

**Report on the Recent Fatal Accidents at Fukushima Daiichi and Daini, and on the Serious Injury at Kashiwazaki-Kariwa, and on Efforts to Prevent Future Serious Accidents**

**March 30, 2015**

**Nuclear Power & Plant Siting Division  
Fukushima Daiichi D&D Engineering Company**



**東京電力**

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# Executive Summary

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On January 19-20, 2015 two workers lost their lives in fatal accidents at Fukushima Daiichi and Fukushima Daini Nuclear Power Stations. Also on January 19, a worker was seriously injured – requiring lengthy hospitalization – at the Kashiwazaki-Kariwa Nuclear Power Station. In each instance, the worker was an employee of a contractor or subcontractor rather than an employee of TEPCO itself.

Consequently, the company temporarily suspended decommissioning work at 1F and initiated an internal inquiry into the causes of each accident, and also charged the inquiry with identifying countermeasures that either have already been taken or should be taken in the future to prevent the occurrence of serious accidents. This presentation reports on the results of that inquiry.

The inquiry's findings may be summarized as follows:

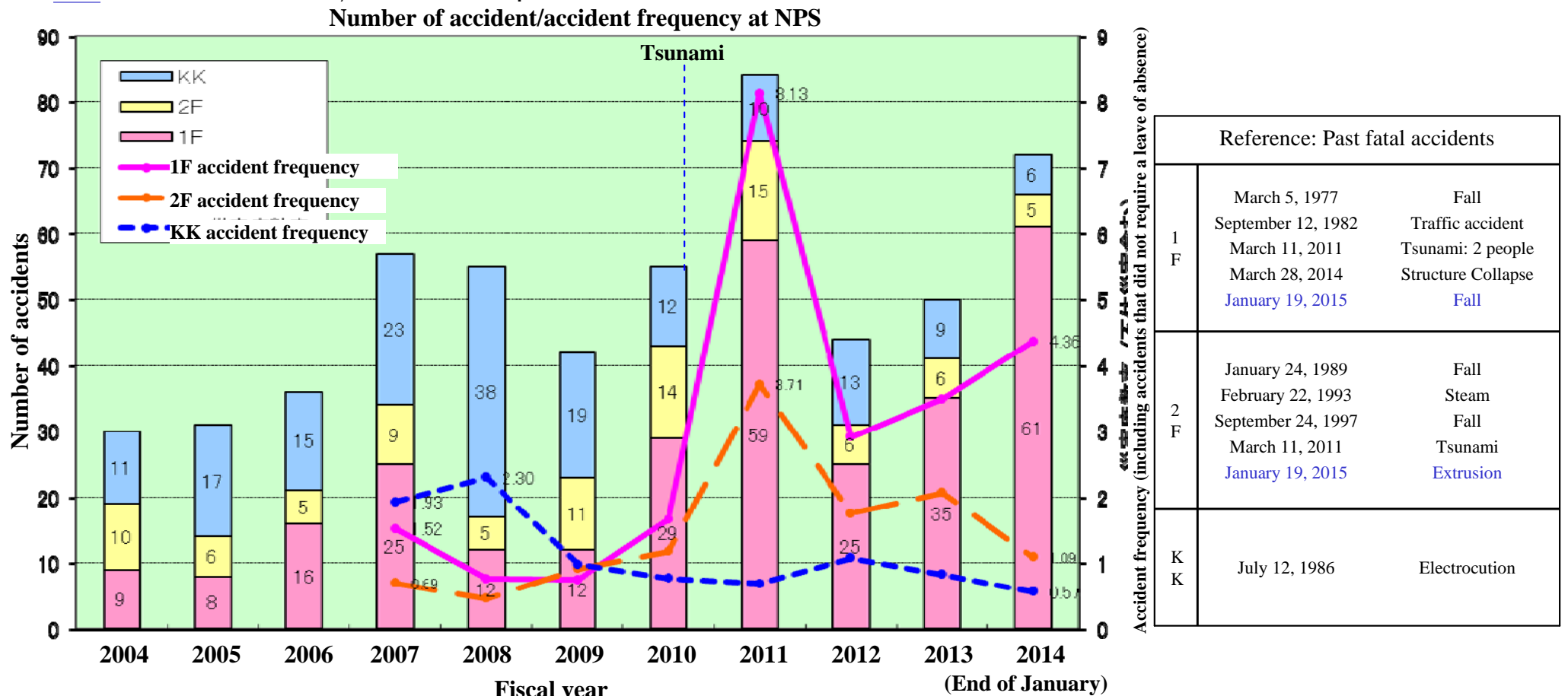
- Each injury was attributable to a combination of factors, including shortcomings in the design of facilities or equipment, failure to obey existing safety protocols, and inadequate communication of risks.
- Various countermeasures have been adopted, and others are recommended, including: modifications to the design of tank hatches, improved communication and training regarding safety rules including, but not limited to, the wearing of safety belts for certain procedures, and an overall strengthening of TEPCO's safety oversight of contractors and their employees.
- These and potentially additional countermeasures must be implemented within an overall “safety culture” framework that places safety and human life above all other considerations.

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# Statistical Background and Benchmarking

# 1. History of accidents in the Nuclear Power Division

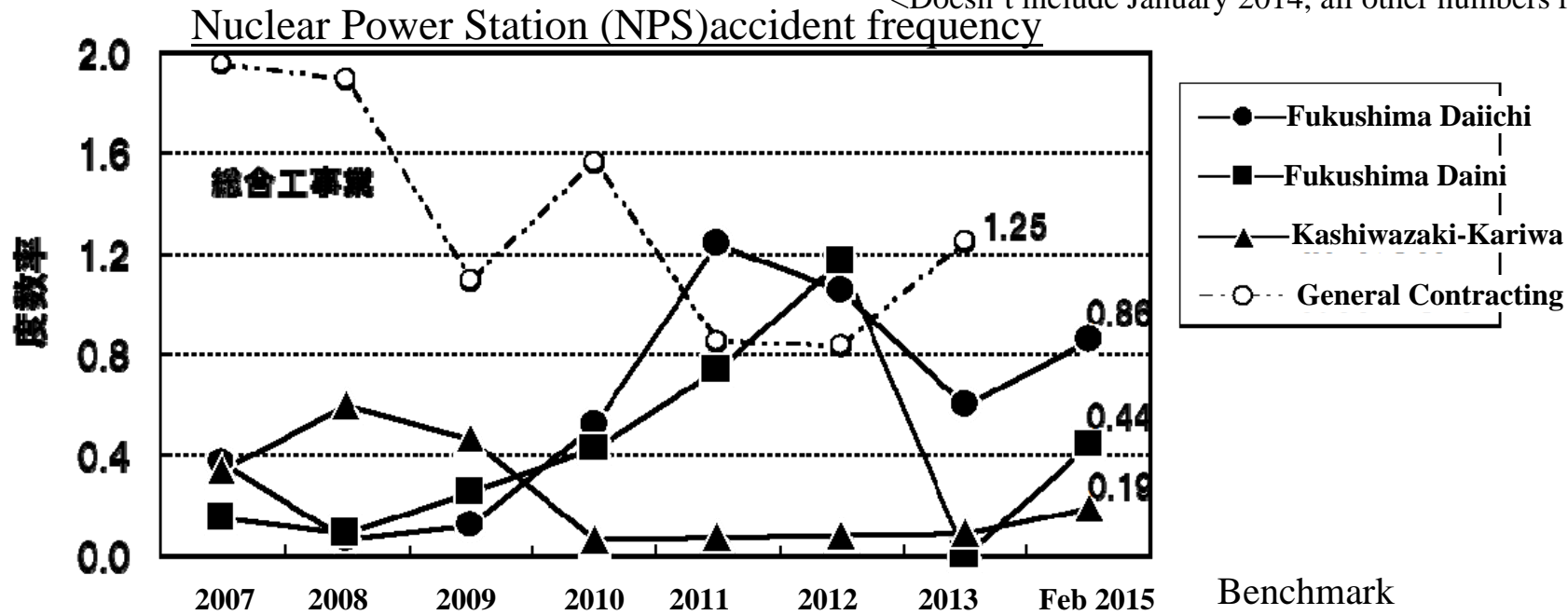
- 1F: The number of accidents rose immediately following the disaster (2011). The following year (2012) the number of accidents decreased temporarily due to heat exhaustion countermeasures, but increased once again thereafter. During this time period the number of workers also increased, but the frequency of accidents (occurrence rate) shows an increasing trend.
- 2F: Immediately following the disaster (2011) frequency of accidents increased (in conjunction with an increase in the amount of directly managed work), however currently the number of accidents has been reduced to levels prior to the disaster.
- KK: After the Niigata-Chuetsu-Oki Earthquake (2007) the number of accidents increased in conjunction with an increase in construction, however currently the number of accidents and the frequency of accidents both continue to be low as a result of safety measures implemented thereafter.



