Safety Reform Plan FY2014-Q1 Progress Report (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239901_5892.html
(video message by Dr. Dale Klein, Chairman of TEPCO's Nuclear Reform Monitoring Committee)
http://www.nrmc.jp/en/report/detail/1239770_5233.html
6. Fukushima Nuclear Accident Unresolved Issues Progress Report # 2 (8/6/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1240140_5892.html
(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140806e0101.pdf
(Japanese Full Report: 23 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140806j0102.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 30, 2014 8:46 PM

Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on Fri, Aug. 8 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24iaxhc&catid=61785
2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)
2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf
2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf
2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
All the best,
Kenji

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on THU, July 31 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 02, 2014 10:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 3 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 3, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, July 18** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (6/27/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_04-j.pdf
1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_05-j.pdf
1-3. Insertion of Thermometer and Water Level Gauge inside Unit 2 Drywell
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_06-j.pdf
1-4. Status of ALPS, Sr-Immobilization, Groundwater Bypass, Subdrain System

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_07-j.pdf
1-5. Status of Groundwater and Seawater Contamination
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_08-j.pdf
1-6. Dismantling of Unit 1 Reactor Building Cover, Decontamination of Unit 3 Reactor Building Refueling Floor, Change in Unit 4 SFP Fuel Transfer Plan
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_10-j.pdf
1-7. Investigation and R&D in Preparation for Fuel Debris Retrieval
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_11-j.pdf
1-8. Radioactive Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_12-j.pdf
1-9. Candidate Site for Construction of Radioactive Material Analysis and Research Facility
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_13-j.pdf
1-10. MEXT's Plan for Establishing International Joint R&D Center for Decommissioning
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_14-j.pdf
1-11. Request for Proposal (RFP) for Innovative Approach for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_17-j.pdf
(See following site for English information on this RFP.)
http://en.dccc-program.jp/2014/07/02/?p=186
2. Final Investigation Report on H4 #5 Tank Leakage of RO-Concentrated Water (6/30/2014)
(only in Japanese)
2-1. Full Report
http://www.tepco.co.jp/cc/press/betu14_j/images/140630j0401.pdf
2-2. Estimated Leakage of Sr-90 and Recovery Rate
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140630_06-j.pdf
3. "How the Other Fukushima Plant Survived" Harvard Business Review Article on 2F Available for Free
http://hbr.org/2014/07/how-the-other-fukushima-plant-survived/ar/1
All the best,
Kenji

From: Tatewa, Kenji
To: Nicholson, Thomas
Cc: Marksberry, Don; Correia, Richard; Madden, Patrick; Stutzke, Martin; Coyne, Kevin; Aird, David; Rini, Brett
Subject: 1F Site Map in English: Re: Progress Report 2 on Fukushima Daiichi
Date: Friday, August 08, 2014 6:28:06 PM

Tom,
Thank you for joining the call today and for your kind words.
Please find below url for the English version of the Summary Status of Decommissioning Roadmap that has the site map you requested on page 11/21 (this version is dated June 27, 2014 but not much different from the latest map).
www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140627_01-e.pdf
Let me know if you have any questions.
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

Outside of Scope

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, August 07, 2014 5:17 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Aug. 8 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Aug. 8, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 15** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Plan Towards a Full-Scale Operation of the Multi-Nuclide Removal Facility (ALPS) (7/31/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140731_01-e.pdf
2. Unit 1 Reactor Building Cover to be Dismantled (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239910_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140801_01-e.pdf
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/31/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_04-j.pdf
(page 6/8) Contaminated water storage volume trend.
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_05-j.pdf
(page 9/21) Seawater sampling results (inside the port)
(page 10/21) Seawater sampling results (outside the port)
3.3 Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140731_06-j.pdf
(page 3/300) Unit 1 RPV nitrogen purging from jet pump sensing line
(page 27/300) Construction status of frozen soil wall
(page 28/300) Status of ice barrier at Unit 2 seawater piping trench
(page 75/300) Estimated reduction of groundwater ingress by waterproofing HTI building
(page 121/300) Covering sea-bottom soil inside the port
(page 197/300) Unit 4 reactor building periodic integrity inspection results (9th)
(page 225/300) IRID development of PCV repair and waterproofing technologies
(page 260/300) IRID development of PCV internal investigation technologies
(page 272/300) IRID development of RPV internal investigation technologies
(page 282/300) IRID development of core debris criticality control technologies
4. Regulatory Approval for Subdrain Processing Facility and Verification Facility of Advanced ALPS (8/7/2014)
(only in Japanese)
http://www.tepco.co.jp/cc/press/2014/1240299_5851.html
5. Nuclear Safety Reform Plan FY2014-Q1 Progress Report (8/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239901_5892.html
(video message by Dr. Dale Klein, Chairman of TEPCO's Nuclear Reform Monitoring Committee)
http://www.nrmc.jp/en/report/detail/1239770_5233.html

6. Fukushima Nuclear Accident Unresolved Issues Progress Report # 2 (8/6/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1240140_5892.html
(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140806e0101.pdf
(Japanese Full Report: 23 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140806j0102.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 30, 2014 8:46 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 8** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24jaxhc&catid=61785
2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)
2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf
2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf
2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **THU, July 31** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,

Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 02, 2014 10:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 3 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 3, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, July 18** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (6/27/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_04-j.pdf
1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_05-j.pdf
1-3. Insertion of Thermometer and Water Level Gauge inside Unit 2 Drywell
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_06-j.pdf
1-4. Status of ALPS, Sr-Immobilization, Groundwater Bypass, Subdrain System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_07-j.pdf
1-5. Status of Groundwater and Seawater Contamination
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_08-j.pdf
1-6. Dismantling of Unit 1 Reactor Building Cover, Decontamination of Unit 3 Reactor Building Refueling Floor, Change in Unit 4 SFP Fuel Transfer Plan
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_10-j.pdf
1-7. Investigation and R&D in Preparation for Fuel Debris Retrieval
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_11-j.pdf
1-8. Radioactive Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_12-j.pdf
1-9. Candidate Site for Construction of Radioactive Material Analysis and Research Facility
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_13-j.pdf
1-10. MEXT's Plan for Establishing International Joint R&D Center for Decommissioning
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_14-j.pdf
1-11. Request for Proposal (RFP) for Innovative Approach for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_17-j.pdf
(See following site for English information on this RFP.)
http://en.dccc-program.jp/2014/07/02/?p=186
2. Final Investigation Report on H4 #5 Tank Leakage of RO-Concentrated Water (6/30/2014)
(only in Japanese)
2-1. Full Report
http://www.tepco.co.jp/cc/press/betu14_j/images/140630j0401.pdf
2-2. Estimated Leakage of Sr-90 and Recovery Rate
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140630_06-j.pdf
3. "How the Other Fukushima Plant Survived" Harvard Business Review Article on 2F Available for Free
http://hbr.org/2014/07/how-the-other-fukushima-plant-survived/ar/1
All the best,
Kenji

----- Original Message -----

From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, June 26, 2014 7:58 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, June 27 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, June 27, 2014 at 3 pm Eastern Daylight Time
(Next call will be on THU, July 3 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (6/16/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140616_03-j.pdf
1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140616_04-j.pdf
2. Unit 1 Torus Room Wall Survey Results (6/13/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140613_09-e.pdf
3. Unit 2 Torus Room Wall to be Surveyed by Robots (6/24/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140624_08-e.pdf
4. Decontamination inside Unit 3 Reactor Building to Begin Using Remote-operated Equipment (6/20/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140620_06-e.pdf
5. Revision of Plan to Transfer Fuels from Unit 4 SFP (6/18/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140618_08-e.pdf
6. All 3 Trains of ALPS Back Online (6/26/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238403_5892.html
7. "How the Other Fukushima Plant Survived" (July-August/2014)
Success story of accident response at Fukushima Daini featured in Harvard Business Review.
http://hbr.org/product/how-the-other-fukushima-plant-survived/an/R1407K-HCB-ENG
8. ""Fukushima 50' Worker Shares Personal Lessons From 2011 Accident" (6/24/2014)
Interview of Shiro Takahira, one of the Fukushima 50, by NEI.
http://www.nei.org/News-Media/News/News-Archives/Fukushima-50-Worker-Shares-Personal-Lessons-From-2
All the best,
Kenji

From: Tateiwa, Kenji
To: tateiwa.kenji@tepco.co.jp
Subject: [External_Sender] Please reply to sign up [TEPCO Fukushima Update Call] Mon, Aug. 3, 2015 at 9am EDT/10pm JST
Date: Friday, July 31, 2015 9:48:26 AM
Attachments: Fukushima Update Call.pdf

Friends and Colleagues,

I hope this email finds you well.

A month has passed since I made the transition from TEPCO's Washington DC office to the Tokyo HQ as Safety Engineering Group Manager of Fukushima Daiichi D&D Engineering Company.

I intend to resume the "Fukushima Update Call" that I had been hosting on a weekly-basis since early 2012 to update interested professionals (from the industry, government sector, academia, etc.) on the latest situation at Fukushima Daiichi.

I will be sending out email notification to participants prior to the call with links to the most important topics that I will verbally cover during the call.
I endeavor to host future calls on a monthly basis, with a target duration of about 30 minutes, including Q&A.
(Attached, FYI, is an email that I sent out last month from DC.)

Please reply to this email if you and/or your colleagues would like to be included in the distribution list for future calls.

Feel free to join the call whenever you find topics of interest to you.
I would also be happy to answer any questions separate from the call.

[Date/time]
Mon, August 3, 2015 at 9 am U.S. Eastern Daylight Time
(Next call: Mon, Aug. 31 at 9 am EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number (New York): 718-354-1184
(b)(6)
Please let me know if any of you would like to join the call from other countries.

[Major topics]
1. Contaminated Water Treatment Committee (7/29/2015)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150729_03-j.pdf

1-2. Progress of Contaminated Water Treatment and Risk Map
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150729_04-j.pdf

1-3. Frozen Soil Wall Taskforce
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150729_05-j.pdf

1-4. High-Performance ALPS Taskforce
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150729_06-j.pdf

1-5. Tritiated Water Taskforce
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c150729_07-j.pdf

2. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (7/30/2015)
(only in Japanese)

2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_04-j.pdf

2-2. Summary Status of Decommissioning Roadmap (file size: 11 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_05-j.pdf
(English translation as of 6/25/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150625_01-e.pdf

2-3. Contaminated Water Issues (file size: 10 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_06-j.pdf

2-4. Spent Fuel Pool Issues (file size: 10 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_07-j.pdf

2-5. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_08-j.pdf

2-6. Radioactive Waste Processing
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_09-j.pdf

2-7. Circulating Water Core Cooling System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_10-j.pdf

2-8. Environmental Radiation Issues (file size: 15 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_11-j.pdf

2-9. Work Environment Improvement
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_12-j.pdf

2-10. Summary of 1st Decommissioning R&D Collaboration Council (file size: 28 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150730_15-j.pdf

3. Completion of Removal of Highly-Contaminated Water from Seawater Piping Trenches (7/30/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1256382_6844.html

4. 160-page Presentation on Fukushima Accident (6/15/2015@Harvard University)
https://drive.google.com/file/d/0B3xzjqQbkug9aU9tX0FJS2pPenM/view?usp=sharing

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

All the best,
Kenji

Kenji Tateiwa

Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6)
tateiwa.kenji@tepco.co.jp

Outside of Scope

From: Norton, Charles
Sent: Thursday, July 31, 2014 7:39 AM
To: 'Tateiwa, Kenji'
Cc: Marksberry, Don; Bernardo, Robert
Subject: RE: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT

Kenji,

My apologies but I will not be able to be on the call today. I have another commitment that I cannot reschedule and must attend.

I have looked through the handouts and generally understand the content. I have some questions that I will try to clear up when we next talk.

- Smokey swirls in the U2 torus area investigation video
- 2-2 explanation of the points displayed on aerial view page 9/27
- 3-1 Graphs starting on page 50
- 3-4 Double sleeve on frozen wall on sea side

I will be on the next call on Friday August 8 at 3 pm. Friday is a better day for my availability.

We at NRC appreciate your efforts in concisely compiling and communicating this information.

The best to you,

Chuck Norton
US NRC/JLD/JOMB
301 415 7818

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Wednesday, July 30, 2014 8:47 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 31 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
THU, July 31, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, Aug. 8** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]

1. Unit 2 Torus Room Wall Survey (7/29/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140728_05-e.pdf
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=c24iaxhc&catid=61785

2. NRA Special Facilities Monitoring and Evaluation Committee (7/23/2014)
(only in Japanese)

2.1 Progress Status on Freezing of Units 2/3 Seawater Piping Trench Connection
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_01.pdf

2.2 Unit 1 Reactor Building Dust Inhibition Measures During Cover Dismantling and Rubble Removal
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_02.pdf

2.3 Replacement of Fuel Rack in Common Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_01.pdf
2.4 Fuel Removal Plan for Unit 3 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0025_03_02.pdf
3. Contaminated Water Treatment Committee (7/25/2014)
(only in Japanese)
3.1 Risk Reduction Owing to Contaminated Water Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_03-j.pdf
3.2 Status and Effectiveness of Groundwater Bypass
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_04-j.pdf
3.3 Tritium Concentration Increase in # 12 Groundwater Bypass Well
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_05-j.pdf
3.4 Task Force Studies on Frozen Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_07-j.pdf
3.5 Test Results and Demonstration Status of Advanced Multi-Nuclide Removal System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_08-j.pdf
3.6 Tritium Task Force Discussions
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140725_09-j.pdf
4. National Academy Sciences Fukushima Lessons Learned Report (7/24/2014)
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=18294
(TEPCO's Statement on the NAS Report)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1239621_5892.html
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, July 17, 2014 11:43 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, July 18 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, July 18, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **THU, July 31** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Progress Status of Ice Boundary between Units 2/3 Seawater Piping Trenches and Turbine Buildings (7/7/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140707_05-j.pdf
(video clip)

http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=rbudts0u&catid=61699
2. Investigation Result of Unit 3 Reactor Building North-West Corner (7/11/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140711_06-j.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (7/14/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_03-j.pdf
3-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_04-j.pdf
3-3. Interim Testing Report on Use of Plastic Scintillation Fiber for Contaminated Water Leakage Detection
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140714_05-j.pdf
4. No Impact due to M 6.8 Earthquake Near Fukushima (7/12/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238987_5892.html
5. International Research Institute for Nuclear Decommissioning (IRID) Activities
5-1. RFP for Conceptual Study of Innovative Approach for Fuel Debris Retrieval and Feasibility Study of Essential technologies (7/17/2014)
http://irid.or.jp/fd/?page_id=544
5-2. IRID Annual Symposium 2014 (7/18/2014)
http://irid.or.jp/en/symposium/
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Wednesday, July 02, 2014 10:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] THU, July 3 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
THU, July 3, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, July 18** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (6/27/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_04-j.pdf
1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_05-j.pdf
1-3. Insertion of Thermometer and Water Level Gauge inside Unit 2 Drywell
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_06-j.pdf
1-4. Status of ALPS, Sr-Immobilization, Groundwater Bypass, Subdrain System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_07-j.pdf
1-5. Status of Groundwater and Seawater Contamination
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_08-j.pdf
1-6. Dismantling of Unit 1 Reactor Building Cover, Decontamination of Unit 3 Reactor Building Refueling Floor, Change in Unit 4 SFP Fuel Transfer Plan
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_10-j.pdf
1-7. Investigation and R&D in Preparation for Fuel Debris Retrieval
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_11-j.pdf
1-8. Radioactive Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_12-j.pdf

1-9. Candidate Site for Construction of Radioactive Material Analysis and Research Facility
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_13-j.pdf
1-10. MEXT's Plan for Establishing International Joint R&D Center for Decommissioning
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_14-j.pdf
1-11. Request for Proposal (RFP) for Innovative Approach for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140627_17-j.pdf
(See following site for English information on this RFP.)
http://en.dccc-program.jp/2014/07/02/?p=186
2. Final Investigation Report on H4 #5 Tank Leakage of RO-Concentrated Water (6/30/2014)
(only in Japanese)
2-1. Full Report
http://www.tepco.co.jp/cc/press/betu14_j/images/140630j0401.pdf
2-2. Estimated Leakage of Sr-90 and Recovery Rate
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140630_06-j.pdf
3. "How the Other Fukushima Plant Survived" Harvard Business Review Article on 2F Available for Free
http://hbr.org/2014/07/how-the-other-fukushima-plant-survived/ar/1
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, June 26, 2014 7:58 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, June 27 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, June 27, 2014 at 3 pm Eastern Daylight Time
(Next call will be on THU, July 3 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (6/16/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140616_03-j.pdf
1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140616_04-j.pdf
2. Unit 1 Torus Room Wall Survey Results (6/13/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140613_09-e.pdf
3. Unit 2 Torus Room Wall to be Surveyed by Robots (6/24/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140624_08-e.pdf
4. Decontamination inside Unit 3 Reactor Building to Begin Using Remote-operated Equipment (6/20/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140620_06-e.pdf
5. Revision of Plan to Transfer Fuels from Unit 4 SFP (6/18/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140618_08-e.pdf
6. All 3 Trains of ALPS Back Online (6/26/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1238403_5892.html
7. "How the Other Fukushima Plant Survived" (July-August/2014)
Success story of accident response at Fukushima Daini featured in Harvard Business Review.
http://hbr.org/product/how-the-other-fukushima-plant-survived/an/R1407K-HCB-ENG
8. "'Fukushima 50' Worker Shares Personal Lessons From 2011 Accident" (6/24/2014)