Frequency: Fatalities/injuries caused by labor accidents per 1 million work hours

# Reference 1. Comparison of accident frequency with other industries (accidents that resulted in a worker having to take more than one day of leave)

<Doesn't include January 2014, all other numbers reflect the fiscal year>



$$\text{Frequency} = \frac{\text{\# of fatalities/injuries from labor accidents (resulting in more than 1 day of leave)}}{\text{Approximate \# of work hours}} \times 1,000,000$$

Benchmark

JFE:	0.06 (2013)
Kajima Corporation:	1.67 (2013)
General contracting:	1.25 (2013)

Scope of accident: Accidents that occurred in the field at each site (employees, subcontractors, contractors)

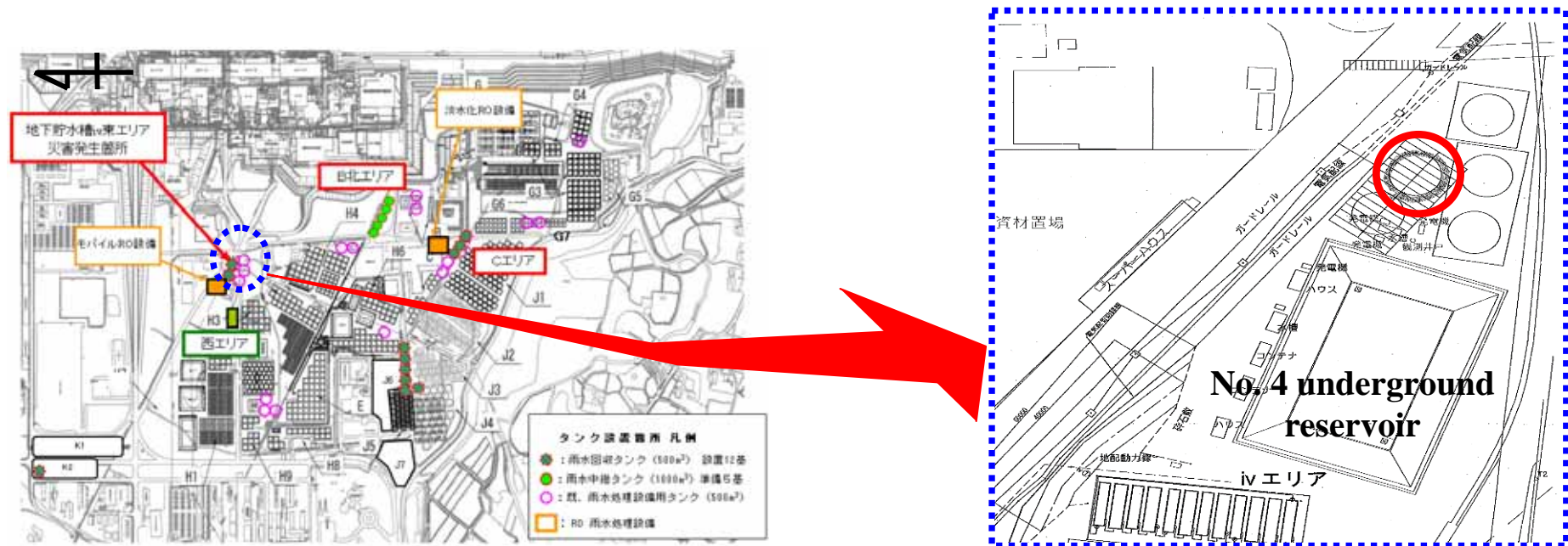
## ■ Reference: Number of workers (# of power station workers + registered workers)

# of workers (average)	2010	2011	2012	2013	2014
1F	8,233	3,437	4,062	4,753	7,222
2F	5,638	1,915	1,622	1,376	2,372
KK	7,375	6,848	5,727	5,171	5,484

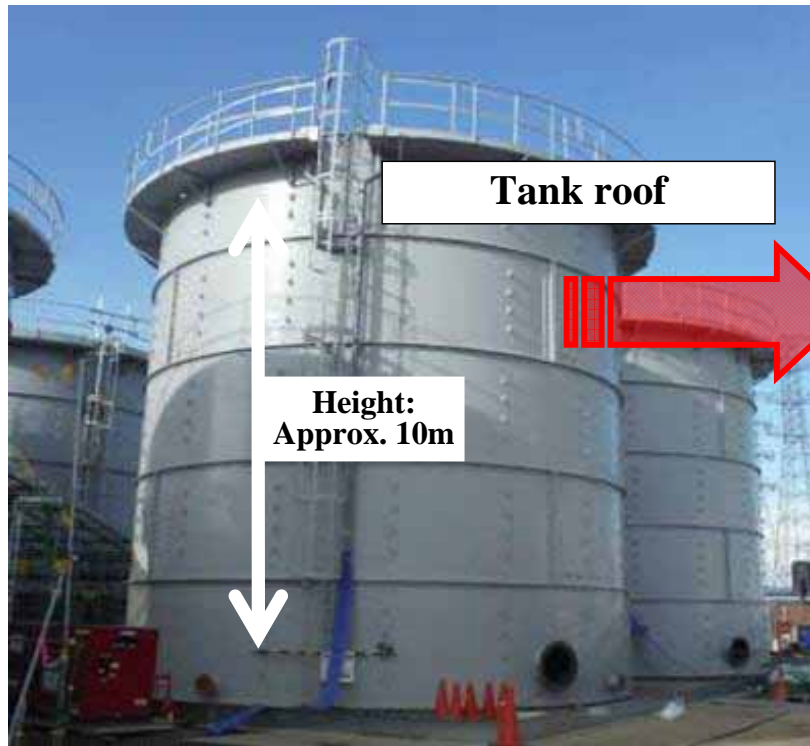
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# The Accident at Fukushima Daiichi

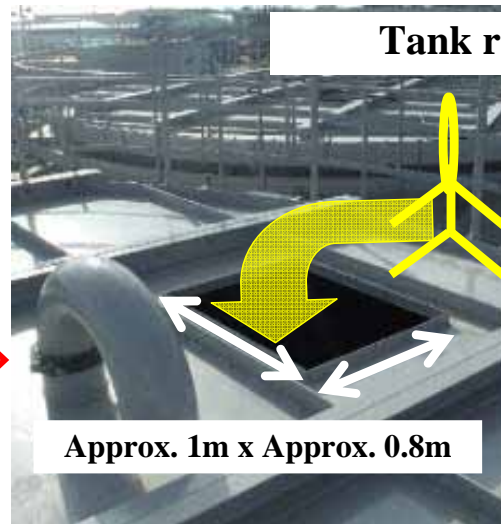
- **Date:** January 19, 2015 around 9:06 AM
- **Place:** Rain collection tank No. 2 (East side of No. 4 underground reservoir area)
- **Workers:** 3 (1 TEPCO employee, 2 contractor employees)
- **Equipment:** Tyvek suits, full face masks, helmets, safety boots, gloves (two pairs: rubber gloves and cotton gloves), safety belt
- **Situation:** During on-site rain collection tank installation the contractor fell from the roof of the aforementioned tank (Approx. 10 m) when making preparations to inspect the inside of the tank after water filling tests. The worker was rushed to the on-site emergency medical center and then to a hospital for further treatment at 10:31 AM on the same day but was pronounced dead by a physician at 1:22 PM on the following day (20<sup>th</sup>) after all treatment options had been exhausted.



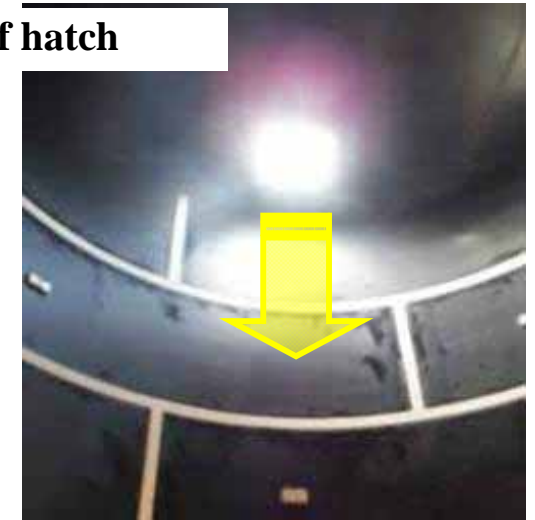




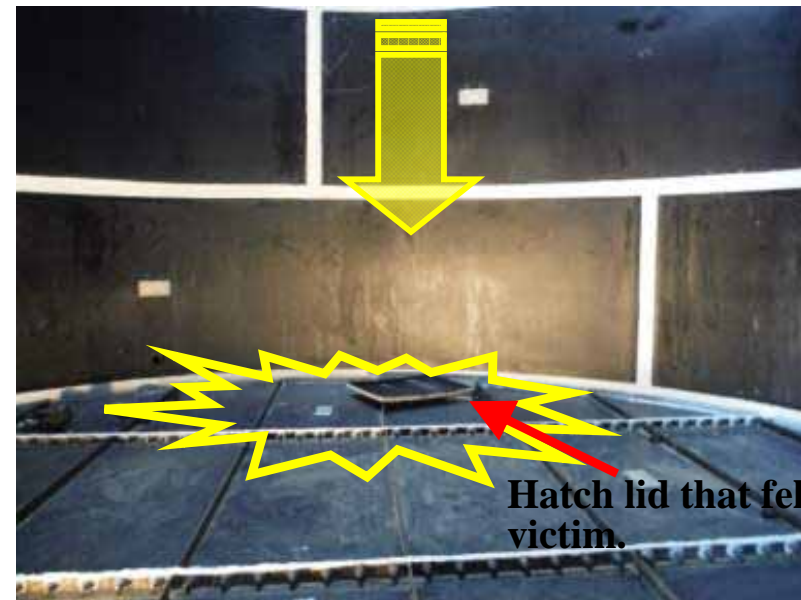
Rain collection tank No. 2



Tank roof



Inside of tank



Bottom of tank (inside)



### 3. Causes and countermeasures for personnel accidents that occurred at Fukushima Daiichi

Causes	Countermeasures
<p><i>Design:</i></p> <ul style="list-style-type: none"> <li>•The design of the hatch on the roof of the tank allowed the hatch cover to fall through</li> </ul>	<ul style="list-style-type: none"> <li>•Hatch lids on tanks to be built will be designed so that they cannot fall</li> </ul>
<p><i>Communications/Training:</i></p> <ul style="list-style-type: none"> <li>•There is insufficient sharing of information about similar incidents (Falling of Unit 5/6 Area F tank hatch lid)</li> <li>•No actions were taken to predict dangers or ensure safety.</li> <li>•Independent worker action was not stopped</li> </ul>	<ul style="list-style-type: none"> <li>•Improvements shall be made to how operational experience data is used, in sharing information with other power stations, in safety management, and in the degree of TEPCO's involvement in safety of contractors' work.</li> <li>•Contractors shall implement safety education about the risk of injuries from falls for all employees and workers, and will train workers on how to use their experience to increase awareness of possible risks.</li> <li>•TEPCO shall leverage safety information (such as nonconformity information), operational experience information, and accident information, in order to improve danger prediction and safety awareness. We will also use countermeasures on a daily basis.</li> </ul>
<p><i>Safety Procedures/Rules:</i></p> <ul style="list-style-type: none"> <li>•Inspection procedures and methods were not clear</li> <li>•One worker tried to open the roof hatch lid that weighs approx. 43 kg by himself</li> <li>•The safety rule was not observed requiring that safety belts be worn when working on the top of tanks (television locations).</li> </ul>	<ul style="list-style-type: none"> <li>•Inspection and operating procedures will be established.</li> <li>•Signs stating that hatches must be removed by at least two workers shall be posted as "hatch warnings."</li> <li>•The requirement for full harness-type safety belts to be used at all times will be reiterated.</li> </ul>

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# The Accident at Fukushima Daini

- **Date:** January 20, 2015 at approximately 9:30 AM
- **Place:** 5<sup>th</sup> floor (controlled area) of Unit 1/2 waste disposal building
- **Workers:** 6 contractor employees, however, only one was working when the accident occurred
- **Equipment:** Work clothes for Area C, Tyvek suits, helmets, work boots, gloves (two pairs: cotton gloves and rubber gloves)
- **Situation:** When one of the contractors who was inspecting equipment for concentrating and reducing the volume of radioactive waste liquid was loosening the bolts/nuts that anchor the receiver\* to the frame the receiver rolled thereby crushing the worker's head between the receiver and the frame. The worker was immediately transported by ambulance and helicopter to the nearest hospital at 10:48 AM but was pronounced dead by a physician at 11:57 AM on the same day.