Interview of Shiro Takahira, one of the Fukushima 50, by NEI.
http://www.nei.org/News-Media/News/News-Archives/Fukushima-50-Worker-Shares-Personal-Lessons-From-2
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, June 12, 2014 9:24 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, June 13 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, June 13, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, June 27** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (5/29/2014)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140529_04-j.pdf
1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140529_05-j.pdf
1-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140529_06-j.pdf
(page 3/347) Shortening the length of circulating-water cooling system
(page 43/347) Addition of (b)(6) Sr removal system and Sr removal capability to SARRY
(page 186/347) Status of Unit 3 SFP rubble removal
(page 195/347) Installation of new fuel racks in common fuel pool
(page 201/347) Long-term integrity evaluation of fuels removed from SFP
(page 214/347) Study on processing methods for damaged fuels (if any) removed from SFP
(page 225/347) Unit 3 MSIV room investigation results
(page 235/347) Upper S/C investigation equipment testing results
(page 252/347) Gamma camera investigation of reactor buildings
(page 276/347) Improvement of severe accident analysis codes (MAAP and SAMPSON)
(page 300/347) Integrity evaluation of RPV and PCV
(page 314/347) Test results of vent pipe water proofing
(page 326/347) Development of upper PCV and S/C repair technology
(page 339/347) R&D on processing and disposal of solid waste
2-1. Start of Frozen-Soil Wall Construction (5/30/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140530_12-e.pdf
2-2. Start of Frozen-Soil Wall Construction (6/2/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140602_06-e.pdf
3. Leakage of Contaminated Rainwater from 4,000-ton Notch Tank Farm (6/4/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140604_11-j.pdf
4. NRA Special Facilities Monitoring and Evaluation Committee (6/6/2014)
(only in Japanese)
4-1. Considerations on Buried Material During Construction of Frozen-Soil Wall (1/4)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_01-1.pdf
4-2. Considerations on Buried Material During Construction of Frozen-Soil Wall (2/4)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_01-2.pdf

4-3. Considerations on Buried Material During Construction of Frozen-Soil Wall (3/4)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_01-3.pdf
4-4. Considerations on Buried Material During Construction of Frozen-Soil Wall (4/4)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_01-4.pdf
4-5. Level Management of Groundwater and Contaminated Water Inside Buildings
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_02.pdf
4-6. Groundwater Monitoring and Emegency Response
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_03.pdf
4-7. Status of ALPS
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0023_04.pdf
5. Factory-made Welded Tanks Carried into Daiichi Site (6/12/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140611_08-e.pdf
6. Rebuttal on NY Times Article Unfairly Criticizing Fukushima Workers (5/22/2014)
Re "Credibility questions on Fukushima" (May 22):
http://www.nytimes.com/2014/06/02/opinion/fukushima-and-nuclear-safety.html?partner=rssnyt&emc=rss&_r=2
As president of the company that owns the Fukushima Daiichi nuclear plant, I am accustomed to criticism.
But I cannot be silent when our workers are unfairly maligned.
In face of the March 11, 2011, earthquake and tsunami crisis, our workers risked their lives and fought to control the plant even while many of their families were suffering the effects of the tsunami, including the destruction of their homes and, in some cases, the loss of family members' lives. On March 15, when the situation seemed to get worse, we instructed necessary workers to remain and the rest to seek shelter in low-radiation areas. Some took shelter at our nearby Fukushima Daini plant. Our post-accident investigation showed workers evacuated in a safe and orderly way and returned when they were instructed to. Therefore, I do not consider the evacuation to be an inobservance of the site superintendent's instruction. Nor do I believe there was any delay in accident response at Fukushima Daiichi due to the temporary evacuation of some workers.
Certainly nothing justifies the sensational headlines that unfairly suggest workers "fled" in some disorganized, dishonorable way. To the contrary, they stayed on the job and risked their lives to bring the plant under control.
Naomi Hirose, Tokyo
The writer is president and C.E.O. of Tokyo Electric Power Company.
****

All the best,
Kenji

From: Tateiwa, Kenji
To: Nicholson, Thomas
Cc: Marksberry, Don; Aird, David; West, Steven; Parrott, Jack; Ford, William; Bernardo, Robert
Subject: [External_Sender] Thank you: [Transition from DC to Tokyo] New Role in Decommissioning Safety
Date: Thursday, July 02, 2015 6:37:24 PM

Tom and NRC friends,

Hello from muggy Tokyo (even inside the office!)

Thank you for your very kind note.
Apologies for my belated reply—I started working at TEPCO's HQ on Wed, July 1 and am still catching up with the hundreds of emails.

It has been a true pleasure and honor having had the opportunity to work with you and your colleagues at the NRC.
As I will be in charge of overall safety of Fukushima Daiichi decommissioning, I am sure there will be more opportunities for us to collaborate and to learn from each other in the future.

I plan to join the teleconferece on the robotics workshop next week.
I tested the international number (1-210-234-7539) in your notification email, but got an automatic message saying the number is currently not in use. Could you check if there is a valid international number?
If not, no worries, I will call the U.S. number.

All the best,
Kenji

Kenji Tateiwa
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
office: +81-3-6373-4751
(b)(6)
tateiwa.kenji@tepco.co.jp

From: Nicholson, Thomas [mailto:Thomas.Nicholson@nrc.gov]
Sent: Saturday, June 27, 2015 9:56 AM
To: Tateiwa, Kenji
Cc: Marksberry, Don; Aird, David; West, Steven; Parrott, Jack; Ford, William; Bernardo, Robert
Subject: RE: [Transition from DC to Tokyo] New Role in Decommissioning Safety

Kenji:

It was one year ago that you presented an unforgettable research seminar on tackling water issues at Fukushima Daiichi to the NRC Chair, NRC Commissioner, senior NRC management and technical staff, EPA assistant administrator, White House senior technical advisor, and EPA and DOE staff in the NRC auditorium.

Earlier that year you presented at our 2014 RIC session on remediation of ground-water systems.

I am indebted to you for your ability and dedication to provide an ongoing open exchange of information on Fukushima Daiichi remediation activities over the past 3 years. We have learned a great deal from

you, and are very appreciative

Your ability to understand the difficult issues and ongoing clean-up activities at Fukushima, and to communicate it to us in clear and simple terminology is remarkable.

I hope you will continue to help us in developing the "Workshop on the Use of Robotics at Nuclear Facilities" scheduled for December 1-3, 2015 at NIST.

Thanks so very much .... Tom

(Postscript: Please notice below my new telephone and fax numbers, and address. We moved from Church Street, Rockville, MD to NRC Headquarters Campus last week.)

****

Thomas J. Nicholson, Senior Technical Advisor
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop TWFN 10-A12
11555 Rockville Pike
Rockville, MD 20852
Tel: (301) 415-2471
Fax: (301) 415-6671
E-mail: Thomas.Nicholson@nrc.gov
****

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Friday, June 26, 2015 7:55 PM
To: tateiwa.kenji@tepco.co.jp
Subject: [External_Sender] [Transition from DC to Tokyo] New Role in Decommissioning Safety

Dear Friends and Colleagues,

Today will be my last day working out of the Washington DC Office of TEPCO.

After spending 4 productive years in DC, I will be departing the U.S. on Sat, June 27 and start working at TEPCO's Tokyo HQ on July 1 as Safety Engineering Group Manager of Fukushima Daiichi Decontamination & Decommissioning Engineering Company.

Thank you for your continued support to TEPCO after the Fukushima Daiichi accident in March 2011. We could not have made it thus far without all your support.

For your information, you can find my latest interview on the online Nuclear Plant Journal describing the current status of Fukushima Daiichi.
http://digitaleditions.nuclearplantjournal.com/MJ15/#32

Feel free to contact me should you have any questions related to Fukushima.
I look forward to keeping in touch.

All the best,
Kenji

p.s.
Please forgive my slow response in emails for the next few weeks while I make my transition back to Japan.

Kenji Tateiwa
email: tateiwa.kenji@tepco.co.jp
LinkedIn: https://www.linkedin.com/in/ktateiwa

——————————]

(From Sep. 2011 to June 2015)
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office

(From July 2015)
Safety Engineering Group Manager
Fukushima Daiichi D&D Engineering Company
Tokyo Electric Power Company
1-1-3 Uchisaiwai-cho, Chiyoda-ku
Tokyo, Japan
tel: +81-3-6373-4751

Tateiwa, Kenji

差出人: Tateiwa, Kenji
送信日時: 2015年6月19日金曜日 11:35
宛先: Tateiwa, Kenji
件名: Last Call from DC [TEPCO Weekly Fukushima Update Call] Fri, June 19, 2015 at 2pm EDT

Nuclear Industry Colleagues,

Tomorrow will mark the last Weekly Fukushima Update Call that I will conduct from DC.

After spending almost 4 years, I will be departing DC on June 27 and start working at TEPCO's Tokyo HQ on July 1 as Safety Engineering Group Manager of Fukushima Daiichi D&D Engineering Company.

I will endeavor to continue this call from Tokyo, albeit at a less frequent basis.
I will send out a notice for the next call once I settled into my new position.

Thank you for your continued support to TEPCO and for your interest in the progress at Fukushima Daiichi.
I look forward to keeping in touch.

[Date/time]
Fri, June 19, 2015 at 2 pm Eastern Daylight Time
(Date/time of next call to be determined.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Cabinet-Level Meeting on Decommissioning and Contaminated Water Issues (6/12/2015)
(only in Japanese)
1-1. Outline of Revised Mid-and-Long-Term Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150612_03-j.pdf

1-2. Revised Mid-and-Long-Term Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150612_05-j.pdf

1-3. Revised Schedule for Defueling of Units 1-3 SFPs
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150612_04-j.pdf

2. Summary Progress at Units 1-4 (6/12/2015)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150612_04-j.pdf

3. Transition of Different Types of Contaminated Water Stored in Tank Farms (6/12/2015)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150612_05-j.pdf

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs

Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)
tateiwa.kenji@tepco.co.jp
(Email address will remain unchanged after my transition to Tokyo.)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, June 04, 2015 10:18 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, June 5, 2015 at 2pm EDT

Nuclear Industry Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, June 5, 2015 at 2 pm Eastern Daylight Time
(No Call Next Week. Next call will be on **Fri, June 19** at 2 pm EDT.)

[call-in information] (Please record your name and organization when joining the call)
call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Facilities Monitoring and Evaluation Committee (5/22/2015)
(only in Japanese)
1-1. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.nsr.go.jp/data/000107869.pdf

1-2. Water Collected on Lid of High-intensity Container Inside a Box Culvert
http://www.nsr.go.jp/data/000108101.pdf

1-3. Groundwater Inflow Mitigation Measures and Water Level Management
http://www.nsr.go.jp/data/000107730.pdf

2. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (5/25/2015)
(only in Japanese)
2-1. Water Contamination Monitoring Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150525_03-j.pdf

2-2. Status of Unit 1 Reactor Building Cover Dismantling
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150525_04-j.pdf

2-3. Status Report on Identification of Risk Factors Related to Off-site Radiological Impact
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150525_07-j.pdf

2-4. Preparation for Disclosure of All Radiological Data
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150525_08-j.pdf

2-5. Status Report on Various Issues (146 pages, 19 MB)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150525_13-j.pdf

3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (5/28/2015)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_04-j.pdf

3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_05-j.pdf
(English translation as of 4/30/2015)

http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150430_01-e.pdf

3-3. Unit 1 Drywell Water Level Measurement
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_06-j.pdf

3-4. Contaminated Water Treatment ***(file size: 11 MB)***
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_07-j.pdf

3-5. Environmental Radiation Issues ***(file size: 15 MB)***
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_08-j.pdf

3-6. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_10-j.pdf

3-7. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_11-j.pdf

3-8. Radioactive Waste Processing
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_12-j.pdf

3-9. Draft Revision of Mid-to-Long Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150528_13-j.pdf

4. Leakage of Contaminated Water from Transfer Hose (6/1/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150601_06-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, May 21, 2015 9:13 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 22, 2015 at 2pm EDT

Nuclear Industry Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 22, 2015 at 2 pm Eastern Daylight Time
(**No Call Next Week.** Next call will be on **Fri, June 5** at 2 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. IAEA Peer Review Mission Report #3 (5/14/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150514_01-e.pdf

"IAEA Issues Report on Fukushima Decommissioning Review" (IAEA Press Release)
https://www.iaea.org/newscenter/pressreleases/iaea-issues-report-fukushima-decommissioning-review

2. Fukushima Nuclear Accident Unresolved Issues Progress Report # 3 (5/20/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1250927_6844.html

(English Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu15_e/images/150520e0101.pdf

(Japanese Full Report: 503 pages, 27 MB)
http://www.tepco.co.jp/cc/press/betu15_j/images/150520j0102.pdf

3. High-Level Meeting of Decommissioning & Contaminated Water Issues Team (5/21/2015)
(only in Japanese)
3-1. Basic Policy regarding the Mid-and-Long-Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_05-j.pdf

3-2. Straw Man for the Mid-and-Long-Term Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_06-j.pdf

3-3. Enhanced Coordination on R&D Activities for Decommissioning and Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/t150521_03-j.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, May 07, 2015 9:04 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 8, 2015 at 2pm EDT

Nuclear Industry Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 8, 2015 at 2 pm Eastern Daylight Time
(**No Call Next Week.** Next call will be on **Fri, May 22** at 2 pm EDT.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Unit 1 Drywell Internal Investigation by Transforming Robots: Summary of Findings (4/30/2015)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150430_01-j.pdf

2. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (4/30/2015)
(only in Japanese)
2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_04-j.pdf

2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_05-j.pdf
(English translation as of 3/26/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d150326_01-e.pdf

2-3. Contaminated Water Treatment *(file size: 14 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_07-j.pdf

2-4. Environmental Radiation Issues *(file size: 17 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_08-j.pdf

2-5. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_10-j.pdf

2-6. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_11-j.pdf

2-7. Radioactive Waste Processing
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_12-j.pdf

2-8. NDF's 2015 Technical Strategy Plan in Preparation for Revising the Mid-to-Long Term Decommissioning Roadmap *(file size: 18 MB)*
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_14-j.pdf

2-9. Identification of Risk Factors Related to Off-site Radiological Impact
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_15-j.pdf

2-10. Preparation for Disclosing All Radiological Data
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_16-j.pdf

2-11. Government-Funded Demonstration Testing Results for 5 Contaminated Water Treatment Systems
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150430_17-j.pdf

3. Test Operation of Brine Circulation for Frozen Soil Wall (4/30/2015)
http://photo.tepco.co.jp/en/date/2015/201504-e/150430-02e.html

All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [tateiwa.kenji@tepco.co.jp]
Sent: Thursday, May 22, 2014 8:18 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 23 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, May 23, 2014 at 3 pm Eastern Daylight Time (Next call will be on Thu, May 29 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.) call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (5/19/2014) (only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140519_03-j.pdf
(page 3/79) Status of Units 2/3 Seawater Piping Trench, Facing Work, and Sea-Side Impermeable Wall Installation
(page 11/79) Groundwater Bypass Analysis Results
(page 20/79) Gradual Increase in Gross-beta and Tritium Concentration in Seawater Near Units 1-4 Intake Structures
(page 29/79) Heavy Rain Likely Caused Temporary Spike in Cs-137 Concentration in Seawater
(page 36/79) Status of ALPS
(page 43/79) Location of Water Leakage from Unit 3 Containment Vessel Identified
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=cju2qet7&catid=61785

(page 48/79) Inadvertent Transfer of Contaminated Water to Incinerator Building
(page 75/79) Augmented Field Management by TEPCO Personnel

1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140519_04-j.pdf
(page 4/47) Doubling the Tank Weirs
(page 11/47) New Tanks Installation
(page 20/47) Treatment of Rainwater Accumulated in Weirs
(page 28/47) Roof Installation Over Tank Farms
(page 35/47) Discharge Route of Rainwater Ditch
(page 41/47) Groundwater Ingress Reduction Effect at HTI Building

1-3. Progress Status of Frozen-Soil Wall
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140519_05-j.pdf
(photos)
http://photo.tepco.co.jp/en/date/2014/201405-e/140521-01e.html
(video clip)
http://www.tepco.co.jp/tepconews/library/archive-j.html?video_uuid=m7ge19ib&catid=61699

2. Bypassed Groundwater Released to the Sea (5/21/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1236566_5892.html
(photos and video clips)
http://photo.tepco.co.jp/en/date/2014/201405-e/140521-02e.html

3. 50+% Fuel Bundles Safely Transferred from Unit 4 Spent Fuel Pool (5/19/2014)
http://www.tepco.co.jp/en/decommision/index-e.html

4. Visit to Fukushima by Caroline Kennedy, US Ambassador to Japan (5/14/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1236413_5892.html

5. Rebuttal on Asahi Shimbun (and NY Times) Article Unfairly Criticizing Fukushima Workers (5/22/2014) (The text below should be posted on the following website shortly.) http://www.tepco.co.jp/en/press/corp-com/release/index_ho-e.html
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Tokyo, May 22, 2014 - Tokyo Electric Power Company (TEPCO) released a statement in response to The Asahi Shimbun's article on May 20, "90% of TEPCO workers defied orders, fled Fukushima plant in 2011", asserting that the company does not consider the temporary evacuation of employees in the aftermath of the accident in March 2011 to be inobservance of Yoshida's instructions.

TEPCO's stance towards The Asahi Shimbun's article
http://ajw.asahi.com/article/0311disaster/fukushima/AJ201405200031 is as follows.

-Our recognition is that the former Fukushima Daiichi site superintendent Yoshida's instruction was that the employees evacuate to low dose areas inside the site, and if no suitable area exists, to Fukushima Daini.
-Therefore, we do not consider the temporary evacuation of employees to Fukushima Daini to be inobservance of Yoshida's instructions.

President Hirose was called to the Diet on May 21, and was questioned by one of the assembly members about the facts at the time of the accident. His statement is as below.

-As I confirmed via the related persons, the former site superintendent's instruction meant "If there were no areas inside the Fukushima Daiichi site where the radiation dose is low, consider Fukushima Daini as an evacuation destination."

-Looking back at that time, our recognition is that Yoshida's instruction was not given upon knowing the exact radiation levels inside Fukushima Daiichi, but instead, he meant "Evacuate temporarily to anywhere safe". As a consequence, they were at least able to evacuate temporarily in a safe manner.

-In fact, the necessary workforce stayed at Fukushima Daiichi to respond to the accident, and even some of those who temporarily evacuated to Fukushima Daini came back to Fukushima Daiichi after a few hours' break, and continued to work. I do not consider the evacuation to be inobservance of the site superintendent's instruction, and neither do I believe there was any delay in accident response at Fukushima Daiichi due to the temporary evacuation of 90% of site workers to Fukushima Daini. Our investigation report does not even discuss the destination of the temporary evacuation, which indicates that it was not the main issue then.

-Presently, as is well known, workers at Fukushima Daiichi are struggling to improve the situation there. A considerable number of workers who stayed at Fukushima in the aftermath of the accident still continue to work at the site, where the working environment remains severe. Considering the sentiments of those workers, my regret is that the coverage saying "90% of workers defied orders" would negatively affect their morale.