\* When inspecting equipment for concentrating and reducing the volume of radioactive waste this receiver must be turned on its side using the aforementioned frame

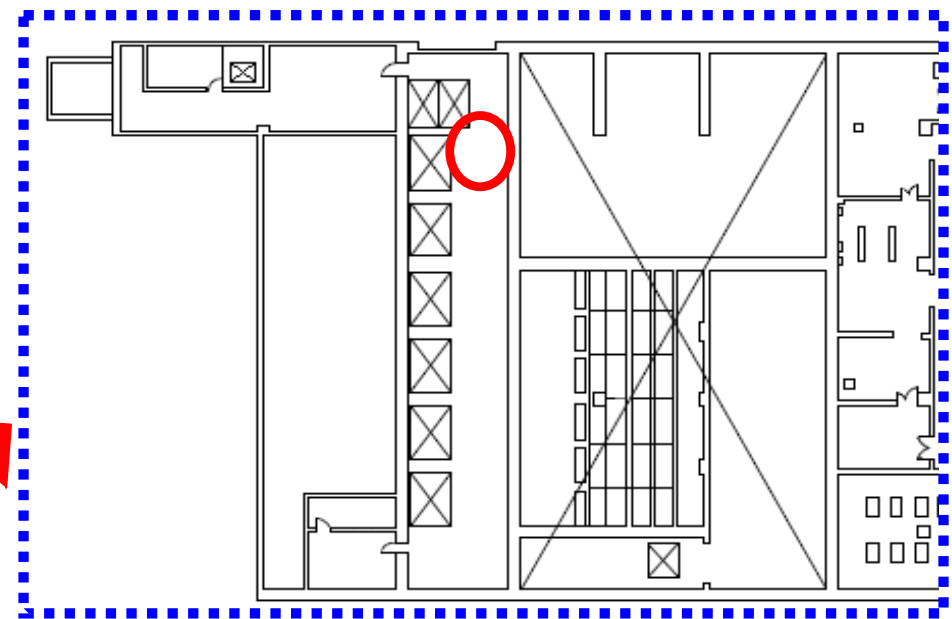
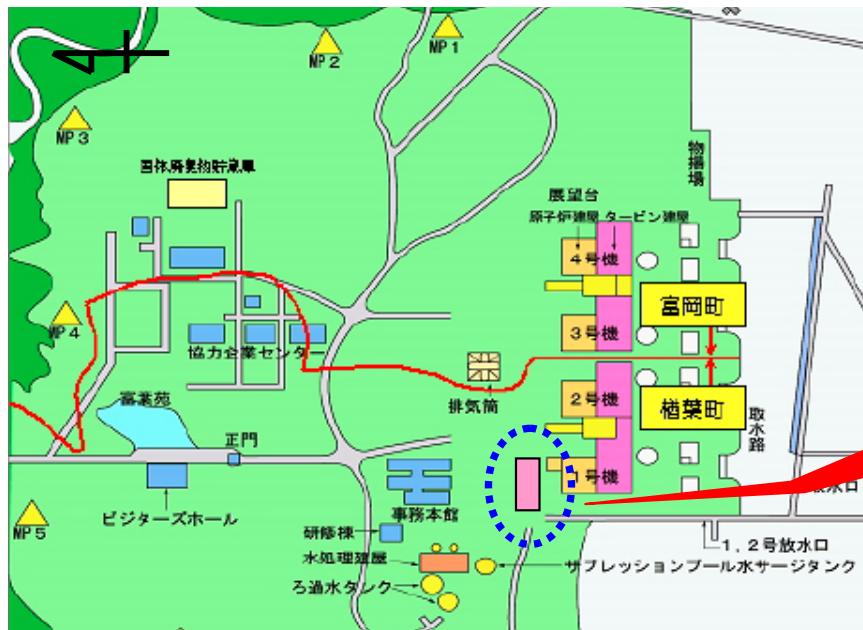
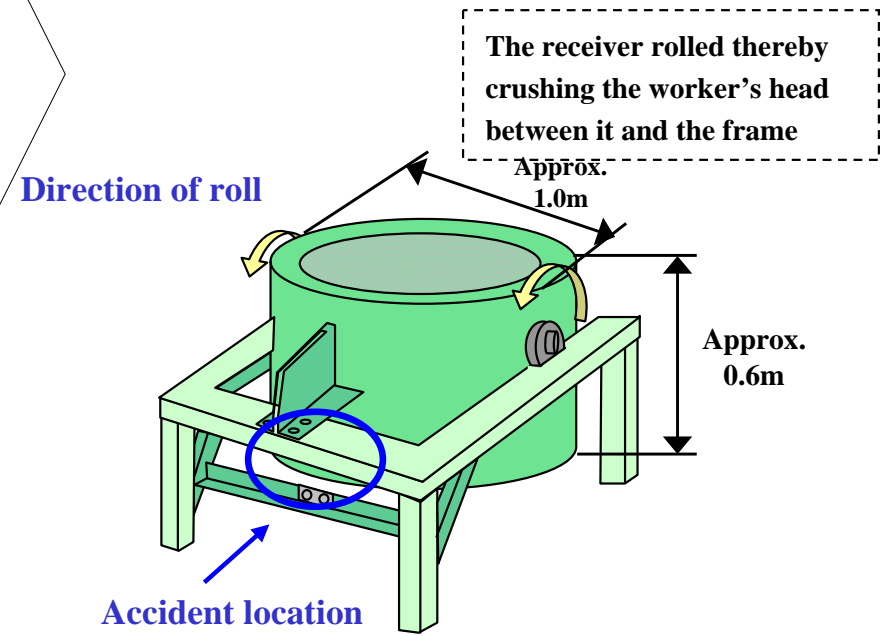
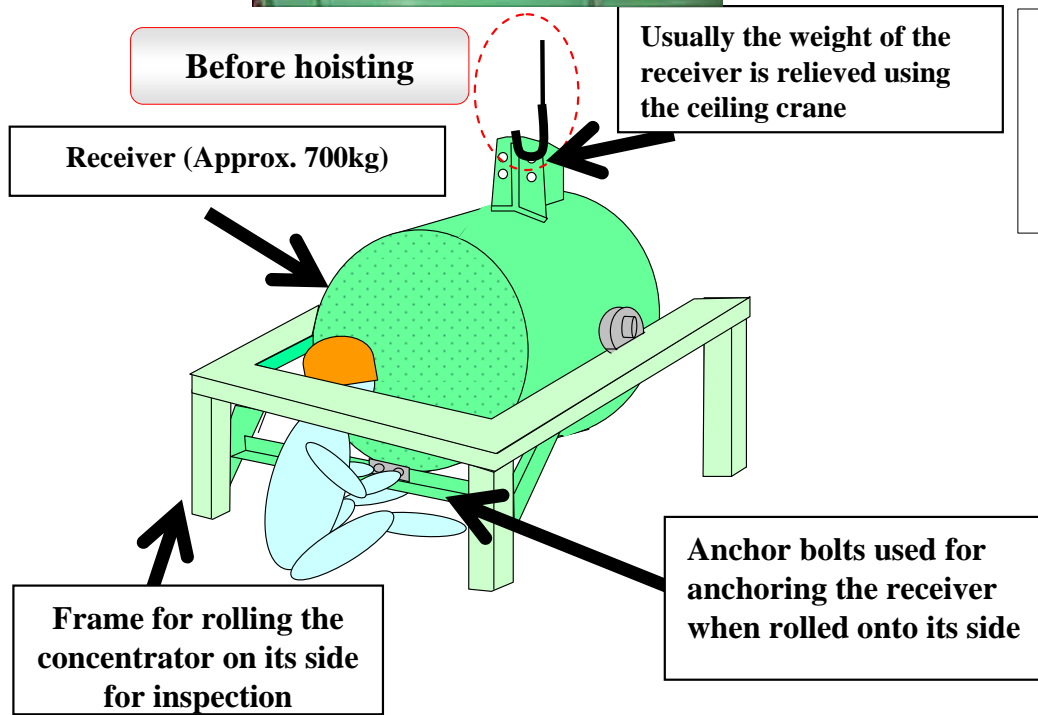