-Our workers need to maintain a strong sense of mission and responsibility to continue their work without becoming demoralized.

-Here on, my determination as president is to make sure that does not happen and to enable them to work free of impediment towards the challenging decommissioning operation at Fukushima Daiichi.
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* If you cannot display Japanese characters, please install the following font packs:
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.) (Let me know if there is a need to call in from outside the U.S. I will check the availability of call-in numbers in other countries.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
Sent: Thursday, May 08, 2014 10:02 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 9 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for today's Weekly Fukushima Update Call.

[Date/time]
Fri, May 9, 2014 at 3 pm Eastern Daylight Time (No call next week. Next call will be on Fri, May 23 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.) call number: 718-354-1184
(b)(6)

[Major topics]
1. Contaminated Water Committee (4/28/2014) (only in Japanese) 1-1. Preventive and Multi-layered Additional

Measures http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_03-j.pdf

1-2. Status Report of Land-side Impermeable Wall (Frozen Soil Wall) Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_04-j.pdf

1-3. Status Report of ALPS Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_05-j.pdf

1-4. Issues List of Tritium Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_06-j.pdf

1-5. Status of Contaminated Water Countermeasures http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_07-j.pdf

1-6. Additional Measures to Stop Groundwater Ingress http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_08-j.pdf

1-7. Mitigating Risk due to Implementation of "Facing"
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_09-j.pdf

1-8. Addition and Replacement Plan of Contaminated Water Storage Tanks http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_10-j.pdf

1-9. Additional Public Offering of Projects for FY2013 http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_11-j.pdf

1-10. Application Status of Technology Offered Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_12-j.pdf

1-11. Recent Issues at 1F and Actions Taken http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_13-j.pdf

2. Dose Rate and Gamma Camera Investigation Plan for Units 1-3 Reactor Buildings Upper Floors (4/28/2014) (only in Japanese) http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140428_06-j.pdf

3. Gamma Camera Investigation Plan for Units 1-3 Reactor Buildings First Floor (5/8/2014) (only in Japanese) http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140508_07-j.pdf

4. Visual Inspection Results of Unit 4 Fuels (5/1/2014) http://photo.tepco.co.jp/en/date/2014/201405-e/140501-01e.html

5. IRID Workshop for R&D on Innovative Approach for Fuel Debris Retrieval (4/25/2014) http://irid.or.jp/fd/?page_id=352

5-1. Current status at Fukushima Daiichi Nuclear Power Station http://irid.or.jp/debris/S1-1E.pdf

5-2. Status of R&D for Fuel Debris Retrieval http://irid.or.jp/debris/S1-2E.pdf

5-3. Innovative Approach for Fuel Debris Retrieval, Results of Request for Information (RFI) http://irid.or.jp/debris/S2-1E.pdf

5-4. Project Scheme for Decommissioning and Contaminated Water Management and RFP Schedule http://irid.or.jp/debris/S2-2E.pdf

6. Cooperation Statement with Sellafield Ltd. (5/2/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1236097_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140502_01-e.pdf

7. Nuclear Safety Reform Plan Progress Report (FY2013 Q4) (5/1/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1236098_5892.html

7-1. Overview
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140501e0101.pdf

7-2. Attachment-1 (only in Japanese: 16.4 MB) http://www.tepco.co.jp/cc/press/betu14_j/images/140501j0102.pdf

7-3. Attachment-2 (only in Japanese: 881 KB) http://www.tepco.co.jp/cc/press/betu14_j/images/140501j0103.pdf

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
Sent: Friday, April 25, 2014 12:12 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 25 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for today's Weekly Fukushima Update Call.

[Date/time]
Fri, April 25, 2014 at 3 pm Eastern Daylight Time (No call next week. Next call will be on Fri, May 9 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.) call number: 718-354-1184
(b)(6)

[Major topics]
1. J-NRA Contaminated Water Working Group (4/11/2014) (only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140411_04-j.pdf
(page 4/153) Groundwater contamination monitoring data (page 16/153) Seawater contamination monitoring data (page 31/153) Groundwater flow simulation results (page 106/153) Options of installing roof on tank farms (page 135/153) Correction of beta-rich specimen due to "counting loss effect"

2 Working-level Meeting of Decommissioning & Contaminated Water Issues Team (4/24/2014) (only in Japanese)
2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_04-j.pdf
(page 6/8) Weekly trend of contaminated water storage status

2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_06-j.pdf
(page 2/19) Unit 4 spent fuel pool: 726/1533 fuel bundles transferred
(page 7/19) Seawater contamination inside the port
(page 8/19) Seawater contamination outside the port
(page 15/19) Unit 1 status
(page 16/19) Unit 2 status
(page 17/19) Unit 3 status
(page 18/19) Circulating cooling water system and groundwater control system

(English translation of Decommissioning Roadmap as of 3/27/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140327_01-e.pdf

2-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_07-j.pdf

(page 9/325) Small-scale frozen soil wall
(page 11/325) Status of ALPS
(page 42/325) Status of groundwater bypass system
(page 61/325) Testing Sr-capture performance of apatite and zeolite
(page 76/325) Inadvertent transfer of contaminated water to a radwaste building
(page 93/325) Slightly contaminated water leakage from a temporary storage plastic tank
(page 104/325) Tank storage capacity expansion plan
(page 120/325) Revision of subdrain system restoration plan
(page 136/325) Onsite dose reduction measures
(page 222/325) Unit 3 SPF rubble removal status
(page 268/325) Unit 3 MSIV room inspection
(page 282/325) Suppression chamber inspection plan
(page 300/325) Remote decontamination technology development

All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
Sent: Thursday, April 10, 2014 9:27 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 11 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 11, 2014 at 3 pm Eastern Daylight Time (No call next week. Next call will be on Fri, April 25 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.) call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (4/7/2014) (only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140407_03-j.pdf
(page 12/64) Contaminated water treatment in Units 2/3 seawater piping trench
(page 34/64) Radioactivity in groundwater bypass wells
(page 40/64) Status of ALPS

1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140407_04-j.pdf
(page 4/59) Addition of second layer of wier around tank farms
(page 8/59) Installation of additional tanks
(page 24/59) Groundwater/tritium migration simulation near Unit 1 intake structure
(page 40/59) Water-proofing measures at HTI building
(page 45/59) Installation of subdrain water processing system

1-3. Mid-to-long Term Plan for Solid Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/1140407_05-j.pdf

2. Fukushima Prefecture Safety Monitoring Council on Decommissioning (4/9/2014) (only in Japanese)
2-1. Status of ALPS
http://www.tepco.co.jp/news/2014/images/140409a.pdf

2-2. Status of Groundwater Bypass System
http://www.tepco.co.jp/news/2014/images/140409b.pdf

3. Groundwater Bypass System to Commence Operation (4/9/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1235426_5892.html
3-1. Photos
http://photo.tepco.co.jp/en/date/2014/201404-e/140409-01e.html

3-2. Video Clip
http://photo.tepco.co.jp/en/date/2014/201404-e/140404-01e.html

4. Establishment of the Fukushima Daiich Decontamination & Decommissioning Engineering Company (4/4/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235345_5892.html
4-1. Overview of D&D Engineering Company
http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_01.pdf

4-2. Action Plan of D&D Engineering Company
http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_02.pdf

4-3. Video Message from Naohiro Masuda, Chief Decommissioning Officer
http://www.tepco.co.jp/en/news/library/archive-e.html

All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji<mailto:tateiwa@wash.tepco.com>
To: Tateiwa, Kenji<mailto:tateiwa.kenji@tepco.co.jp>
Sent: Friday, April 04, 2014 1:37 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 4 at 3pm EDT

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, April 4, 2014 at 3 pm Eastern Daylight Time (Next call will be on Fri, April 11 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.) call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Nuclear Facility Oversight & Evaluation Group (3/31/2014) (only in Japanese)
1-1. Overview of ALPS System and Issues
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_05.pdf

1-2. Overview of Sub-drain System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_06.pdf

1-3. Overview of Frozen Soil Wall System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_08.pdf

2. Development of the "FY2014 TEPCO Group Action Plan" (3/31/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1235151_5892.html

"FY2014 TEPCO Group Action Plan"
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140331j0201.pdf
(page 6/26) Cooperation in developing the "Innovation Coast"
(page 7/26) Tackling contaminated water issues

(page 8/26) Consistently achieving decommissioning roadmap targets
(page 9/26) Enhancing equipment reliability at Fukushima Daiichi
(page 10/26) Nuclear safety at TEPCO
(page 11/26) Safety measures at Kashiwazaki Kariwa

3. Contract worker dies in on-site excavation work accident (2/28/2014) http://www.tepco.co.jp/en/press/corp-com/release/2014/1235120_5892.html
Reference material
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140328_08-e.pdf

4. TEPCO's Response to Fukushima Fishermen's Assotiation's Requests Related to Groundwater Bypass System (4/4/2014) (only in Japanese) http://www.tepco.co.jp/news/2014/images/140404a.pdf

All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, May 08, 2014 10:03 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, May 9 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for today's Weekly Fukushima Update Call.
[Date/time]
Fri, May 9, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri. May 23** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Contaminated Water Committee (4/28/2014)
(only in Japanese)
1-1. Preventive and Multi-layered Additional Measures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_03-j.pdf
1-2. Status Report of Land-side Impermeable Wall (Frozen Soil Wall) Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_04-j.pdf
1-3. Status Report of ALPS Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_05-j.pdf
1-4. Issues List of Tritium Task Force
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_06-j.pdf
1-5. Status of Contaminated Water Countermeasures
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_07-j.pdf
1-6. Additional Measures to Stop Groundwater Ingress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_08-j.pdf
1-7. Mitigating Risk due to Implementation of "Facing"
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_09-j.pdf
1-8. Addition and Replacement Plan of Contaminated Water Storage Tanks
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_10-j.pdf
1-9. Additional Public Offering of Projects for FY2013
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_11-j.pdf
1-10. Application Status of Technology Offered Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_12-j.pdf
1-11. Recent Issues at 1F and Actions Taken
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/c140428_13-j.pdf
2. Dose Rate and Gamma Camera Investigation Plan for Units 1-3 Reactor Buildings Upper Floors (4/28/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140428_06-j.pdf
3. Gamma Camera Investigation Plan for Units 1-3 Reactor Buildings First Floor (5/8/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140508_07-j.pdf
4. Visual Inspection Results of Unit 4 Fuels (5/1/2014)
http://photo.tepco.co.jp/en/date/2014/201405-e/140501-01e.html
5. IRID Workshop for R&D on Innovative Approach for Fuel Debris Retrieval (4/25/2014)

http://irid.or.jp/fd/?page_id=352
5-1. Current status at Fukushima Daiichi Nuclear Power Station
http://irid.or.jp/debris/S1-1E.pdf
5-2. Status of R&D for Fuel Debris Retrieval
http://irid.or.jp/debris/S1-2E.pdf
5-3. Innovative Approach for Fuel Debris Retrieval, Results of Request for Information (RFI)
http://irid.or.jp/debris/S2-1E.pdf
5-4. Project Scheme for Decommissioning and Contaminated Water Management and RFP Schedule
http://irid.or.jp/debris/S2-2E.pdf
6. Cooperation Statement with Sellafield Ltd. (5/2/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1236097_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140502_01-e.pdf
7. Nuclear Safety Reform Plan Progress Report (FY2013 Q4) (5/1/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1236098_5892.html
7-1. Overview
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140501e0101.pdf
7-2. Attachment-1 (only in Japanese: 16.4 MB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140501j0102.pdf
7-3. Attachment-2 (only in Japanese: 881 KB)
http://www.tepco.co.jp/cc/press/betu14_j/images/140501j0103.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
(Let me know if there is a need to call in from outside the U.S. I will check the availability of call-in numbers in other countries.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, April 25, 2014 12:12 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 25 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for today's Weekly Fukushima Update Call.
[Date/time]
Fri, April 25, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, May 9** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. J-NRA Contaminated Water Working Group (4/11/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140411_04-j.pdf

(page 4/153) Groundwater contamination monitoring data
(page 16/153) Seawater contamination monitoring data
(page 31/153) Groundwater flow simulation results
(page 106/153) Options of installing roof on tank farms
(page 135/153) Correction of beta-rich specimen due to "counting loss effect"
2 Working-level Meeting of Decommissioning & Contaminated Water Issues Team (4/24/2014)
(only in Japanese)
2-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_04-j.pdf
(page 6/8) Weekly trend of contaminated water storage status
2-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_06-j.pdf
(page 2/19) Unit 4 spent fuel pool: 726/1533 fuel bundles transferred
(page 7/19) Seawater contamination inside the port
(page 8/19) Seawater contamination outside the port
(page 15/19) Unit 1 status
(page 16/19) Unit 2 status
(page 17/19) Unit 3 status
(page 18/19) Circulating cooling water system and groundwater control system
(English translation of Decommissioning Roadmap as of 3/27/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d140327_01-e.pdf
2-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140424_07-j.pdf
(page 9/325) Small-scale frozen soil wall
(page 11/325) Status of ALPS
(page 42/325) Status of groundwater bypass system
(page 61/325) Testing Sr-capture performance of apatite and zeolite
(page 76/325) Inadvertent transfer of contaminated water to a radwaste building
(page 93/325) Slightly contaminated water leakage from a temporary storage plastic tank
(page 104/325) Tank storage capacity expansion plan
(page 120/325) Revision of subdrain system restoration plan
(page 136/325) Onsite dose reduction measures
(page 222/325) Unit 3 SPF rubble removal status
(page 268/325) Unit 3 MSIV room inspection
(page 282/325) Suppression chamber inspection plan
(page 300/325) Remote decontamination technology development
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, April 10, 2014 9:27 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 11 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, April 11, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on Fri, April 25 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (4/7/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_03-j.pdf
(page 12/64) Contaminated water treatment in Units 2/3 seawater piping trench
(page 34/64) Radioactivity in groundwater bypass wells
(page 40/64) Status of ALPS
1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_04-j.pdf
(page 4/59) Addition of second layer of wier around tank farms
(page 8/59) Installation of additional tanks
(page 24/59) Groundwater/tritium migration simulation near Unit 1 intake structure
(page 40/59) Water-proofing measures at HTI building
(page 45/59) Installation of subdrain water processing system
1-3. Mid-to-long Term Plan for Solid Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_05-j.pdf
2. Fukushima Prefecture Safety Monitoring Council on Decommissioning (4/9/2014)
(only in Japanese)
2-1. Status of ALPS
http://www.tepco.co.jp/news/2014/images/140409a.pdf
2-2. Status of Groundwater Bypass System
http://www.tepco.co.jp/news/2014/images/140409b.pdf
3. Groundwater Bypass System to Commence Operation (4/9/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235426_5892.html
3-1. Photos
http://photo.tepco.co.jp/en/date/2014/201404-e/140409-01e.html
3-2. Video Clip
http://photo.tepco.co.jp/en/date/2014/201404-e/140404-01e.html
4. Establishment of the Fukushima Daiich Decontamination & Decommissioning Engineering Company (4/4/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235345_5892.html
4-1. Overview of D&D Engineering Company
http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_01.pdf
4-2. Action Plan of D&D Engineering Company
http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_02.pdf
4-3. Video Message from Naohiro Masuda, Chief Decommissioning Officer
http://www.tepco.co.jp/en/news/library/archive-e.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, April 04, 2014 1:37 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 4 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, April 4, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, April 11** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
[redacted] (b)(6)
[Major topics]
1. NRA Special Nuclear Facility Oversight & Evaluation Group (3/31/2014)
(only in Japanese)
1-1. Overview of ALPS System and Issues
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_05.pdf
1-2. Overview of Sub-drain System

http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_06.pdf
1-3. Overview of Frozen Soil Wall System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_08.pdf
2. Development of the "FY2014 TEPCO Group Action Plan" (3/31/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235151_5892.html
"FY2014 TEPCO Group Action Plan"
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140331j0201.pdf
(page 6/26) Cooperation in developing the "Innovation Coast"
(page 7/26) Tackling contaminated water issues
(page 8/26) Consistently achieving decommissioning roadmap targets
(page 9/26) Enhancing equipment reliability at Fukushima Daiichi
(page 10/26) Nuclear safety at TEPCO
(page 11/26) Safety measures at Kashiwazaki Kariwa
3. Contract worker dies in on-site excavation work accident (2/28/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235120_5892.html
Reference material
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140328_08-e.pdf
4. TEPCO's Response to Fukushima Fishermen's Assotiation's Requests Related to Groundwater Bypass System (4/4/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/images/140404a.pdf
All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, April 10, 2014 9:27 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 11 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, April 11, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on Fri. April 25 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (4/7/2014)
(only in Japanese)
1-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_03-j.pdf
(page 12/64) Contaminated water treatment in Units 2/3 seawater piping trench
(page 34/64) Radioactivity in groundwater bypass wells
(page 40/64) Status of ALPS
1-2. Response to Issues Raised at the Meeting
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_04-j.pdf
(page 4/59) Addition of second layer of wier around tank farms
(page 8/59) Installation of additional tanks
(page 24/59) Groundwater/tritium migration simulation near Unit 1 intake structure
(page 40/59) Water-proofing measures at HTI building
(page 45/59) Installation of subdrain water processing system
1-3. Mid-to-long Term Plan for Solid Waste Storage
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140407_05-j.pdf
2. Fukushima Prefecture Safety Monitoring Council on Decommissioning (4/9/2014)
(only in Japanese)
2-1. Status of ALPS
http://www.tepco.co.jp/news/2014/images/140409a.pdf
2-2. Status of Groundwater Bypass System
http://www.tepco.co.jp/news/2014/images/140409b.pdf
3. Groundwater Bypass System to Commence Operation (4/9/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235426_5892.html
3-1. Photos
http://photo.tepco.co.jp/en/date/2014/201404-e/140409-01e.html
3-2. Video Clip
http://photo.tepco.co.jp/en/date/2014/201404-e/140404-01e.html
4. Establishment of the Fukushima Daiich Decontamination & Decommissioning Engineering Company (4/4/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235345_5892.html
4-1. Overview of D&D Engineering Company
http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_01.pdf
4-2. Action Plan of D&D Engineering Company

http://www.tepco.co.jp/en/decommision/team/images/FukushimaDaiichiDandD_02.pdf
4-3. Video Message from Naohiro Masuda, Chief Decommissioning Officer
http://www.tepco.co.jp/en/news/library/archive-e.html
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
(Let me know if there is a need to call in from outside the U.S. I will check the availability of call-in numbers in other countries.)
All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, April 04, 2014 1:37 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 4 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, April 4, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, April 11** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. NRA Special Nuclear Facility Oversight & Evaluation Group (3/31/2014)
(only in Japanese)
1-1. Overview of ALPS System and Issues
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_05.pdf
1-2. Overview of Sub-drain System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_06.pdf
1-3. Overview of Frozen Soil Wall System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_08.pdf
2. Development of the "FY2014 TEPCO Group Action Plan" (3/31/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235151_5892.html
"FY2014 TEPCO Group Action Plan"
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140331j0201.pdf
(page 6/26) Cooperation in developing the "Innovation Coast"
(page 7/26) Tackling contaminated water issues
(page 8/26) Consistently achieving decommissioning roadmap targets
(page 9/26) Enhancing equipment reliability at Fukushima Daiichi
(page 10/26) Nuclear safety at TEPCO
(page 11/26) Safety measures at Kashiwazaki Kariwa
3. Contract worker dies in on-site excavation work accident (2/28/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235120_5892.html

Reference material
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140328_08-e.pdf
4. TEPCO's Response to Fukushima Fishermen's Assotiation's Requests Related to Groundwater Bypass System (4/4/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/images/140404a.pdf
All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 27, 2014 10:34 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 28 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, March 28, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, April 4** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6) [redacted]
[Major topics]
1. Full-Scale Emergency Drill at Fukushima Daiichi (3/14/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140314_06-j.pdf
2 Status for Emergency Safety Enhancement at Fukushima Daiichi (3/20/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140320_04-j.pdf
(page 7/45) Onsite dose reduction plan
(page 10/45) Status of tsunami debris removal
(page 31/45) Tank over-flow prevention measures
(page 42/45) Unit 4 SFP dose reduction measures
3 Working-level Meeting of Decommissioning & Contaminated Water Issues Team (3/27/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_04-j.pdf
(page 1/8) Plant parameter
(page 2/8) Unit 1 RPV and D/W temperatures
(page 3/8) Unit 2 RPV and D/W temperatures
(page 4/8) Unit 3 RPV and D/W temperatures
(page 5/8) Water storage status
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_05-j.pdf
3-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_06-j.pdf
(page 6/272) Completion of Unit 4 rubble removal from reactor well, RPV, and SFP
(page 16/272) Unit 4 SFP dose reduction measures
(page 48/272) Unit 3 SFP rubble removal status
(page 73/272) Demonstration test results of suction/blast decontamination robot
(page 82/272) Development status of lower PCV repair technique
(page 94/272) Unit 2 R/B refueling floor core sampling
(page 110/272) Long-term safe storage of used zeolite and waste sludge
(page 124/272) R&D status
(page 158/272) Unit 2 RPV bottom temperature monitoring and replacement work of thermometer
(page 178/272) ALPS train B issues
(page 200/272) Test status of Sr immobilization by apatite

(page 211/272) Contaminated water treatment of Units 2 and 3 seawater piping trench
4. Briefing Material for Fukushima Fishermen's Association (3/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140325_04-j.pdf
(page 1/15) Rainwater measures
(page 2/15) Contamination of fish within 20 km radius
(page 8/15) Fish contamination prevention measures
(page 12/15) Seawater radioactivity monitoring data
5. Establishment of the "Fukushima Daiichi Decontamination & Decommissioning Engineering Company" (3/25/2014)
http://www.tepco.co.jp/cc/press/2014/1234988_5851.html
Appendix (only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140325j0101.pdf
6. Status for Fukushima Daini (3/26/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/f2-np/handouts/j140326a-j.pdf
7. Letter from TEPCO to New York Times Regarding its Article on Fukushima (3/25/2014)
http://www.nytimes.com/2014/03/26/opinion/cleaning-up-fukushima.html?_r=0
All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 13, 2014 10:06 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 14 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, March 14, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, March 28** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 1 Reactor Building Frame Investigation Results (3/7/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140307_07-j.pdf
(photos and videos)
http://photo.tepco.co.jp/en/date/2014/201403-e/140307_01e.html
2. Temporary Storage of Used Cesium Adsorbent, etc. (3/7/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/images/140307d.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (3/12/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_03-j.pdf
(page 4/101) Work related to sea water piping trench
(page 11/101) Sea-side impermeable wall
(page 13/101) Radioactivity concentration trends at various locations
(page 60/101) Cause and measures for contaminated water leakage from H6 area tank
(page 96/101) Inadvertent cutting of buried power cable
3-2. Status of Measures on Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_04-j.pdf
(page 4/55) Preventive measures for contaminated water tank leakage
(page 12/55) Installation of double-layer weirs surrounding tank farms
(page 19/55) Tank replacement plan

(page 35/55) Rain water transfer from weirs
(page 44/55) Water-proofing work for buildings
3-3. Frozen-Soil Wall Plan and Progress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_05-j.pdf
(page 4/8) Progress of feasibility study
(page 5/8) Progress of feasibility study
(page 7/8) Work schedule
(page 8/8) Plane view and cross-sectional view of the frozen-soil wall
4. Unit 4 Fuel Transfer Progress (3/9/2014)
http://www.tepco.co.jp/en/decommision/index-e.html
5. FORMER U.S. NUCLEAR REGULATOR PRAISES TEPCO PROGRESS, NOTES COMMITMENT OF JAPANESE PEOPLE TO SUCCEED (3/11/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234738_5892.html
6. TEPCO Presentation on Contaminated Water Issues at NRC-RIC (3/11/2014)
https://ric.nrc-gateway.gov/docs/abstracts/tateiwak-t12-r1-hv.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, February 28, 2014 12:20 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 28 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Feb. 28, 2014 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri, March 14** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Explanation to the Fukushima Fishermen's Association (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140225_04-j.pdf
2. J-NRA Contaminated Water Working Group (2/24/2014)
(only in Japanese)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/20140224.html
2-1. Ground Water and Sea Water Radioactivity Trend Near Units 1-4 Intake Structures
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_04.pdf
(page 4/39) Ground Water Radioactivity Trend
(page 11/39) Sea Water Radioactivity Trend
(page /39) Progress Status for Soil Improvement Work
2-2. Reallocation of Resources for Radioactivity Monitoring
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_05.pdf
(page 4/11) Monitoring Locations Near Underground Reservoirs
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (2/27/2014)
(only in Japanese)
3-1. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_05-j.pdf
3-2. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_06-j.pdf
(page 23/332) Dose Reduction Measures for Unit 4 Fuel Removal Work
(page 57/332) Unit 3 Spent Fuel Pool Rubble Removal Status
(page 63/332) Stopping Leakage of Primary Containment Vessel
(page 76/332) Investigation Inside Primary Containment Vessel

(page 88/332) Responses to RFI on Alternative Methods of Fuel Debris Removal
(page 96/332) Radioactivity Analysis of Onsite Woods
(page 116/332) R&D Project Status and Future Plans
(page 137/332) Units 1-3 RPV and PCV Temperature Responses to Change in Core Injection Rate
(page 167/332) Reduction of Core Injection Rate to Reduce Contaminated Water Processing Load
(page 180/332) Installation of Additional and High-Performance Multi-Nuclide Removal System
(page 196/332) ALPS Booster Pump Trip Event
(page 207/332) Mobile Sr Removal System for RO Concentrated Water
(page 213/332) Installation of Rain Water Treatment System
(page 221/332) Unit 4 Spent Fuel Pool Cooling Temporary Shutdown Due to Power Cable Damage
(page 226/332) Overflow of Partially-treated (Beta-rich) Water from H6 Area Tank
(page 278/332) Sea Floor Coating to Mitigate Spreading of Radioactivity
(page 283/332) Underestimation of Gross-beta Radioactivity for Samples with High Count Rate
(page 308/332) Estimated Release of Radioactivity from Units 1-4 Reactor Buildings
(page 332/332) Site Map of Areas with No Requirement for Full-Face Respirator (in orange)

4. Unit 4 Fuel Removal Work Suspended After Power Halt but Restart During the Day (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234483_5892.html

5. TEPCO Plans to Get Outside Help to Improve Radioactivity Measurements (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234473_5892.html

6. Current Status of Fukushima Daini (2F) (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/f2-np/handouts/j140225a-j.pdf

All the best,
Kenji

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa@wash.tepco.com]
Sent: Friday, April 04, 2014 1:37 AM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, April 4 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, April 4, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, April 11** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. NRA Special Nuclear Facility Oversight & Evaluation Group (3/31/2014)
(only in Japanese)
1-1. Overview of ALPS System and Issues
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_05.pdf
1-2. Overview of Sub-drain System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_06.pdf
1-3. Overview of Frozen Soil Wall System
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0019_08.pdf
2. Development of the "FY2014 TEPCO Group Action Plan" (3/31/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235151_5892.html
"FY2014 TEPCO Group Action Plan"
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140331j0201.pdf
(page 6/26) Cooperation in developing the "Innovation Coast"
(page 7/26) Tackling contaminated water issues
(page 8/26) Consistently achieving decommissioning roadmap targets
(page 9/26) Enhancing equipment reliability at Fukushima Daiichi
(page 10/26) Nuclear safety at TEPCO
(page 11/26) Safety measures at Kashiwazaki Kariwa
3. Contract worker dies in on-site excavation work accident (2/28/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1235120_5892.html
Reference material
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140328_08-e.pdf
4. TEPCO's Response to Fukushima Fishermen's Assotiation's Requests Related to Groundwater Bypass System (4/4/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/images/140404a.pdf
** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
(Let me know if there is a need to call in from outside the U.S. I will check the availability of call-in numbers in other countries.)
All the best,

Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)
tateiwa.kenji@tepco.co.jp

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 27, 2014 10:34 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 28 at 3pm EDT

Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, March 28, 2014 at 3 pm Eastern Daylight Time
(Next call will be on **Fri, April 4** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Full-Scale Emergency Drill at Fukushima Daiichi (3/14/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140314_06-j.pdf
2 Status for Emergency Safety Enhancement at Fukushima Daiichi (3/20/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140320_04-j.pdf
(page 7/45) Onsite dose reduction plan
(page 10/45) Status of tsunami debris removal
(page 31/45) Tank over-flow prevention measures
(page 42/45) Unit 4 SFP dose reduction measures
3 Working-level Meeting of Decommissioning & Contaminated Water Issues Team (3/27/2014)
(only in Japanese)
3-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_04-j.pdf
(page 1/8) Plant parameter
(page 2/8) Unit 1 RPV and D/W temperatures
(page 3/8) Unit 2 RPV and D/W temperatures
(page 4/8) Unit 3 RPV and D/W temperatures
(page 5/8) Water storage status
3-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_05-j.pdf
3-3. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140327_06-j.pdf
(page 6/272) Completion of Unit 4 rubble removal from reactor well, RPV, and SFP
(page 16/272) Unit 4 SFP dose reduction measures
(page 48/272) Unit 3 SFP rubble removal status
(page 73/272) Demonstration test results of suction/blast decontamination robot
(page 82/272) Development status of lower PCV repair technique
(page 94/272) Unit 2 R/B refueling floor core sampling
(page 110/272) Long-term safe storage of used zeolite and waste sludge
(page 124/272) R&D status

(page 158/272) Unit 2 RPV bottom temperature monitoring and replacement work of thermometer
(page 178/272) ALPS train B issues
(page 200/272) Test status of Sr immobilization by apatite
(page 211/272) Contaminated water treatment of Units 2 and 3 seawater piping trench
4. Briefing Material for Fukushima Fishermen's Association (3/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140325_04-j.pdf
(page 1/15) Rainwater measures
(page 2/15) Contamination of fish within 20 km radius
(page 8/15) Fish contamination prevention measures
(page 12/15) Seawater radioactivity monitoring data
5. Establishment of the "Fukushima Daiichi Decontamination & Decommissioning Engineering Company" (3/25/2014)
http://www.tepco.co.jp/cc/press/2014/1234988_5851.html
Appendix (only in Japanese)
http://www.tepco.co.jp/cc/press/betu14_j/images/140325j0101.pdf
6. Status for Fukushima Daini (3/26/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/f2-np/handouts/j140326a-j.pdf
7. Letter from TEPCO to New York Times Regarding its Article on Fukushima (3/25/2014)
http://www.nytimes.com/2014/03/26/opinion/cleaning-up-fukushima.html?_r=0
All the best,
Kenji
----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, March 13, 2014 10:06 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, March 14 at 3pm EDT
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, March 14, 2014 at 3 pm Eastern Daylight Time
(No call next week. Next call will be on **Fri, March 28** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 1 Reactor Building Frame Investigation Results (3/7/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140307_07-j.pdf
(photos and videos)
http://photo.tepco.co.jp/en/date/2014/201403-e/140307_01e.html
2. Temporary Storage of Used Cesium Adsorbent, etc. (3/7/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/images/140307d.pdf
3. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (3/12/2014)
(only in Japanese)
3-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_03-j.pdf
(page 4/101) Work related to sea water piping trench
(page 11/101) Sea-side impermeable wall
(page 13/101) Radioactivity concentration trends at various locations
(page 60/101) Cause and measures for contaminated water leakage from H6 area tank
(page 96/101) Inadvertent cutting of buried power cable
3-2. Status of Measures on Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_04-j.pdf

(page 4/55) Preventive measures for contaminated water tank leakage
(page 12/55) Installation of double-layer weirs surrounding tank farms
(page 19/55) Tank replacement plan
(page 35/55) Rain water transfer from weirs
(page 44/55) Water-proofing work for buildings
3-3. Frozen-Soil Wall Plan and Progress
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140312_05-j.pdf
(page 4/8) Progress of feasibility study
(page 5/8) Progress of feasibility study
(page 7/8) Work schedule
(page 8/8) Plane view and cross-sectional view of the frozen-soil wall
4. Unit 4 Fuel Transfer Progress (3/9/2014)
http://www.tepco.co.jp/en/decommision/index-e.html
5. FORMER U.S. NUCLEAR REGULATOR PRAISES TEPCO PROGRESS, NOTES COMMITMENT OF JAPANESE PEOPLE TO SUCCEED (3/11/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234738_5892.html
6. TEPCO Presentation on Contaminated Water Issues at NRC-RIC (3/11/2014)
https://ric.nrc-gateway.gov/docs/abstracts/tateiwak-t12-r1-hv.pdf
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, February 28, 2014 12:20 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 28 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Feb. 28, 2014 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri. March 14** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Explanation to the Fukushima Fishermen's Association (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140225_04-j.pdf
2. J-NRA Contaminated Water Working Group (2/24/2014)
(only in Japanese)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/20140224.html
2-1. Ground Water and Sea Water Radioactivity Trend Near Units 1-4 Intake Structures
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_04.pdf
(page 4/39) Ground Water Radioactivity Trend
(page 11/39) Sea Water Radioactivity Trend
(page /39) Progress Status for Soil Improvement Work
2-2. Reallocation of Resources for Radioactivity Monitoring
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_05.pdf
(page 4/11) Monitoring Locations Near Underground Reservoirs
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (2/27/2014)
(only in Japanese)
3-1. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_05-j.pdf
3-2. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_06-j.pdf
(page 23/332) Dose Reduction Measures for Unit 4 Fuel Removal Work

(page 57/332) Unit 3 Spent Fuel Pool Rubble Removal Status
(page 63/332) Stopping Leakage of Primary Containment Vessel
(page 76/332) Investigation Inside Primary Containment Vessel
(page 88/332) Responses to RFI on Alternative Methods of Fuel Debris Removal
(page 96/332) Radioactivity Analysis of Onsite Woods
(page 116/332) R&D Project Status and Future Plans
(page 137/332) Units 1-3 RPV and PCV Temperature Responses to Change in Core Injection Rate
(page 167/332) Reduction of Core Injection Rate to Reduce Contaminated Water Processing Load
(page 180/332) Installation of Additional and High-Performance Multi-Nuclide Removal System
(page 196/332) ALPS Booster Pump Trip Event
(page 207/332) Mobile Sr Removal System for RO Concentrated Water
(page 213/332) Installation of Rain Water Treatment System
(page 221/332) Unit 4 Spent Fuel Pool Cooling Temporary Shutdown Due to Power Cable Damage
(page 226/332) Overflow of Partially-treated (Beta-rich) Water from H6 Area Tank
(page 278/332) Sea Floor Coating to Mitigate Spreading of Radioactivity
(page 283/332) Underestimation of Gross-beta Radioactivity for Samples with High Count Rate
(page 308/332) Estimated Release of Radioactivity from Units 1-4 Reactor Buildings
(page 332/332) Site Map of Areas with No Requirement for Full-Face Respirator (in orange)
4. Unit 4 Fuel Removal Work Suspended After Power Halt but Restart During the Day (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234483_5892.html
5. TEPCO Plans to Get Outside Help to Improve Radioactivity Measurements (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234473_5892.html
6. Current Status of Fukushima Daini (2F) (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/f2-np/handouts/j140225a-j.pdf
All the best,
Kenji
---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 20, 2014 11:09 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 21, 2014 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Feb. 21, 2014 at 3 pm Eastern Time
(Next call will be on **Fri, Feb. 28** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 3 Reactor Building Inspection Results (2/14/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140214_04-j.pdf
- Deformation found in shield plug assumed to be caused by overhead crane hook that dropped after the explosion; deformation unlikely to propagate further.
2. Radioactivity of Samples taken from Water Treatment Facilities (2/14/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2014/images/water_140214-e.pdf
3. Revised Event Notification Criteria (2/19/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140219_11-j.pdf
- Added event category related to contaminated water tanks in light of recent issues with water leakages.
4. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (2/18/2014)
(only in Japanese)
4-1. Status of Onsite Work Related to Contaminated Water Issues

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_03-j.pdf
(page 4/54) Treating contaminated water in Units 2/3 underground trench.
(page 9/54) Construction status of sea-side impermeable wall.
(page 47/54) Anti-corrosion measures for ALPS found to be effective.