Diagram of 5<sup>th</sup> floor of Unit 1/2 waste disposal building

Situation as it typically would have appeared prior to the incident



Situation prior to the accident

Situation after the accident

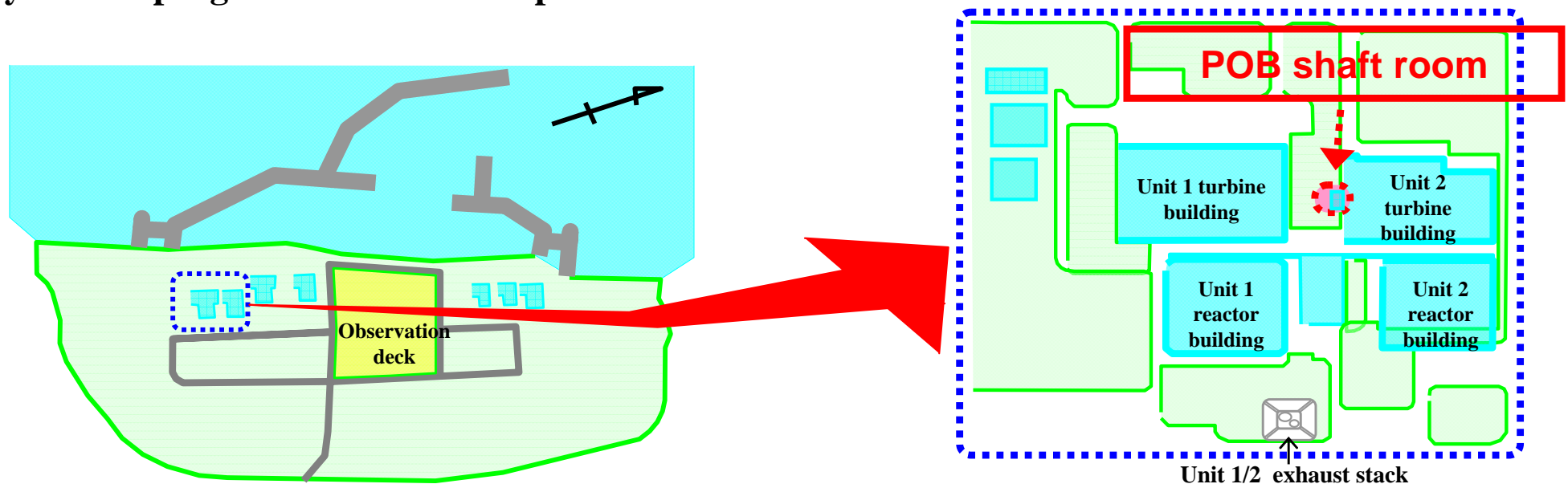
### 3. Causes and countermeasures for personal accidents that occurred at Fukushima Daini

Causes	Countermeasures
<p><b><i>Design:</i></b></p> <ul style="list-style-type: none"> <li>•The frame was designed so that a worker needed to get under the receiver in order to loosen and tighten the anchor bolts.</li> </ul>	<ul style="list-style-type: none"> <li>•The frame will be modified so that a worker does not need to get under the receiver when loosening or tightening the anchor bolts</li> </ul>
<p><b><i>Communications/Training:</i></b></p> <ul style="list-style-type: none"> <li>•The danger of getting sandwiched between the frame and the receiver when the anchor bolts are removed was recognized but there were no warning signs mentioning it.</li> <li>•Methods for using the framework were not conveyed to all workers during TBM-KY. (TBM-KY is a “tool box meeting” prior to work that involves <i>kiken-yochi</i>, the effort to predict danger or risk.)</li> <li>•Contractor workers were not thinking for themselves and failed to think together about serious risks due to a lack of substance in TBM-KY activities.</li> </ul>	<ul style="list-style-type: none"> <li>•Warning signs will be posted to prevent people from unnecessarily getting under the frame or receiver.</li> <li>•During TBM-KY the methods for using the frame and receiver will be explained using detailed written materials</li> <li>•TEPCO supervisors will participate in TBM-KY for dangerous work, (such as work involving heavy equipment) and guidance from the supervisor will be reported to the group manager</li> <li>•It will be made sure that all workers participate in TBM-KY and TEPCO will train the workers so that each participant voices one area of caution or potentially dangerous location that has not been otherwise mentioned</li> </ul>
<p><b><i>Safety Procesures/Rules:</i></b></p> <ul style="list-style-type: none"> <li>•Nothing was mentioned in the guidelines about how to handle the frame and the receiver</li> </ul>	<ul style="list-style-type: none"> <li>•Materials that stipulate details for handling the frame will be created and reflected in the guidelines</li> </ul>

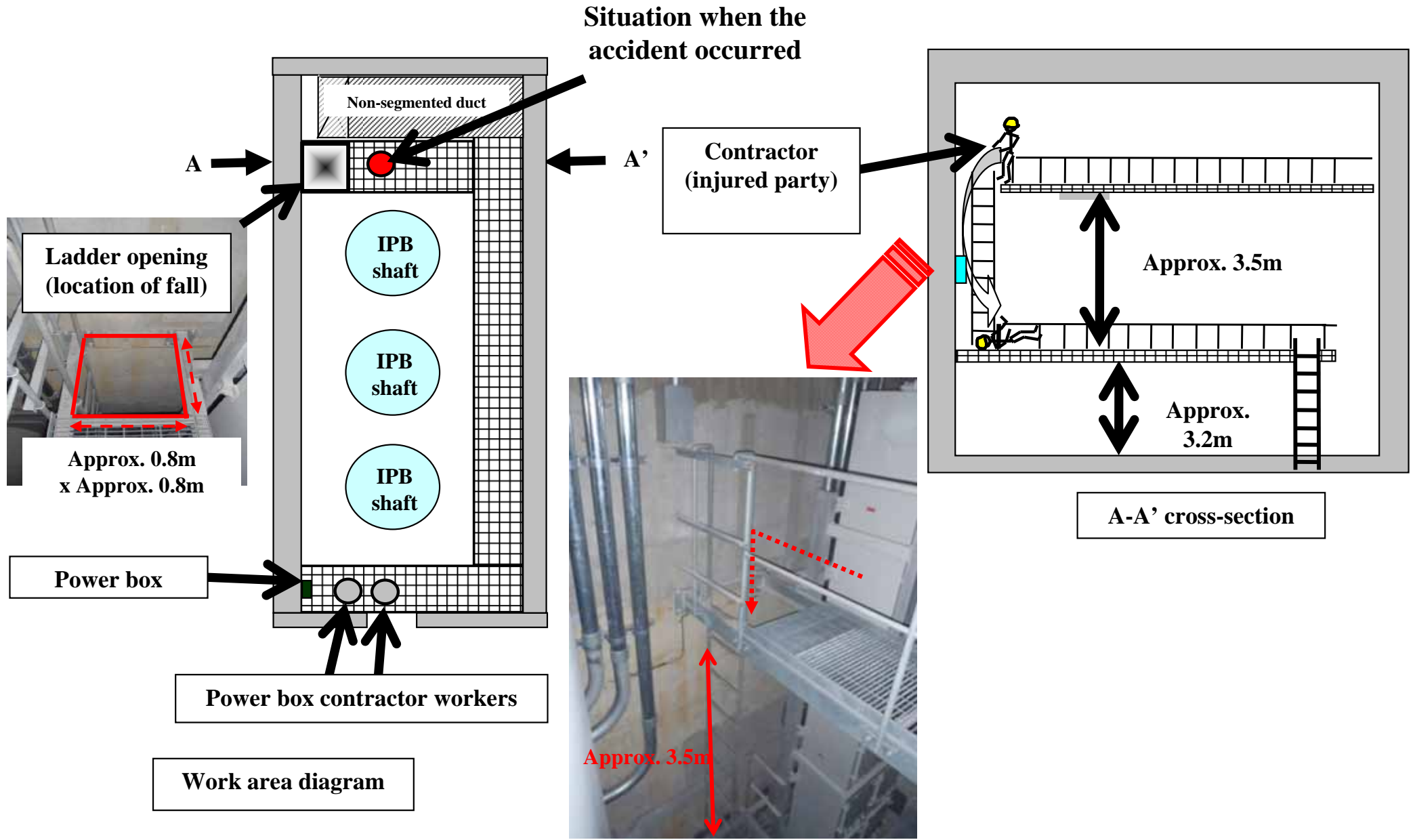
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# The Accident at Kashiwazaki-Kariwa