4-2. Status of Measures on Contaminated Water Issues

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_04-j.pdf
(page 15/38) Tank management plan.
(page 27/38) Rerouting of drainage ditch.
(page 30/38) Waterproofing radwaste building and Unit 1 turbine building.

4-3. Effective Dose at Site Boundary

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_05-j.pdf
(page 5/33) Max. dose rate at site boundary: 8.04 mSv/year.
(page 7/33) Primary source of dose: RO concentrated water tanks.
(page 31/33) Measures to reduce dose from RO concentrated water.

5. Radioactivity of Fish (2/19/2014)

(only in Japanese)

5-1. Fish Caught in Port of Fukushima Daiichi

http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2014/images/fish01_140219-j.pdf
(page 2/5) Max. radioactivity: **171,000 Bq/kg** (Cs-134 + Cs-137 in fish flesh)
cf. regulatory limit of cesium in food: 100 Bq/kg

5-2. Fish Caught within 20 km-radius of Fukushima Daiichi

http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2014/images/fish02_140219-j.pdf
(page 3/9) Max. radioactivity: **156 Bq/kg** (Cs-134 + Cs-137 in fish flesh)

6. Fukushima Prefecture Safety Monitoring Committee on Fukushima Daiichi Decommissioning (2/20/2014)

(only in Japanese)
http://www.tepco.co.jp/news/2014/1234393_5918.html

6-1. Malfunction of Unit 2 RPV Bottom Thermometer

http://www.tepco.co.jp/news/2014/images/140220b.pdf
- Newly installed thermometer may have been damaged by inadvertently applying high voltage during routine testing.
- Another thermometer available to continue monitoring RPV temperature.

6-2. Underestimation of Gross-beta Radioactivity for Samples with High Count Rate

http://www.tepco.co.jp/news/2014/images/140220d.pdf
- "Counting Loss" occurs when measuring highly radioactive samples that emit multiple radiation within "Resolving Time" of the detector.
- Radioactivity of samples with high count rate measured prior to implementation of procedure to adequately dilute them to prevent "counting loss" is being reevaluated.

6-3. Background Information on Gross-beta Radioactivity Measurement

http://www.tepco.co.jp/news/2014/images/140220e.pdf

6-4. Additional Measures to Cope with Contaminated Water Issues

http://www.tepco.co.jp/news/2014/images/140220f.pdf
(page 2/19) Additional multi-nuclide removal system.
(page 4/19) Strontium retention in soil using apatite.
(page 11/19) Installation of welded-type tanks.
(page 12/19) Leak prevention measures for bolted-type tanks.
(page 16/19) Water proofing the buildings.
(page 18/19) Reducing length of circulating cooling system.
(page 19/19) Tank leakage impact mitigation system.

7. Overflow of Partially-treated (Beta-rich) Water from H6 Area Tank (2/20/2014)

http://www.tepco.co.jp/en/press/corp-com/release/2014/1234394_5892.html
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140220_05-e.pdf

8. TEPCO President Hirose's Remarks at the Asian Nuclear Power Briefing (2/18/2014)

http://www.tepco.co.jp/en/press/corp-com/release/2014/1234325_5892.html

All the best,
Kenji

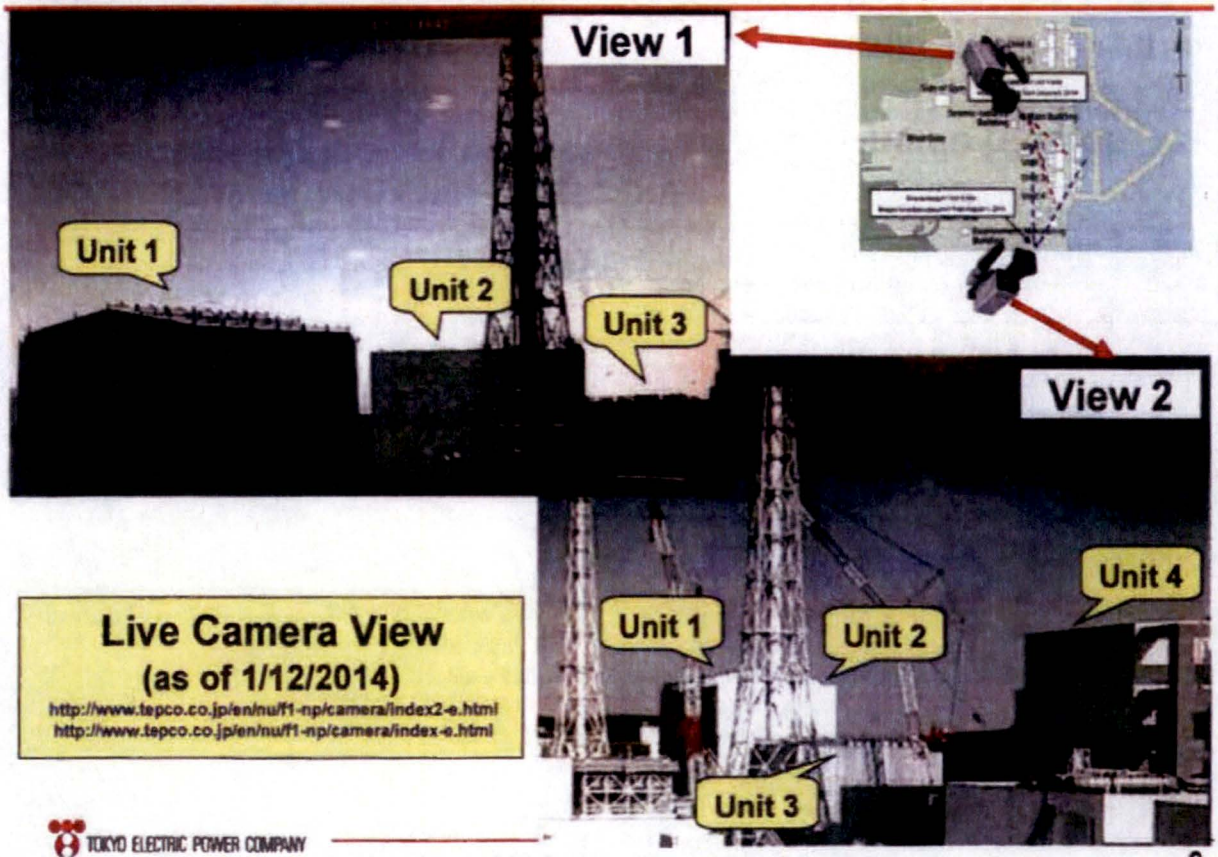
Challenges and Progress Related to Contaminated Water Issues at Fukushima Daiichi Nuclear Power Station

U.S. NRC Regulatory Information Conference
Technical Session T-12

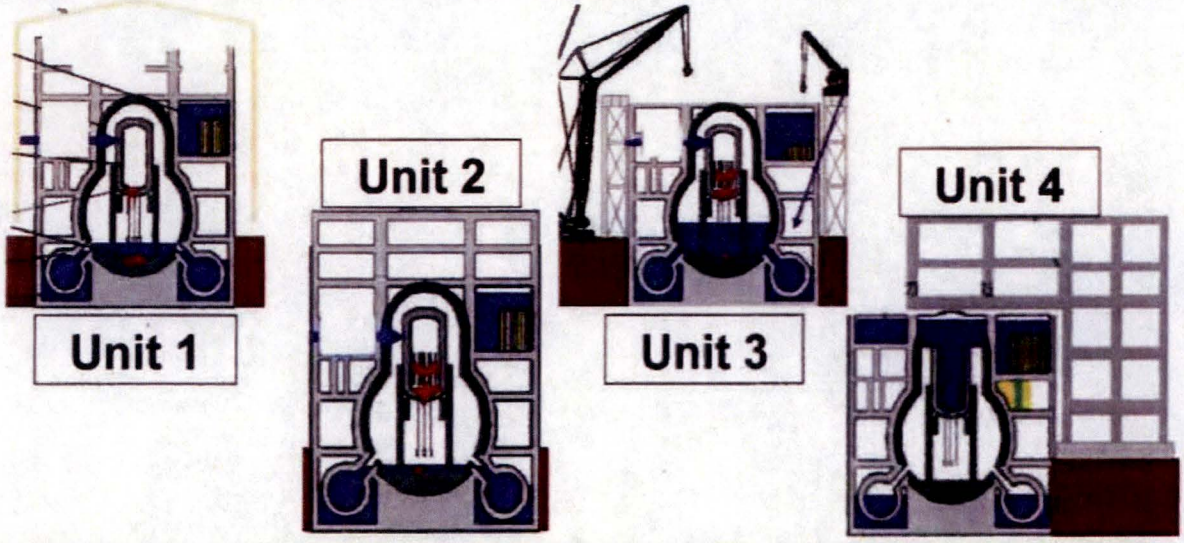
North Bethesda, Maryland
March 11th, 2014

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company, Washington Office
tateiwa.kenji@tepco.co.jp

Current Status of Fukushima Daiichi (1F) NPS

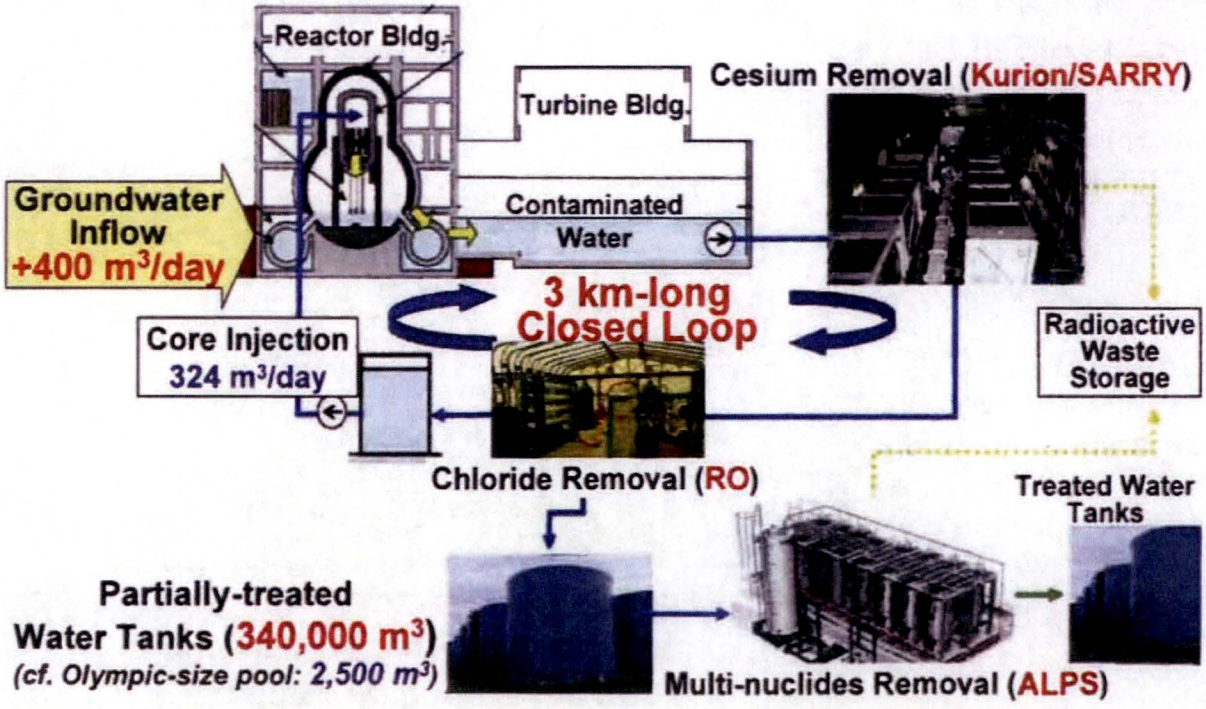


Progress Made at 1F Unit 1



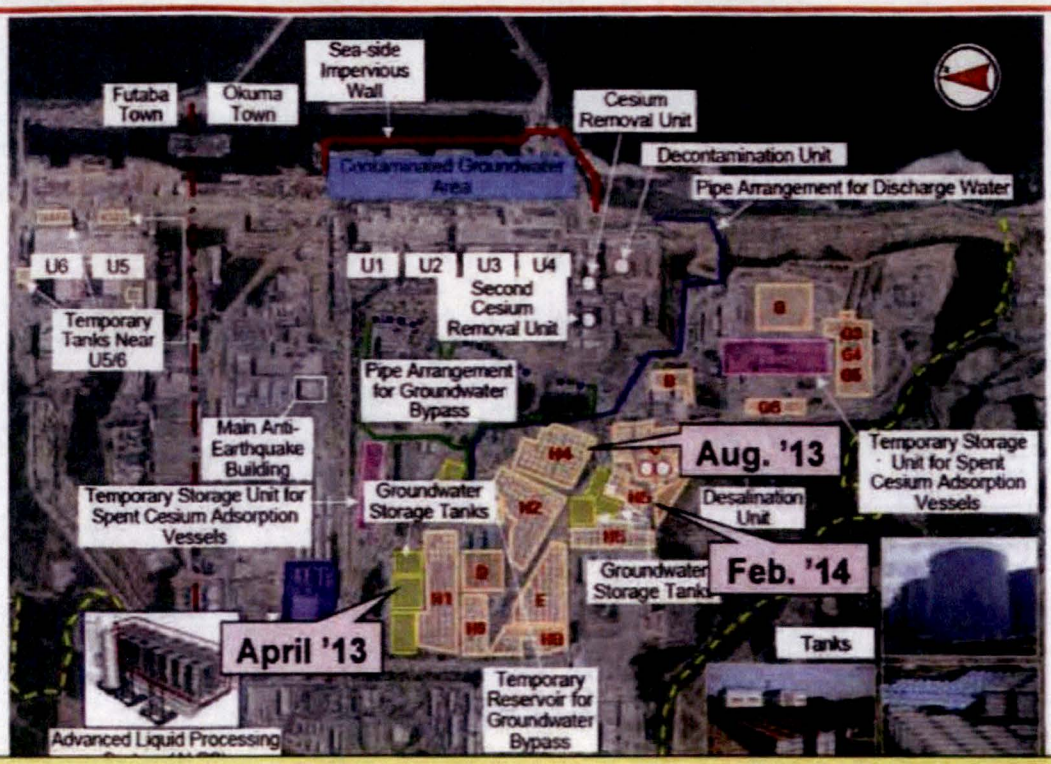
- All reactors and spent fuel pools stably cooled
- Remote machines utilized to investigate inside reactor buildings
- Fuels being transferred from Unit 4 to common fuel pool

Circulating-Water Core Cooling System at 1F



Increasing water inventory posing challenge

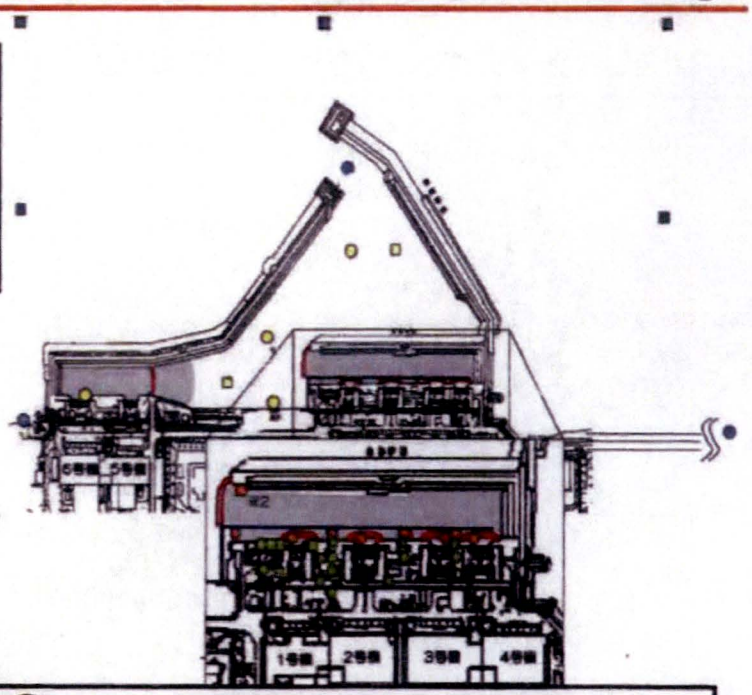
Aerial View of Fukushima Daiichi NPS



Contaminated water leakages from tanks causing unrest

Sea Water and Ground Water Radioactivity Monitoring

- Outside of Port
- Inside of Port
- Inside of Silt Fence
- Ground Water Near Intake Structure



Monitoring Interval

- Gamma-nuclides: weekly
- Gross-beta: weekly
- Tritium: weekly
- Sr-90: monthly

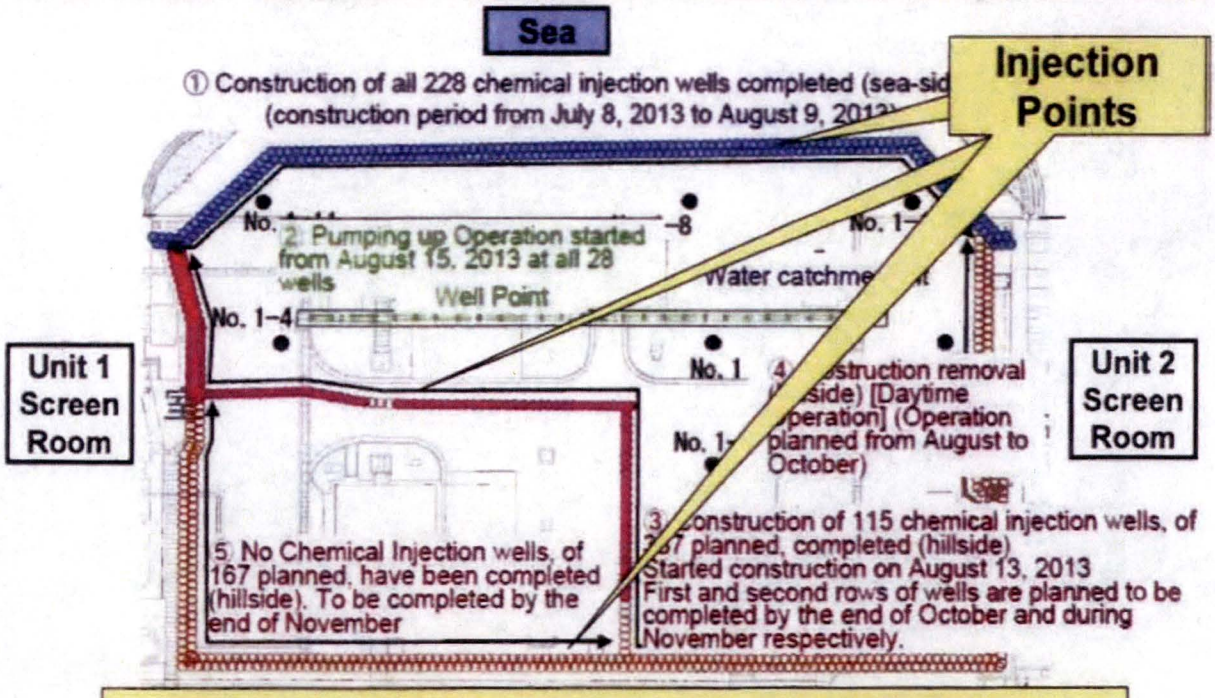
- ND or below regulatory limit
- Exceeding regulatory limit at some location depending on nuclide

Emergency and Fundamental Measures on Water Issues

Emergency and fundamental measures taken to:

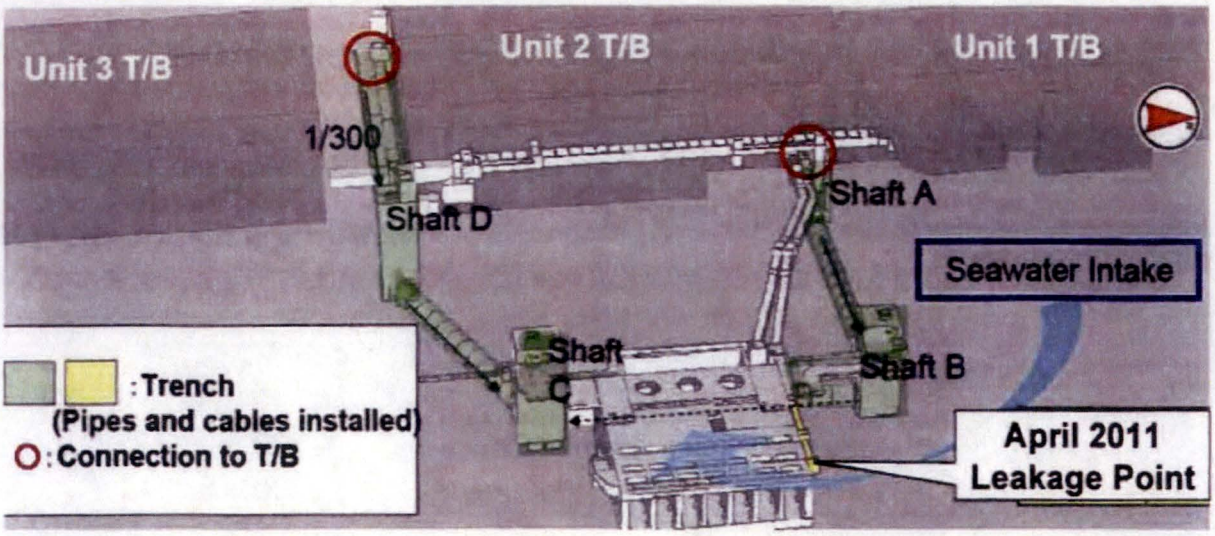
- **Prevent groundwater from being contaminated**
- **Prevent contaminated groundwater from flowing into sea**
- **Reduce groundwater inflow into buildings**

Emergency Measure 1: Soil Improvement



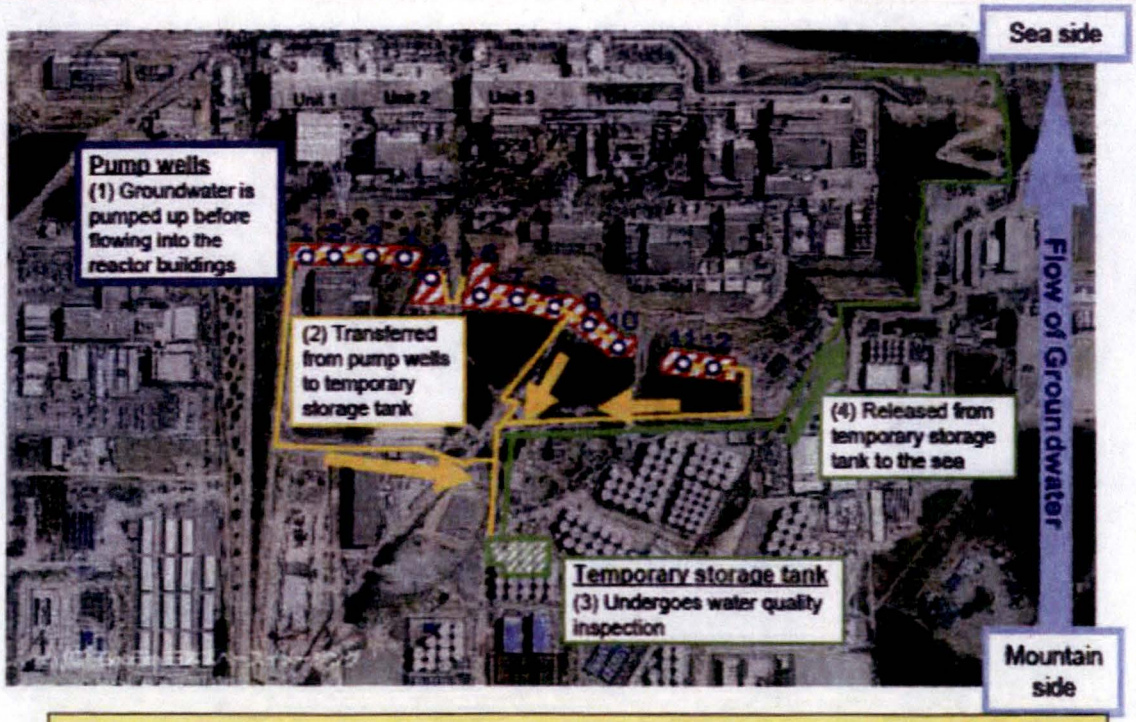
Water glass injected for soil improvement to prevent contaminated water outflow

Emergency Measure 2: Removal of Contaminated Water



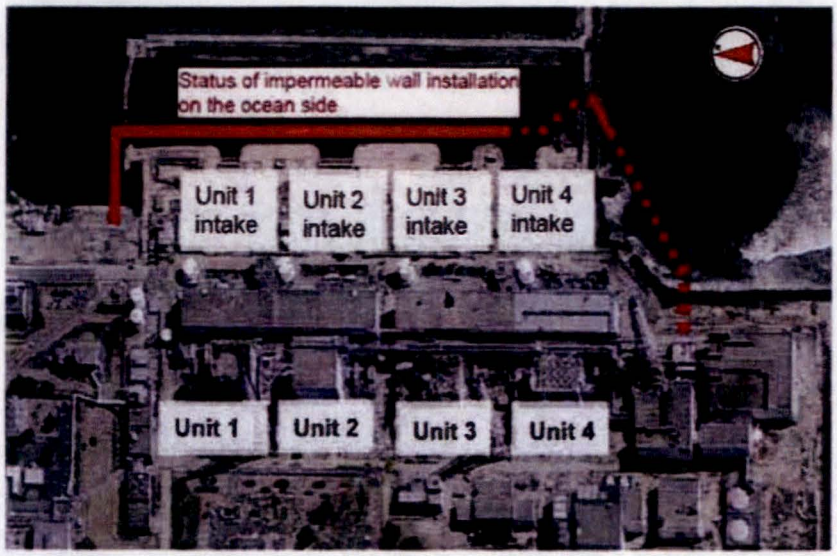
Contaminated water in underground trenches currently treated and to be pumped out

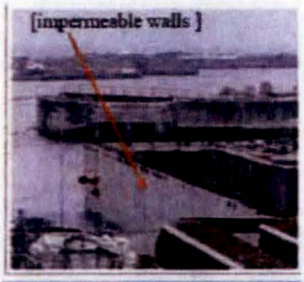
Emergency Measure 3: Ground Water Bypass

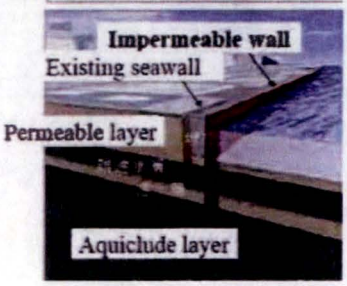


Pumping up ground water upstream of buildings and bypassing them to reduce inflow

Fundamental Measure 1: Sea-side Impermeable Wall

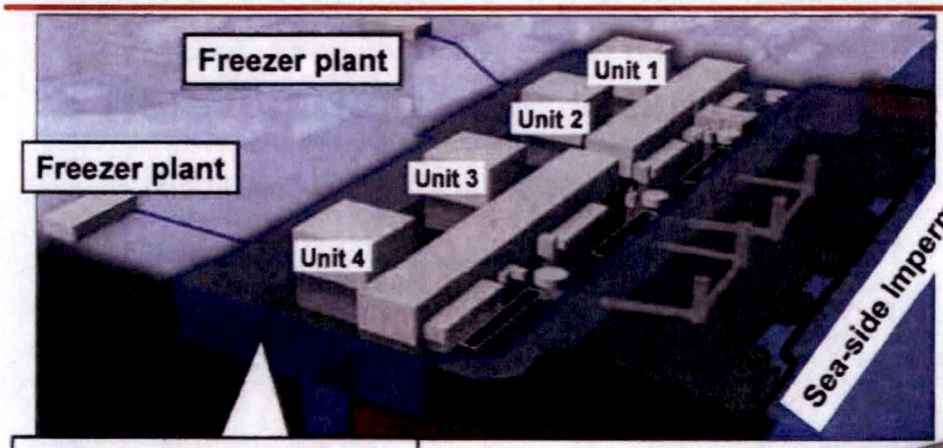






Impermeable wall made of steel-pipe sheet pile will suppress outflow of contaminated water into the sea

Fundamental Measure 2: Land-side Impermeable Wall

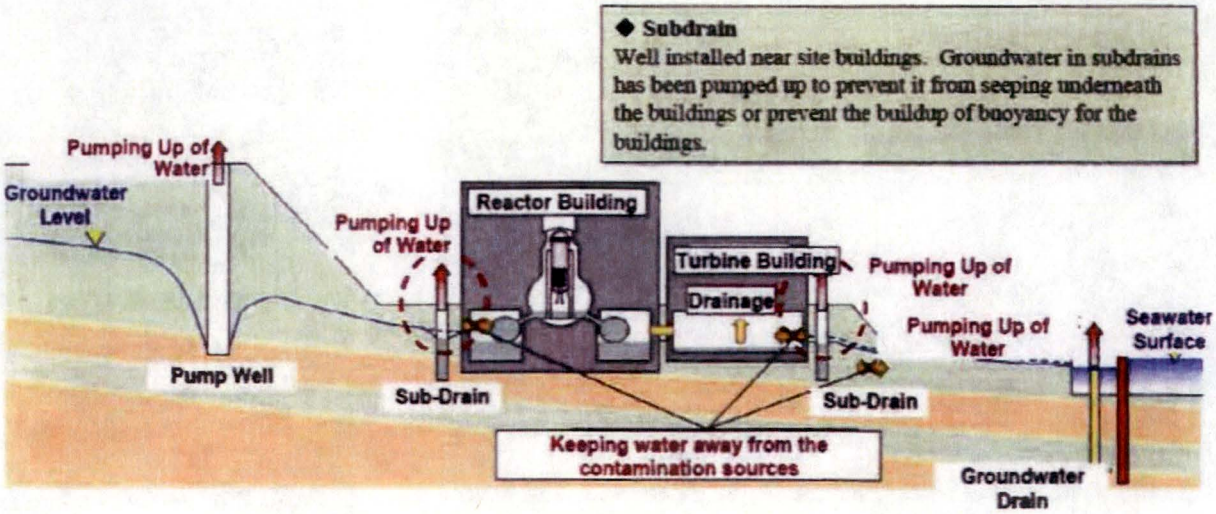


1,500 m-long circulation of refrigerant

Freezer pipes

- Surround buildings with "ice wall" to prevent groundwater inflow
- Feasibility study conducted to identify technical challenges

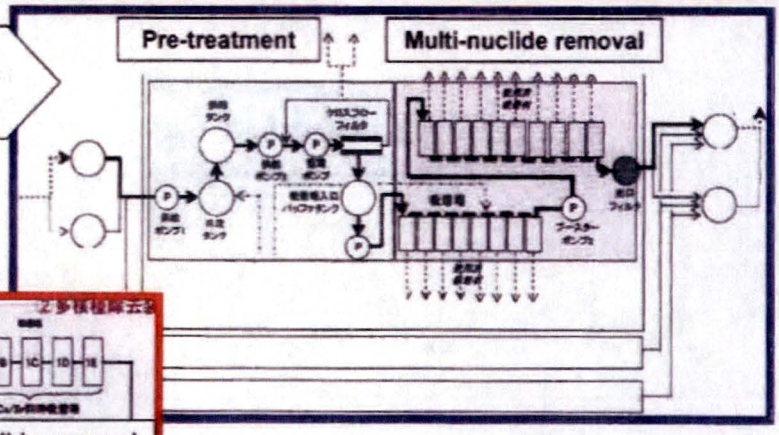
Fundamental Measure 3: Sub-Drain System

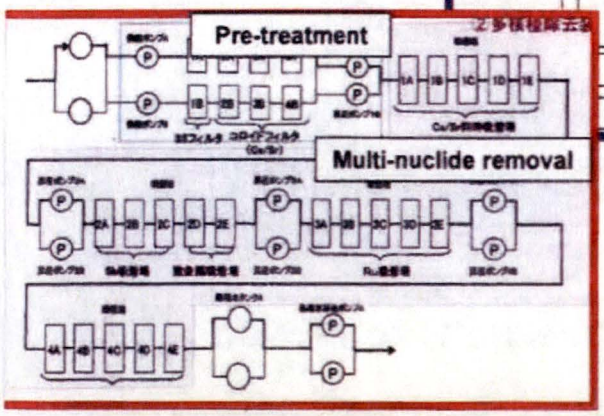


Restoration of sub-drain system will enable active control of ground water level around the buildings

Other Measures: Reducing Source Term in Tanks

Additional ALPS: 250m³/day x 3 trains

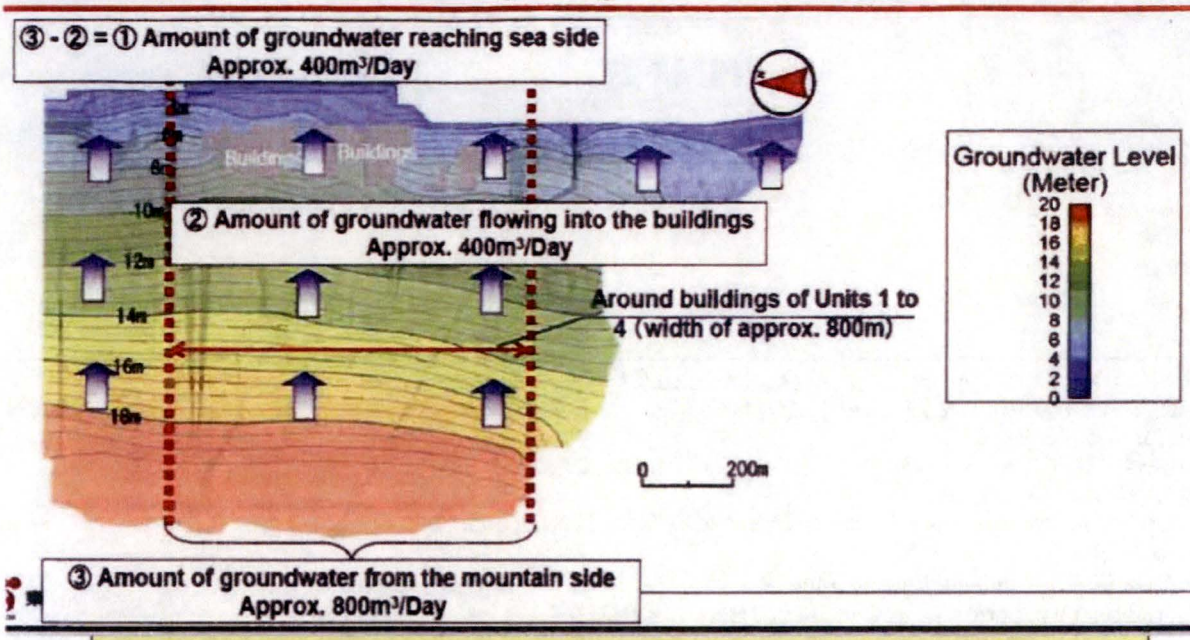




High-performance ALPS: 500m³/day x 1 train

- **Augmenting current ALPS (250m³/day x 3 trains)**
- **Installation of mobile Sr-removal system (300m³/day)**

Other Measures: Analyzing Ground Water Flow



- Ground water flow model expanded to include offsite area for higher accuracy
- Case studies conducted to verify effectiveness of various measures

TEPCO's Post-Accident Activities in the U.S.