- **Date:** January 19, 2015 at approximately 2:40 PM
- **Place:** Unit 2 IPB shaft room (non-controlled area)
- **Workers:** 3 (3 contractors (however, only one was working at the time of the accident))
- **Equipment:** helmet, headlamps, flashlights, work boots, gloves
- **Situation:** A contractor inspecting the work power box fell approximately 3.5 m through the opening in a grate when taking pictures of a location different from that of the aforementioned work. No power was being provided to the lighting in the aforementioned room for safety reasons (the lights were not on) so the door was opened to allow natural light to enter and headlamps and flashlights were being used when performing the aforementioned work, however when taking photographs the worker shut off his headlight because it was reflecting too much. An ambulance was called and the worker was rushed to a nearby hospital at 3:55 PM on the same day. The physician's prognosis called for hospitalization for three months.







Causes	Countermeasures
<p><i>Design</i></p> <ul style="list-style-type: none"> <li>• There were no countermeasures (chain) to prevent falling through the hatch</li> <li>• The hatch was not covered (demarcated/lid, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Measures to prevent falling through the hatch will be implemented.</li> <li>• Measures for preventing falling through hatches will be immediately implemented in all locations for which they have yet to be implemented</li> </ul>
<p><i>Communications/Training</i></p> <ul style="list-style-type: none"> <li>• Unplanned work was performed alone</li> <li>• Risks (open hatch nearby) were not sufficiently identified during TBM-KY</li> </ul>	<ul style="list-style-type: none"> <li>• Rules will be clarified to stipulate that indirect work, such as photography, performed by the contractor work foreman or quality management officer should be positioned as part of the work</li> <li>• The implementation period and scope of TBM-KY shall be clarified and TBM-KY shall be developed further by proactively using information on accidents</li> <li>• Education shall be revised to improve KY skills</li> </ul>
<p><i>Safety Procedures/Rules</i></p> <ul style="list-style-type: none"> <li>• Safety belts were not used, in violation of existing rule</li> <li>• Work was performed in a location that was not managed for safety (dark, high)</li> </ul>	<ul style="list-style-type: none"> <li>• TEPCO supervisors and the contractor officials that are active in different areas shall carry a safety belt with them so that they are prepared for changing work environments and conditions</li> <li>• Field danger factors will be identified and improved</li> </ul>

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# Safety Culture and Generally Applicable Safety Enhancements

	Common Factors	Countermeasures
Safety Awareness	<p>TEPCO employees and management felt that accidents were unavoidable due to the field conditions at Fukushima Daiichi. There were no organizational or continuous efforts to eliminate personnel accidents.</p>	<p>The Nuclear Power &amp; Plant Siting Division Manager has clarified who is responsible for safety activities. In particular, as was the case with this accident, when a serious accident occurs all work is suspended in order to ascertain the cause of the accident and formulate recurrence prevention measures.</p>
	<p>An excessive sense of devotion to Fukushima, a lack of skill on behalf of workers, the overconfidence that, "I will be OK no matter what," and the desire to move forward with work ultimately led to safety rule infractions. Furthermore, TEPCO employees were not able to prevent these infractions.</p>	<p>Awareness and safety culture are being cultivated with the understanding that respect for life is the origin of safety culture. (Achieved by carrying around pictures of loved-ones at all times)</p>

	Common Factors	Countermeasures
Engineering Skills	<p>The importance of leveraging operating experience (OE) has not sufficiently permeated through to the front lines and risks are not being identified. As a result, valuable lessons are not being learned and countermeasures are not being sufficiently conveyed and shared.</p>	<p>The ability to identify risks in the field is being improved through the daily use of OE information. Efforts are being made to improve the ability to predict danger through the establishment and use of danger simulation facilities (currently being designed) and OE information.</p>
	<p>Conditions that do not allow for sufficient field inspections continue and the abilities to predict risks in the field and point out unsafe behavior are lacking. Furthermore, [supervisors] did not have detailed knowledge of the work being done in the field and were not communicating sufficiently with field workers.</p>	<p>Efforts are being made to increase opportunities for TEPCO supervisors to go into the field and to improve their ability supervise such work as well as communicate with workers. In particular, if certain work is being done for the first time or there is a change made to the details of a specific task (3H work), the supervisor shall stay in the field until s/he has a full understanding of what is to be done.</p>

	Common Factors	Countermeasures
Ability to Communicate	<p>When there is an investigation into the cause of an accident the parties involved are interviewed but there is a lack of motivation to dig deep into the matter that stems from the tendency to cover for the party (or parties) responsible. This ultimately prevents effective countermeasures from being proposed.</p>	<p>A climate that indemnifies those that contribute to ascertaining the cause of an accident is being cultivated and a mechanism for sufficiently conducting interviews until valuable lessons are learned is being constructed.</p>
	<p>The deadlines, and who is responsible, for ascertaining the cause of a personnel accident, proposing recurrence prevention measures, and disseminating the information amongst other TEPCO power stations were unclear. There is a strong sense of a vertically structured company that prevents adequate communication between departments, and the scope of information sharing with other parties is limited. Furthermore, there is a lack of leadership in regards to alleviating these problems.</p>	<p>Existing trouble review meetings are being utilized to stipulate who is responsible for analyzing accident causes and proposing countermeasures, as well as who is responsible for sharing the information with other power stations. Furthermore, the deadlines for report submission are being clarified and the progress status of those reports is periodically checked.</p>

A variety of steps need to be taken to enhance safety in all power stations. They must be taken in the spirit of an overall safety culture that places life and safety above all other values.