Committed to sharing lessons learned, making nuclear power plants safer, and carrying out decommissioning safely with support from the global community

Outside of Scope

From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Thursday, February 27, 2014 11:20 PM
To: Tateiwa, Kenji
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 28 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Feb. 28, 2014 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri. March 14** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Explanation to the Fukushima Fishermen's Association (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140225_04-j.pdf
2. J-NRA Contaminated Water Working Group (2/24/2014)
(only in Japanese)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/20140224.html
2-1. Ground Water and Sea Water Radioactivity Trend Near Units 1-4 Intake Structures
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_04.pdf
(page 4/39) Ground Water Radioactivity Trend
(page 11/39) Sea Water Radioactivity Trend
(page /39) Progress Status for Soil Improvement Work
2-2. Reallocation of Resources for Radioactivity Monitoring
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi_wg/data/0011_05.pdf
(page 4/11) Monitoring Locations Near Underground Reservoirs
3. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (2/27/2014)
(only in Japanese)
3-1. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_05-j.pdf
3-2. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140227_06-j.pdf
(page 23/332) Dose Reduction Measures for Unit 4 Fuel Removal Work
(page 57/332) Unit 3 Spent Fuel Pool Rubble Removal Status
(page 63/332) Stopping Leakage of Primary Containment Vessel
(page 76/332) Investigation Inside Primary Containment Vessel
(page 88/332) Responses to RFI on Alternative Methods of Fuel Debris Removal
(page 96/332) Radioactivity Analysis of Onsite Woods
(page 116/332) R&D Project Status and Future Plans
(page 137/332) Units 1-3 RPV and PCV Temperature Responses to Change in Core Injection Rate
(page 167/332) Reduction of Core Injection Rate to Reduce Contaminated Water Processing Load
(page 180/332) Installation of Additional and High-Performance Multi-Nuclide Removal System
(page 196/332) ALPS Booster Pump Trip Event
(page 207/332) (b)(6) Sr Removal System for RO Concentrated Water
(page 213/332) Installation of Rain Water Treatment System

(page 221/332) Unit 4 Spent Fuel Pool Cooling Temporary Shutdown Due to Power Cable Damage
(page 226/332) Overflow of Partially-treated (Beta-rich) Water from H6 Area Tank
(page 278/332) Sea Floor Coating to Mitigate Spreading of Radioactivity
(page 283/332) Underestimation of Gross-beta Radioactivity for Samples with High Count Rate
(page 308/332) Estimated Release of Radioactivity from Units 1-4 Reactor Buildings
(page 332/332) Site Map of Areas with No Requirement for Full-Face Respirator (in orange)

4. Unit 4 Fuel Removal Work Suspended After Power Halt but Restart During the Day (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234483_5892.html

5. TEPCO Plans to Get Outside Help to Improve Radioactivity Measurements (2/25/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234473_5892.html

6. Current Status of Fukushima Daini (2F) (2/25/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/f2-np/handouts/j140225a-j.pdf

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

(Let me know if there is a need to call in from outside the U.S. I will check the availability of call-in numbers in other countries.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

---- Original Message ----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 20, 2014 11:09 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 21, 2014 at 3pm EST

Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 21, 2014 at 3 pm Eastern Time
(Next call will be on **Fri, Feb. 28** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
2 (b)(6)

[Major topics]

1. Unit 3 Reactor Building Inspection Results (2/14/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140214_04-j.pdf
- Deformation found in shield plug assumed to be caused by overhead crane hook that dropped after the explosion; deformation unlikely to propagate further.

2. Radioactivity of Samples taken from Water Treatment Facilities (2/14/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/2014/images/water_140214-e.pdf

3. Revised Event Notification Criteria (2/19/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140219_11-j.pdf
- Added event category related to contaminated water tanks in light of recent issues with water leakages.

4. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (2/18/2014)

(only in Japanese)

4-1. Status of Onsite Work Related to Contaminated Water Issues

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_03-j.pdf

(page 4/54) Treating contaminated water in Units 2/3 underground trench.

(page 9/54) Construction status of sea-side impermeable wall.

(page 47/54) Anti-corrosion measures for ALPS found to be effective.

4-2. Status of Measures on Contaminated Water Issues

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_04-j.pdf

(page 15/38) Tank management plan.

(page 27/38) Rerouting of drainage ditch.

(page 30/38) Waterproofing radwaste building and Unit 1 turbine building.

4-3. Effective Dose at Site Boundary

http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140218_05-j.pdf

(page 5/33) Max. dose rate at site boundary: 8.04 mSv/year.

(page 7/33) Primary source of dose: RO concentrated water tanks.

(page 31/33) Measures to reduce dose from RO concentrated water.

5. Radioactivity of Fish (2/19/2014)

(only in Japanese)

5-1. Fish Caught in Port of Fukushima Daiichi

http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2014/images/fish01_140219-j.pdf

(page 2/5) Max. radioactivity: **171,000 Bq/kg** (Cs-134 + Cs-137 in fish flesh)

cf. regulatory limit of cesium in food: 100 Bq/kg

5-2. Fish Caught within 20 km-radius of Fukushima Daiichi

http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2014/images/fish02_140219-j.pdf

(page 3/9) Max. radioactivity: **156 Bq/kg** (Cs-134 + Cs-137 in fish flesh)

6. Fukushima Prefecture Safety Monitoring Committee on Fukushima Daiichi Decommissioning (2/20/2014)

(only in Japanese)

http://www.tepco.co.jp/news/2014/1234393_5918.html

6-1. Malfunction of Unit 2 RPV Bottom Thermometer

http://www.tepco.co.jp/news/2014/images/140220b.pdf

- Newly installed thermometer may have been damaged by inadvertently applying high voltage during routine testing.
- Another thermometer available to continue monitoring RPV temperature.

6-2. Underestimation of Gross-beta Radioactivity for Samples with High Count Rate

http://www.tepco.co.jp/news/2014/images/140220d.pdf

- "Counting Loss" occurs when measuring highly radioactive samples that emit multiple radiation within "Resolving Time" of the detector.
- Radioactivity of samples with high count rate measured prior to implementation of procedure to adequately dilute them to prevent "counting loss" is being reevaluated.

6-3. Background Information on Gross-beta Radioactivity Measurement

http://www.tepco.co.jp/news/2014/images/140220e.pdf

6-4. Additional Measures to Cope with Contaminated Water Issues

http://www.tepco.co.jp/news/2014/images/140220f.pdf

(page 2/19) Additional multi-nuclide removal system.

(page 4/19) Strontium retention in soil using apatite.

(page 11/19) Installation of welded-type tanks.

(page 12/19) Leak prevention measures for bolted-type tanks.

(page 16/19) Water proofing the buildings.

(page 18/19) Reducing length of circulating cooling system.

(page 19/19) Tank leakage impact mitigation system.

7. Overflow of Partially-treated (Beta-rich) Water from H6 Area Tank (2/20/2014)

http://www.tepco.co.jp/en/press/corp-com/release/2014/1234394_5892.html

http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140220_05-e.pdf

8. TEPCO President Hirose's Remarks at the Asian Nuclear Power Briefing (2/18/2014)

http://www.tepco.co.jp/en/press/corp-com/release/2014/1234325_5892.html

All the best,

Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Friday, February 07, 2014 2:01 AM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 7, 2014 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for today's Weekly Fukushima Update Call.
[Date/time]
Fri, Feb. 7, 2014 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri. Feb. 21** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Second Working-level Meeting of Decommissioning & Contaminated Water Issues Team (1/30/2014)
(only in Japanese)
1-1. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140130_05-j.pdf
1-2. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d140130_06-j.pdf
(page 3/281) Alternate core injection point for Unit 1.
(page 15/281) Reinstallation of instrumentation in Unit 2 drywell.
(page 23/281) Performance enhancement of ALPS.
(page 56/281) Field testing of Sr removal by apatite injection in soil.
(page 77/281) Water measurement results of Units 1-4 subdrain pits.
(page 88/281) Groundwater and seawater contamination trends near Units 1-4 intake structures.
(page 137/281) Status of on-site spent fuel storage.
(page 138/281) Inspection results of deformed fuel bundle in Unit 4 SFP (unrelated to 3-11 accident).
(page 148/281) Unit 3 SFP rubble removal status.
(page 154/281) Development of remote decontamination technology in reactor buildings.
(page 177/281) Investigation plan for Unit 2 reactor building refueling floor.
(page 249/281) Unit 1 estimated leakage rate to the torus room.
(page 261/281) Radioactivity analysis of rubble and timbers.
2. Discharge Criteria for Groundwater Bypass System (2/3/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140203_04-e.pdf
3. Sr-90 Measurement Issues (2/5/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140205_05-j.pdf
4. High Gross-beta Concentration Detected in Groundwater Near Unit 2 Intake Structure (2/7/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/f1/smp/2014/images/tb-east_map-j.pdf
(page 1/2) Gross-beta of 560,000 Bq/liter at sampling point No. 1-6.
5. NRA Analysis on Source Term at Unit 4 Refueling Floor (2/5/2014)
(only in Japanese)
http://www.nsr.go.jp/committee/kisei/data/0041_03.pdf
(page 5/6) Co-60 is dominant source term above the pool.
6. 2013-Q3 Progress Report on Nuclear Safety Reform Plan (2/3/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1234017_5892.html
(Executive Summary)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140203e0501.pdf
(Full Report)
http://www.tepco.co.jp/en/press/corp-com/release/betu14_e/images/140203e0502.pdf

(Comments by Dr. Dale Klein)
http://www.nrmc.jp/en/report/detail/1234000_5233.html
(Comments by Lady Barbara Judge)
http://www.nrmc.jp/en/report/detail/1233968_5233.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, January 23, 2014 11:55 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 24, 2014 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Jan. 24, 2014 at 3 pm Eastern Time
(No call next week. Next call will be on **Fri, Feb. 7** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Unit 1 Reactor Building 1st Floor Contamination Survey Results Using Gamma Camera (1/17/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140117_05-j.pdf
(page 2/12) Gamma camera used (left photo.)
(page 3/12) Highest dose rates measured near AC piping used for containment venting.
(page 4/12) Gamma camera images of AC piping.
2. Water Flow Observed in Unit 3 Reactor Building 1st Floor Near MSIV Room(1/18/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140122_05-j.pdf
(page 2/9) Water flow indicated in blue arrow: flowing from MSIV room to a floor drain funnel (red circle.)
(page 5/9) Radioactivity of flowing water sample indicated in red box: higher radioactivity than water injected into the core; similar to accumulated water in turbine building basement.
(page 6/9) Temperature of flowing water: 20-C; Containment ambient temp.: 22-C; core injection water temp.: 7-C.
(page 8/9) Estimated water level inside containment is similar to elevation of main steam line penetration.
[Video Footage]
http://www.tepco.co.jp/en/news/library/movie-01e.html?bcpid=59368209002&bclid=347242463002&bctid=724015827002
3. Photo Images inside Unit 2 Seawater Piping Trench (1/20/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140120_06-j.pdf
(page 1/2) Photos of cable tray above water (top photo) and same place pre-accident (bottom photo.)
(page 2/2) Photos of piping under water (top photos) and same place pre-accident (bottom photos.)
4. Unit 2 Suppression Chamber Water Level Measurement Results Using Ultasonic Sensor (1/21/2014)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140121_05-j.pdf
(only in Japanese)
(page 2/2) S/C water level correlated with torus room water level but slightly lower.
5. Actions and Progress Status of Contaminated Water & Tank Counter Measures HQ (1/22/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140122_06-j.pdf

6. Fifth On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (1/20/2014)
(only in Japanese)
6-1. Status of Onsite Work Related to Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140120_03-j.pdf
(page 4/64) Contaminated Water Processing Status of Units 2/3 Seawater Piping Trench
(page 17/64) Trend of Ground Water Tritium Concentration
(page 26/64) Sea Water Radioactivity Inside and Outside the Port
(page 52/64) Evaluation and Improvement of Decontamination Performance of ALPS
(page 60/64) Water Leakage from Tank Farm Wiers and Actions Taken
6-2. Status of Measures on Contaminated Water Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140120_04-j.pdf
(page 4/55) Work Progress on Mitigative Measures for Water Leakage
(page 12/55) Tank Installation Plan
(page 27/55) Bypass Work to Reduce Length of Circulating Cooling System
(page 32/55) Rain Water Management
(page 42/55) Radiation Monitoring of Ditches
(page 51/55) Water Sampling Results of Units 1-4 Subdrain Pits
6-3. Regulatory Consideration Regarding Effective Dose Limit at Site Boundary (NRA)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l140120_05-j.pdf
7. Approval of TEPCO's New Comprehensive Special Business Plan (1/15/2014)
(English translation is now available.)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1233624_5892.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, January 16, 2014 10:18 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 17, 2014 at 3pm EST
Nuclear Sector Colleagues,
Please find below information for tomorrow's Weekly Fukushima Update Call.
(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)
[Date/time]
Fri, Jan. 17, 2014 at 3 pm Eastern Time
(Next call will be on **Fri, Jan. 24** at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. Storage and Treatment Status of Contaminated Water (1/15/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1233659_5892.html
2. Fourteenth Decommissioning Safety Monitoring Council of Fukushima Prefecture (1/16/2014)
(only in Japanese)
http://www.tepco.co.jp/news/2014/1233657_5918.html
2.1 Waterproofing Status of Tank Farm Weirs and Flange-type Tanks
http://www.tepco.co.jp/news/2014/images/140116a.pdf
(page 5/18) Repairing cracks and joints of weirs
(page 11/18) Coating and soil improvement of weirs
(page 16/18) Waterproofing flange-type tanks
2.2 Q&A List
http://www.tepco.co.jp/news/2014/images/140116b.pdf
3. Approval of TEPCO's New Comprehensive Special Business Plan (1/15/2014)

(Tentative English translation of the summary presentation is attached.)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1233624_5892.html
All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, January 09, 2014 9:39 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 10, 2014 at 3pm EST
Nuclear Sector Colleagues,
Happy New Year!
Please find below information for tomorrow's Weekly Fukushima Update Call.
[Date/time]
Fri, Jan. 10, 2014 at 3 pm Eastern Time
(Next call will be on Fri, Jan. 17 at 3 pm.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)
[Major topics]
1. English Translation Now Available for 1st Progress Report of Follow-up Study on Fukushima Daiichi Accident Unresolved Issues (12/13/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1233101_5130.html
1-1. Summary Presentation
www.tepco.co.jp/en/press/corp-com/release/betu13_e/images/131213e0101.pdf
2. First Working-level Meeting of Decommissioning & Contaminated Water Issues Team (12/26/2013)
(only in Japanese)
2-1. Preventive and Multi-layered Measures for Contaminated Water Issues and Acceleration of Fukushima Reconstruction
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131226_04-j.pdf
2-2. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131226_05-j.pdf
(page 2/8-4/8) RPV (top right chart) and D/W (bottom right chart) Temperatures of Units 1, 2, and 3
(page 5/8) Water Storage Status
2-3. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131226_06-j.pdf
(page 10/15) Fuel Removal from Spent Fuel Pools
(page 11/15) Unit 1 Containment Investigation
(page 12/15) Unit 2 Containment Investigation
(page 13/15) Unit 3 Containment Investigation
(page 14/15) Improvements in Core Cooling System and Water Management
2-4. Status of Individual Projects
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d131226_07-j.pdf
(page 3/164) Nitrogen Gas Injection into Unit 1 Containment Vessel via O2 Sampling Rack Line
(page 11/164) Hydrogen Gas Purging of Unit 2 Suppression Chamber by Nitrogen Gas
(page 23/164) Units 2 and 3 Seawater Piping Trench Water Stoppage by Freezing Water
(page 27/164) Water Leakage from Weirs of Tank Farms
(page 43/164) Corrosion Prevention Effectiveness Confirmed on Multi-nuclide Removal System (ALPS)
(page 53/164) Radioactivity Measured in Groundwater and Seawater Near Intake Structure
(page 89/164) Estimate of Additional Radioactivity Released from Units 1-4 Reactor Buildings
(page 95/164) Questionnaire and Improvements Related to On-site Work Environment
(page 109/164) Work Schedule Related to Units 1-4 Spent Fuel Pools
(page 114/164) Unit 1 Reactor Building Frame Inspection Results

(page 122/164) Unit 3 Reactor Building Frame Inspection Results
(page 129/164) Unit 4 Reactor Building Frame Inspection Results
(page 146/164) Unit 3 Reactor Building Dose Rate Measurement on Refueling Floor
(page 152/164) Unit 3 Spent Fuel Pool Rubble Removal Work
(page 159/164) Work Schedule Related to Fuel Debris Removal
(page 161/164) Decontamination Effectiveness Confirmed for "Jet Head" and "Brush Head" on Unit 2 Reactor Building Floor

3. Resuming Demonstration Testing of Suppression Chamber Water Level Measurement Robot at Unit 2 (1/9/2014)
(only in Japanese)
http://www.tepco.co.jp/nu/fukushima-np/handouts/2014/images/handouts_140109_04-j.pdf

4. Update on Fuel Removal from Unit 4 Spent Fuel Pool (1/6/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/removal4u/index-e.html

4-1. Cracks Found in Fuel Bundle in Unit 4 Spent Fuel Pool (due to mishandling event prior to the 3-11 accident) (12/27/2013)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2013/images/handouts_131227_03-e.pdf

5. Installation of Additional "FukuichiLive Camera" (1/8/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2014/images/handouts_140108_05-e.pdf

5-1. View from Unit 1 (new)
http://www.tepco.co.jp/en/nu/f1-np/camera/index2-e.html

5-2. View from Unit 4 (original)
http://www.tepco.co.jp/en/nu/f1-np/camera/index-e.html

6. Steam Emanating from Unit 3 Reactor Building Indicates No Abnormality (1/3/2014)
http://www.tepco.co.jp/en/press/corp-com/release/2014/1233338_5892.html

7. Earthquake Near Fukushima May Have Lead to Faulty Rumor (12/31/2013)
Faulty rumor claiming that a "5.1 magnitude underground atomic explosion" happened in Fukushima on 12/31/2013, was most likely based on misinterpretation of a "magnitude 5.4 earthquake" that occurred in Ibaraki Prefecture (located south of Fukushima) on the same day. No abnormal condition was found at Fukushima Daiichi on that day.
(Earthquake Report from the Japan Meteorological Agency)
http://www.jma.go.jp/jp/quake/20131231100657395-311003.html

8. Establishment of the "Decommissioning Company" within TEPCO (12/20/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1233102_5130.html

9. Outline of Filtered Vent Facility at Kashiwazaki-Kariwa NPS Submitted to Local Government (12/24/2013)
http://www.tepco.co.jp/en/press/corp-com/release/2013/1233247_5130.html

All the best,
Kenji

Outside of Scope

----- Original Message -----
From: Nicholson, Thomas
To: tatelwa.kenji@tepco.co.jp ; Norton, Charles
Cc: Aird, David ; West, Steven ; Fuhrmann, Mark ; Oxenberg, Tanya ; VonTill, Bill ; Moyer, Carol ; Jimenez, Manuel ; Arlt, Hans ; Figueroa, Gladys ; Tadesse, Rebecca ; Madden, Patrick ; Correia, Richard ; Shaffer, Vered ; Rini, Brett ; Ott, William ; Nakoski, John ; Reed, Wendy ; Reed, Phil ; Philip, Jacob ; Tiruneh, Nebiyu ; Cook, Christopher ; Barnhurst, Daniel
Sent: Thursday, May 22, 2014 6:13 PM
Subject: Questions in support of the RES Seminar on Tackling Water Issues at Fukushima Daiichi

Kenji:

As we corresponded, I am sending you the attached set of questions for your use in preparing your RES Seminar presentation.