### (1) Activities to identify areas of danger and the installation of warning signs

- TEPCO shall continue to engage in activities, such as patrols, etc., to identify dangerous areas in the power station, and it shall take corrective action.
- Warning signs should also be erected to point out these dangerous locations along with signs that prevent unnecessary entry into areas where there is moving machinery or equipment, and signs that instruct workers to wear safety belts when working around open hatches located at high elevations.

### (2) Use of safety belts

- In principal, TEPCO supervisors and contractor workers shall always wear safety belts when working in the field in order to be prepared for changing conditions. However, exceptions may be made if the act of wearing a safety belt itself jeopardizes the ability to ensure safety. Furthermore, workers shall wear the safer or either full harnesses (for use when working in elevated locations and when being raised on cherry pickers or bucket trucks, etc.,) or conventional safety belts (used for other types of work) upon sufficiently considering the details of the work to be conducted and the field environment.



### **(3) Implementing KY skill improvement education**

Education management and departments managing construction shall provide KY education using case examples of danger prediction as well as educational materials related to improving how unsafe areas and unsafe conduct can be identified for TEPCO supervisors and contractor workers in order to improve the ability to detect danger, which is the foundation of work supervision.

Furthermore, departments managing construction shall provide guidance to contractors on how to perform TBM-KY by which they are to think about and identify important risk on their own.

### **(4) Daily Use of OE information**

In order to prevent troubles and accidents TEPCO employees shall use “JIT data” and “OE data”, which gives an overview of, and information on countermeasures for, nonconformities, operating experience, and labor accident information, within the group on a daily basis in order to detect dangers in the course of performing their own duties. The information and training acquired shall also be disseminated to other power stations and contractors.

### **(5) Permanent Establishment of a Training Facility Capable of Realistic Simulation**

In order to improve the safety awareness of TEPCO supervisors and contractor workers as well as their ability to detect danger, TEPCO shall establish an education and training facility that simulates field environments. This facility shall be fully utilized when engaging in the activities mentioned in item (3), above.

**(1) Weak ability to disseminate information**

**1. Create standardized work safety rules at Fukushima Daiichi**

**2. Improve the ability to disseminate information throughout the power station**

- Holding of periodic case study meetings by the Accident Prevention & Safety Department Manager.
- Gathering and utilizing near-miss information

**(2) Enhancing safety management mechanisms and structures**

**1. Clarify the mechanism for investigating personnel accidents and the deadlines for ascertaining the cause(s) and implementing countermeasures.**

- Safety managers discuss the need to disseminate information
- The Accident Prevention & Safety Department Manager confirms the aforementioned decision.
- Periodic reports about the status of information dissemination are made to the Superintendent.

**(3) TEPCO involvement, skill improvement**

**1. Work management process improvements**

- Understanding work procedures by communicating with the contractor.
- Enhance safety management by clarifying what department is responsible for the equipment and issuing work permits.

**2. Measures for enhancing safety through close supervision of field activities**

- Create rules for field supervision by TEPCO supervisors (number of times/checklist)
- Create rules for joint patrols by TEPCO executives and contractor superintendents.
- Solidification of climate that enables unsafe behavior in the field to be pointed out.

# 7.1 Fukushima Daiichi NPS Personnel Accident Countermeasures Action Plan

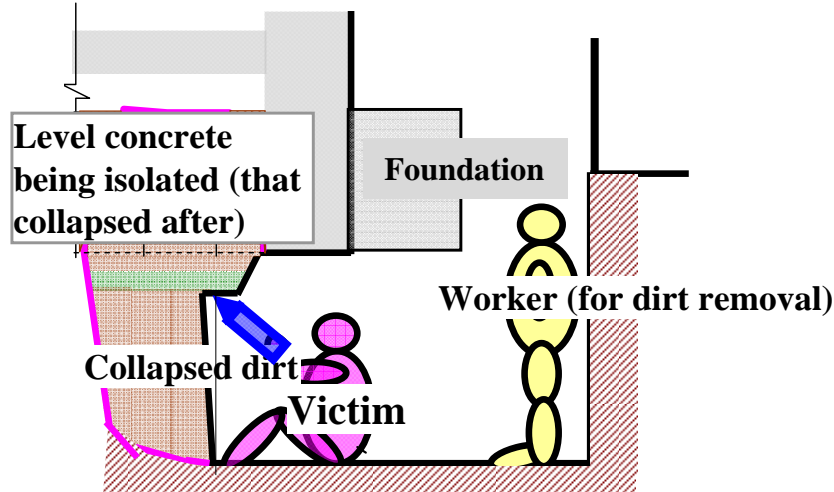
Recurrence Prevention Measures			Action Plan	Department Responsible (Dept. Manager/Project Manager)
Counter-measures	Clause	Details		
Leverage OE information and enhance information dissemination	1	Create work safety rules for Fukushima Daiichi based on past accidents, share the rules with TEPCO and all contractors, and have all parties comply with field work rules.	The task force shall quickly create and standardize 1F work safety rules in order to ensure that field workers stick to the fundamentals thereby developing countermeasures to eliminate accidents.	Personnel Accident Eradication Task Force (Deputy Superintendent Ishikawa/Project Manager Adachi)
	2	In order to prevent troubles and accidents, “JIT Information” and “OE Information”, which gives an overview of non-conformities, operating experience and work accidents, should be used on a daily basis by each group and leveraged [by each group member] to predict potential dangers associated with the tasks in which they are engaged, and efforts shall be made to improve the ability to disseminate such information within the entire power station.	The Engineering/Quality Assurance & Safety Department shall instruct each managing department to develop the following activities within the power station in order to improve the ability of all station personnel to predict danger.	Engineering/Quality Assurance & Safety Department (Dept. Manager Koseki/GM Ono)
	3		Each managing department shall conduct short, daily case study meetings using OE/JIT information in order to improve the ability of all station personnel to disseminate information.	Each managing department (Each managing department manager/Each GM)
	4	In order to ingrain danger prediction activities, periodic case study meetings shall be held to collect ideas that should be disseminated. Excellent proposals shall be disseminated and the parties that suggested them shall be rewarded.	Each quarter the Accident Prevention & Safety Department shall hold competitions to decide on what near-misses and accident cases should be disseminated in order to ingrain danger prediction activities within the power station.	Accident Prevention & Safety Department (Dept. Manager Ogawa/Project Manager Adachi)
Measures for enhancing safety through close supervision of field activities	5	1. In order to quickly share information and prevent accident recurrence the mechanism for investigating a personnel accident shall be clarified along with deadlines for ascertaining the cause(s) and implementing countermeasures (Accident Prevention & Safety Department Manager)	The Accident Prevention & Safety Department and Engineering/Quality Assurance & Safety Department shall create and enforce provisional rules for investigating personnel accidents, and disseminate them throughout the power station.	Accident Prevention & Safety Department, Engineering/Quality Assurance & Safety Department (Deputy Superintendent Ishikawa/Dept. Manager Ogawa, Dept. Manager Koseki)
	6	2. In response to this the each Safety Managers Council subcommittee (civil engineering/architecture/mechanical & electrical) chairperson shall examine, and carry out, the dissemination of this information, periodically (once very six months) update the Superintendent on the progress of countermeasures and the status of information dissemination. (Accident Prevention & Safety Department Manager)	The Accident Prevention & Safety Department shall create and enforce rules for investigating personnel accidents based on the aforementioned provisional rules (guideline creation), and establish a mechanism for quickly responding to and reporting accidents.	Accident Prevention & Safety Department (Dept. Manager Ogawa/GM Higuma)
	7	3. Periodically report on the status of information dissemination (once a month: PRM)	The non-conformity committee shall revise and enforce non-conformity guidelines based on the aforementioned provisional rules to ensure that non-conformities are being handled appropriately throughout the entire power station.	Engineering/Quality Assurance & Safety Department (Dept. Manager Koseki/GM Saito)
	8	(Engineering/Quality Assurance & Safety Department Manager)	The Operating Information G shall revise and enforce trouble examination guidelines based on the aforementioned provisional rules and establish a mechanism for handling and accurately reporting personnel accidents.	Operating Information G (GM Takashina/GM Ito)

Recurrence Prevention Measures			Action Plan	Department Responsible (Dept. Manager/Project Manager)
Counter-measures	Clause	Details		
TEPCO involvement, skill improvement (Efforts to promote awareness that safety is the first priority)	9	<b>Developing danger simulation-based education/training</b> The Decommissioning Personnel Cultivation Working Group shall deliberate (and ultimately utilize) the establishment of educational/training facilities that simulate field conditions at the Fukushima Daiichi NPS.	The working group shall install provisional equipment used to simulate 1F conditions during this fiscal year and provisionally use it for employees after which danger simulation training that simulates field conditions shall commence.	Decommissioning Personnel Cultivation Working Group (Deputy Superintendent Kuwahara/GM Iwata)
	10		The working group shall build and commence using danger simulation facilities by July 2016 to train employees and workers that work in the field in order to contribute to the prevention of danger accidents.	
	11	<b>Deliberating work management process improvements</b> 1. During the stage of work preparations every detail of the work to be done, including minute details not mentioned in the work procedures, shall be discussed with the contractor's work supervisor.	Each supervisor shall keep in close communication with contractors in an effort to fully understand the intricacies of the work being performed, point out issues with procedures and in the field in an effort to prevent accidents.	Each managing department (Each managing department manager/Each GM)
	12	2. During the work permit stage it shall be clarified which departments are to manage what pieces of equipment and the work shall be performed after the work permit is acquired.	By the end of February the deliberation team shall construct a process for implementing maintenance work through the introduction of a work permit system that clarifies what department is responsible for which equipment.	Work Management Process Deliberation Team (Dept. Manager Saito/GM Honda)
	13	3. During the work implementation stage work shall be managed based on danger prediction.	Each supervisor shall accurately manage work by confirming that field work is being performed in accordance with the work procedures and revise the procedures if changes are made in order to prevent accidents from happening. (To be done as part of Clause 14)	Each managing department (Each managing department manager/Each GM)
	14	<b>Deliberating process improvements through Safety Managers Councils</b> Safety Managers Councils shall be held and external experts invited to give guidance in order to improve dangerous area and unsafe behavior identification.	The safety manager council shall develop danger prediction activities by incorporating the opinions of external experts periodically invited to give lectures in order to provide safety guidance to managing departments and contractors. Furthermore, each managing department manager shall give reports on the status of the activities mentioned in categories 11, 13, 17 and 20 to the Safety Managers Council that shall monitor and supervise such activities and improve work safety throughout the entire power station.	Safety Managers Council Deputy Superintendent Ishikawa/Project Manager Adachi/Each subcommittee chairperson)
	15	Examples of methods for predicting danger shall be created and used to train TEPCO supervisors and work team leaders.	The Accident Prevention & Safety Department shall create examples of implementing KY, reflect them in the standardized rules mentioned in Clause 1 and promote their use throughout the power station.	Accident Prevention & Safety Department (Dept. Manager Ogawa/Project Manager Adachi)
	16		Each managing department and contractor shall implement training for all workers on how to predict dangers by using materials that give examples.	Each managing department (Each managing department manager/Each GM)
	17	Rules for field supervision by TEPCO supervisors (number of times/checklist) shall be created and field supervision improved by, for example, ensuring that supervisors find areas for improvement when they inspect field work.	Each supervisor shall go into the field three times a week in accordance with the rules to safely manage field work by checking work procedures and details in the field and giving instructions on how to correct unsafe behavior and make improvements to unsafe areas (three per inspection).	Each managing department (Each managing department manager/Each GM)
	18	Create rules (frequency) for joint patrols by Fukushima Daiichi NPS executives (including FDEC executives) and contractor superintendents and implement them.	Fukushima Daiichi NPS executives (including FDEC executives) and contractor superintendents shall engage in joint patrols at least once a week and give instructions on how to correct dangerous aspects of the field work environment.	Power Station Executives
	19		The Accident Prevention & Safety Department shall create rules for joint patrols and periodically compile and assess patrol implementation reports.	Accident Prevention & Safety Department (Dept. Manager Ogawa/GM Higuma)
	20	Create a climate in which unsafe behavior in the field can be pointed out by anyone regardless of position or affiliation.	Each managing department manager and each GM shall follow up as suitable with the status of field management performed by each supervisor pursuant to Clause 14 and give guidance and advice to construct a climate within which unsafe behavior in the field can be pointed out without hesitation.	Each managing department (Each managing department manager/Each GM)



■ Efforts were made to correct unsafe conditions in the field, but personnel accidents continued to occur.

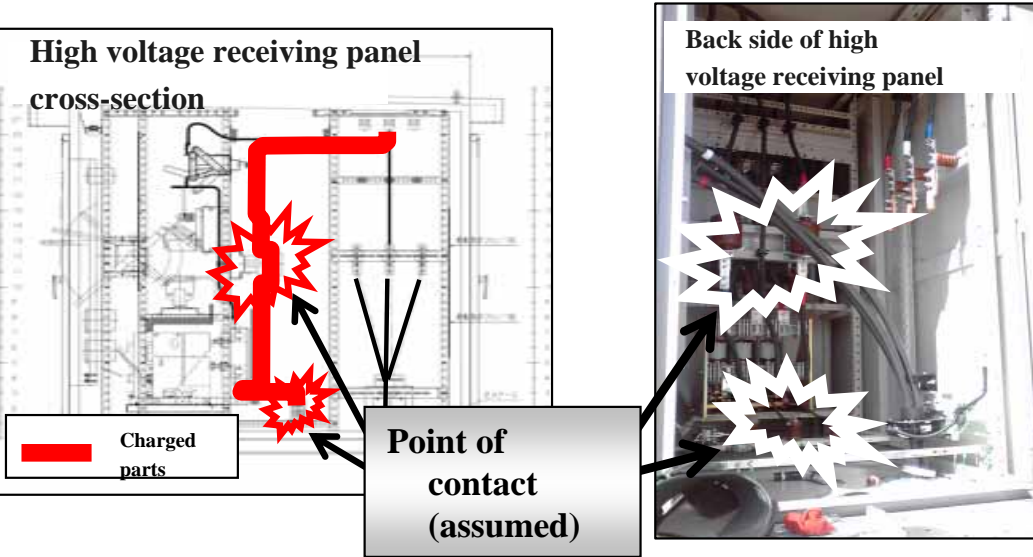
March 28, 2014: Worker is buried alive when dirt collapses



September 20, 2014: Round pipes fall injuring worker



September 30, 2014: Worker is injured when electrocuted by new office building power source (6.9kV)



January 17, 2014: Worker injured when railing falls from spiral ladder