This afternoon, your RES Seminar has been announced and posted on the internal RES Website at: http://www.internal.nrc.gov/RES/ .

We greatly appreciate your willingness to prepare and present a seminar on this very important topic to our staff.

Thanks ..... Tom

****

Thomas J. Nicholson, Senior Technical Advisor
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop CSB 2-A07
11555 Rockville Pike
Rockville, MD 20852

Tel: (301) 251-7498
Fax: (301) 251-7422
E-mail: Thomas.Nicholson@nrc.gov
****

Page 0324 of 2257

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Page 0325 of 2257

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of the Freedom of Information and Privacy Act

Page 0326 of 2257

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

Tackling Water Issues at Fukushima Daiichi

Office of Nuclear Regulatory Research

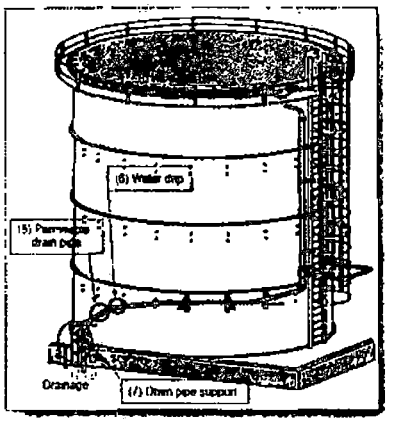
RES Seminar

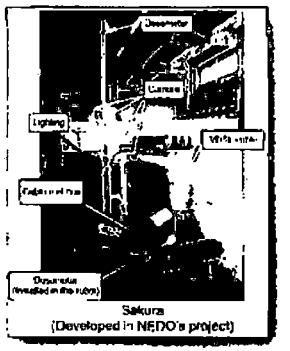
Kenji Tateiwa – TEPCO

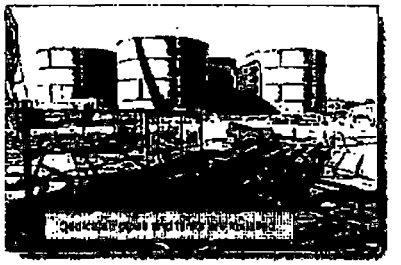
Mr. Tateiwa is Manager of Nuclear Power Programs at Tokyo Electric Power Company's (TEPCO) Washington, DC office, where he leads collaborative efforts with various organizations in the U.S. to enhance the safety of nuclear facilities using lessons learned from the Fukushima Daiichi nuclear accident, and promotes safe decommissioning of nuclear sites.

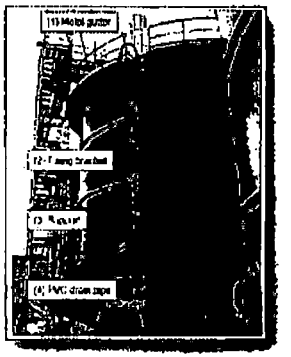
Kenji received his bachelor's and master's degrees in Nuclear Engineering from Kyoto University in Japan. He began his career at TEPCO in 1996 working at the Fukushima Daini Nuclear Power Station, then at TEPCO's headquarters in the Nuclear Engineering Department, specializing in severe accident analysis and PRA. After receiving an MBA from the Stanford University Graduate School of Business in 2004, Kenji led TEPCO's involvement , as a technical advisor and potential equity investor, in the proposed new nuclear reactors, South Texas Project Units 3 and 4.

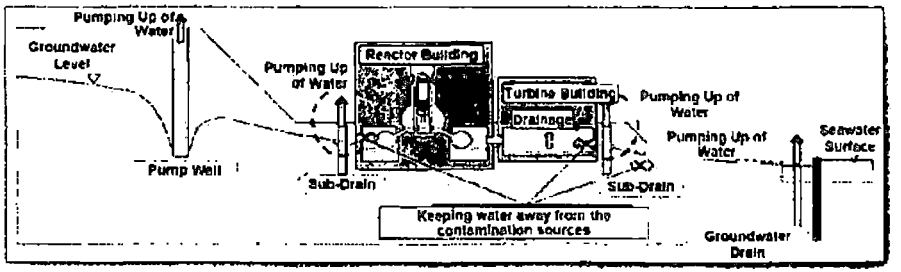
Kenji has been involved with the Fukushima accident from day one, playing a key role as liaison between TEPCO and nuclear experts around the world who support TEPCO in the face of this unprecedented disaster. Since his assignment in Washington, DC in September 2011, he has shared first-hand accounts of the Fukushima accident and lessons learned on more than 100 occasions.

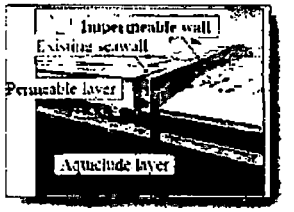


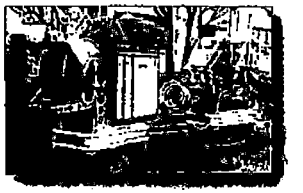


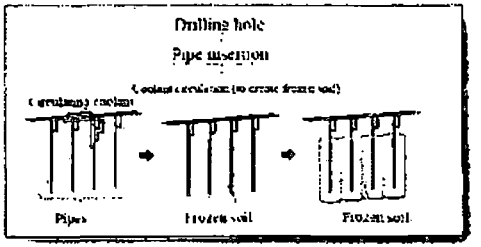


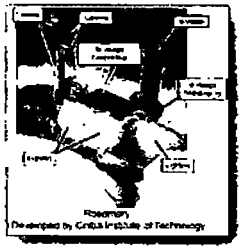












U.S. Nuclear Regulatory Commission
TWFN Auditorium
June 30, 2014
9:30 am – 11:00 am

RES Contacts: Dave Aird david.aird@nrc.gov 301-251-7926 or Tom Nicholson thomas.nicholson@nrc.gov 301-251-7498

Page 0328 of 2257

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Page 0329 of 2257

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of the Freedom of Information and Privacy Act

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From: Tateiwa, Kenji [mailto:tateiwa.kenji@tepco.co.jp]
Sent: Friday, February 20, 2015 9:13 AM
To: 'Jacoff, Adam S.'; kamel.saidi@nist.gov; philip.mattson@hq.dhs.gov; Nicholson, Thomas; West, Steven; Parrott, Jack; Madden, Patrick; Aird, David; andrew.Szilagyi@em.doe.gov; koi@k.u-tokyo.ac.jp
Subject: [NIST Robot Test Facility Visit on Feb. 19] TEPCO Presentation and Reference Materials

Adam and all,

Thank you for providing us with an excellent tour of NIST's Robot Test Facility yesterday.
The following candid discussion with all of the participants was also very valuable.

Please find attached for your reference, my presentation on the Fukushima accident and use of robots.

Also attached is a notification email for my Weekly Fukushima Update Call that I have been hosting the past 3 years to inform interested experts on the current status of Fukushima Daiichi.
If any of you are interested, I would be happy to add you to the distribution list.

Below are additional information that you may find interesting.

[TEPCO's website on Robotics]
http://photo.tepco.co.jp/en/cat3/04-e.html
http://www.tepco.co.jp/en/decommission/principles/robot_index-e.html
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=rat8sj47&catid_61795

[IRID Workshop]
http://irid.or.jp/en/reports/symposium/
(Presentation material on "Status of R&D Projects Related to Fuel Debris Retrieval" would be of most interest to you.)

Feel free to share any of the material in this email with your colleagues and do not hesitate to contact me should you have any questions.

Tom,
Thank you for making this tour and meeting happen.

All the best,

Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116

(b)(6) [redacted]

---- Original Message ----
From: Tateiwa, Kenji
To: 'Jacoff, Adam S.' ; Nicholson, Thomas ; West, Steven ; Parrott, Jack ; Madden, Patrick ; Aird, David ; andrew.Szilagyi@em.doe.gov
Sent: Friday, February 13, 2015 2:59 PM
Subject: [NIST Robot Test Facility Visit on Feb. 19] Update on Fukushima Daiichi D&D by TEPCO?

Tom, Adam, and all,

I look forward to visiting the NIST Robotics Lab on Feb. 19th and discussing with you ideas on the robotics workshop.

Would it be useful if I gave a brief presentation on the current status of decommissioning at Fukushima Daiichi so that participants can get a better idea of what needs there are for robotics at the site?

If so, I will bring my laptop and be prepared to show you some relevant slides.
Let me know what you all think and I will prepare accordingly.

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
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tel: +1-202-457-0790 (ext.)116

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Page 0332 of 2257

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Page 0333 of 2257

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Page 0334 of 2257

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Page 0335 of 2257

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Tateiwa, Kenji

送信者： "Tateiwa, Kenji" <tateiwa.kenji@tepco.co.jp>
宛先： "Tateiwa, Kenji" <tateiwa.kenji@tepco.co.jp>
送信日時： 2015年2月12日 22:37
件名： [TEPCO Weekly Fukushima Update Call] Fri, Feb. 13, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 13, 2015 at 3 pm Eastern Standard Time
(No Call Next Week. Next call will be on Fri, Feb. 27 at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. NRA Special Facilities Monitoring and Evaluation Committee (2/9/2015)
(only in Japanese)
1-1. Closure of Seawater Piping Trenches of Units 2, 3, 4
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_02.pdf

1-2. Water Level Management after Operation of Frozen-Soil Wall (summary)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_03.pdf

1-3. Water Level Management after Operation of Frozen-Soil Wall (reference information)
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0031_08.pdf

2. Installation of Muon Detectors for Fuel Debris Detection at Unit 1 (2/9/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1248057_6844.html
(photos)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150209_01-e.pdf

3. *"The Great Race: The Global Quest for the Car of the Future"*
http://amzn.com/B00LD1OP0Q
This book features TEPCO's current Chief Nuclear Officer, Takafumi Anegawa, as a visionary who jump started Japan's electric vehicle industry

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, February 05, 2015 9:24 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Feb. 6, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Feb. 6, 2015 at 3 pm Eastern Standard Time
(Next call will be on Fri, Feb. 13 at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. On-Site Coordination Meeting on Decommissioning & Contaminated Water Issues (1/30/2015)
(only in Japanese)
1-1. Water Contamination Monitoring and Effectiveness of Groundwater Bypass System
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_03-j.pdf

1-2. Wind Velocity Simulation Inside Unit 1 Reactor Building Cover
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_04-j.pdf

1-3. Response to Various Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/l150130_07-j.pdf
(page 6/116) ALPS Status
(page 10/116) Various Water Treatment Systems
(page 19/116) Filling Up Seawater Piping Trenches
(page 38/116) Subdrain System
(page 41/116) Frozen Soil Wall
(page 85/116) Radioactivity in Units 1-3 Discharge Canal

2. Causes of Significant Occupational Safety Issues at 1F/2F/KK and Countermeasures (2/3/2015)
(only in Japanese)
http://www.tepco.co.jp/cc/press/betu15_j/images/150202j0301.pdf

3. Nuclear Safety Reform Plan 2014 Q3 Progress Report (2/3/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1247946_6844.html

4. IAEA OSART Preparatory Meeting at Kashiwazaki Kariwa (2/2~5/2015)
(only in Japanese)
http://www.tepco.co.jp/kk-np/data/publication/pdf/2014/270205.pdf

5. Removal of Highly Contaminated Water Inside Seawater Piping Trenches (1/28/2015)
(video clip)
http://www.tepco.co.jp/en/news/library/archive-e.html?video_uuid=iwz87j2v&catid=69631

6. TEPCO Official English YouTube
https://www.youtube.com/user/OfficialTEPCOen

** If you cannot display Japanese characters, please install the following font packs:*
http://www.adobe.com/support/downloads/detail.jsp?ftpID=4881

(Feel free to forward this email to your colleagues or have them contact me to be added to the distribution list.)

All the best,
Kenji

Kenji Tateiwa
Manager, Nuclear Power Programs
Tokyo Electric Power Company
Washington Office
2121 K Street, NW Suite 910
Washington, DC 20037
tel: +1-202-457-0790 (ext.)116
(b)(6)

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, January 29, 2015 8:53 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 30, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Jan. 30, 2015 at 3 pm Eastern Standard Time
(Next call will be on Fri, Feb. 6 at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number. 718-354-1184
(b)(6)

[Major topics]
1. Working-level Meeting of Decommissioning & Contaminated Water Issues Team (1/29/2015)
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_04-j.pdf

1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_05-j.pdf
(English translation as of 12/25/2014)
http://www tepco.co.jp/en/nu/fukushima-np/roadmap/images/d141225_01-e.pdf

1-3. Retrieval of Thermocouple Installed in Unit 2 RPV Bottom via SLC Line
http://www.tepco.co jp/nu/fukushima-np/roadmap/images/d150129_06-j.pdf

1-4. Contaminated Water Treatment
http://www tepco co.jp/nu/fukushima-np/roadmap/images/d150129_07-j.pdf

1-5. Environmental Radiation Issues
http://www tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_08-j.pdf

1-6. Work Condition Improvement
http://www.tepco.co jp/nu/fukushima-np/roadmap/images/d150129_09-j.pdf

1-7. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_10-j.pdf

1-8. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_11-j.pdf

1-9. Radioactive Waste Disposal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_12-j.pdf

1-10. Status Update of Study on Alternate Core Debris Retrieval Methods (METI)
http://www.tepco.co jp/nu/fukushima-np/roadmap/images/d150129_14-j.pdf

1-11. Strategic Plan and Risk Mitigation (Nuclear Damage Compensation and Decommissioning Facilitation Corporation)
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d150129_15-j.pdf

2. Updated Schedule on Completion of Contaminated Water Treatment (1/23/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150123_02-e.pdf

3. Occupational Safety Corrective Actions (1/26/2015)
http://www tepco.co jp/en/nu/fukushima-np/handouts/2015/images/handouts_150126_01-e.pdf

4. National Academy of Sciences Fukushima Lessons Learned Committee Phase 2 #3 (1/29/2015)
http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=7732
Attached is a compact version of TEPCO's presentation.
Let me know if you would like to receive the original sized file.

All the best,
Kenji

----- Original Message -----
From: Tateiwa, Kenji (mobile)
To: Tateiwa, Kenji
Sent: Thursday, January 22, 2015 10:09 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 23, 2015 at 3pm EST

Nuclear Sector Colleagues,

Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Jan. 23, 2015 at 3 pm Eastern Standard Time
(Next call will be on **Fri, Jan. 30** at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. Briefing Materials for Fishermen's Association of Iwaki City (1/16/2015)
(only in Japanese)
1-1. Addition of Sr-Removal Capability to KURION and SARRY Systems
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150119_03-j.pdf
1-2. Illustration of Contaminated Water Removal Process from Underground Piping Trenches
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150116_10-j.pdf

1-3. Treated Water Discharge Criteria for Subdrain and Groundwater Drain Systems
http://www.tepco.co.jp/nu/fukushima-np/handouts/2015/images/handouts_150116_07-j.pdf

2. Contract Worker Dies After Falling Into Rainwater Receiving Tank at Fukushima Daiichi (1/19/2015)
http://www.tepco.co.jp/en/nu/fukushima-np/handouts/2015/images/handouts_150119_01-e.pdf

All the best.
Kenji

----- Original Message -----
From: Tateiwa, Kenji
To: Tateiwa, Kenji
Sent: Thursday, January 15, 2015 8:41 PM
Subject: [TEPCO Weekly Fukushima Update Call] Fri, Jan. 16, 2015 at 3pm EST

Nuclear Sector Colleagues,

Happy New Year!
Please find below information for tomorrow's Weekly Fukushima Update Call.

[Date/time]
Fri, Jan. 16, 2015 at 3 pm Eastern Standard Time
(Next call will be on **Fri, Jan. 23** at 3 pm EST.)

[call-in information] (Please record your name and organization when joining the call.)
call number: 718-354-1184
(b)(6)

[Major topics]
1. **Working-level Meeting of Decommissioning & Contaminated Water Issues Team (12/25/2014)**
(only in Japanese)
1-1. Plant Status
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_04-j.pdf

1-2. Summary Status of Decommissioning Roadmap
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_04-j.pdf
(English translation as of 11/27/2014)
http://www.tepco.co.jp/en/nu/fukushima-np/roadmap/images/d141127_01-e.pdf

1-3. Shortening the Length of Circulating Water Cooling System Loop
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_06-j.pdf

1-4. Contaminated Water Treatment
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_07-j.pdf

1-5. Environmental Radiation Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_08-j.pdf

1-6. Spent Fuel Pool Issues
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_10-j.pdf

1-7. Preparation for Fuel Debris Removal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_11-j.pdf

1-8. Radioactive Waste Disposal
http://www.tepco.co.jp/nu/fukushima-np/roadmap/images/d141225_12-j.pdf

2. NRA Special Facilities Monitoring and Evaluation Committee (12/26/2014)
(only in Japanese)
2-1. Status of Filling Up Underground Seawater Piping Trenches
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0030_01.pdf

2-2. Measures to Achieve Incremental Effective Dose Limit at Site Boundary
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0030_03.pdf

2-3. Completion of Fuel Transfer from Unit 4 Spent Fuel Pool
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0030_05.pdf

2-4. Leakage of ALPS-Treated Water from J6 Tank Farm
http://www.nsr.go.jp/committee/yuushikisya/tokutei_kanshi/data/0030_06.pdf

3. IAEA to Review Fukushima Daiichi Decommissioning and Kashiwazaki Kariwa Operational Safety (1/7/2015)
http://www.tepco.co.jp/en/press/corp-com/release/2015/1247076_6844.html

4. Figures and Video Clips Describing Various Water Management Measures
http://www.tepco.co.jp/en/decommision/planaction/waterprocessing-e.html

5. Overview of Fukushima Daiichi Accident and Lessons Learned (33 MB)
http://www.tepco.co.jp/en/decommision/accident/images/outline01.pdf

All the best,
Kenji