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To:
Directors
Prefectural Labour Bureaus

From:
Director
Labour Standards Bureau
Ministry of Health, Labour and Welfare
(Official seal imprinted)

Formulation of the "Guidelines on occupational safety and health management at the TEPCO Fukushima Daiichi Nuclear Power Plant"

The Ministry of Health, Labour and Welfare has repeatedly instructed thorough implementation of occupational safety and health management of works at the TEPCO Fukushima Daiichi Nuclear Power Plant (hereinafter referred to as the "power plant") which was the site of the accident associated with the East Japan Great Earthquake on 11 March 2011 to primary contractors, etc. who have undertaken construction works in TEPCO and the power plant through the Labour Standards Bureau Notification No. 1222-1 (22 December 2011) and other notifications.

Works for decommissioning, etc. are now progressing. However, last year, the number of occupational accidents increased significantly and a fatal accident occurred in January and in August this year. With the increase in the number of construction projects such as those to take measures against contaminated water, the number of workers at the power plant per day has doubled from that of one year ago; increasing from approximately 3,500 to 7,000. Though the monthly average exposure dose has tended to decrease since October 2013, the number of workers whose exposure dose has exceeded 5 mSv remain unchanged, and total exposure dose of all workers has remained high since August 2013.

Under such a situation, The Inter-Ministerial Council for Contaminated Water and Decommissioning Issues revised the Mid-and-Long-term Roadmap towards Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station on 12 June 2015. The revision included: (1) Strengthening the occupational safety and health management system undertaken by TEPCO and

the primary contractors together; (2) Improving the level of occupational safety and health management by the implementation of risk assessment by TEPCO, primary contractors and relevant subcontractors; and (3) Considering effective exposure dose reduction measures in terms of methods, equipment, facilities and construction machines and implementing those reduction measures by incorporating said measures into the construction plan from the stage of placing orders.

In order to implement these actions effectively and efficiently, the Ministry of Health, Labour and Welfare formulated a guideline to show the instructions in an integrated manner, “Guidelines on Occupational Safety and Health Management at the TEPCO Fukushima Daiichi Nuclear Power Plant” as shown in Attachment 1.

Each labour bureau is requested to make the guideline well-known and to instruct TEPCO and the primary contractors appropriately based on the guideline to ensure the occupational safety and health of workers engaged in decommissioning works.

It should be noted that we have notified TEPCO and the primary contractors as shown in Annex 2 <omitted>, other relevant parties as shown in Annex 3, and the relevant ministries and agencies as shown in Annex 4.

With this notification, the related notification shown in Annex 5 <omitted> should be abolished.

Annex 1

Guidelines on Occupational Safety and Health Management at the TEPCO Fukushima Daiichi Nuclear Power Plant

Section 1 Objectives

1. Strengthening the occupational safety and health management system undertaken by TEPCO and the primary contractors together

In steadily promoting the decommissioning works, etc. at the TEPCO Fukushima Daiichi Nuclear Power Plant (hereinafter referred to as the "power plant"), in order to secure safety and health of workers engaged in the works, it is required to put into practice safety control, exposure dose control, and healthcare, etc. based on the occupational safety and health management by a plan-do-check –action cycle. Also, for establishing an appropriate occupational safety and health control organization, managing occupational safety and health management will be indispensable not only by TEPCO but also by the employers who have contracts for construction work, etc. directly with TEPCO (hereinafter referred to as "primary contractors"). In implementing the exposure dose control etc., the staff of the power plant who are responsible for radiation works and are the implementing body of separate construction works, the TEPCO head office which conduct supporting works for the power plant and the Fukushima Daiichi Decommissioning Company (hereinafter referred to as the "head office, etc.") should each fulfill their own responsibilities. For this reason, the occupational safety and health management system which clarifies activities of the head office, etc., the power plant and primary contractors should be established under the primary responsibility of TEPCO.

2. Improving the level of occupational safety and health management by the implementation of risk assessment by TEPCO, primary contractors and relevant subcontractors

Decommissioning works vary depending on specific construction projects and works as well as the surrounding situation at the power plant. Therefore the risk assessment that identifies dangers and hazards, estimates risks, set priorities and determines risk reduction measures should be conducted by the power plant, primary contractors and relevant subcontractors together (when works of the power plant or of the primary contractor are conducted based on several subcontracts, it includes all subcontractors following the said subcontracts, hereinafter referred to as “relevant subcontractors”) under the primary responsibility of TEPCO, and occupational accident prevention measures should be systematically taken based on the assessment.

Though approximately 500 new workers come to the power plant site every month, there is only a

small increase in the total number of workers at the power plant. This suggests that the number of workers leaving jobs at the power plant every month is almost the same as the number of new workers beginning jobs. For this reason, since the safety and health education of new workers, etc. will be important, it is necessary to strengthen the education about the exposure reduction measures for work planners of the primary contractors and operation leaders of the relevant subcontractors.

3. Systematically implementing exposure dose control, and considering and implementing effective exposure reduction measures from the stage of placing orders.

For radiation exposure dose control, exposure dose information of all workers needs to be managed integrally throughout the power plant in order to have the best possible radiation control. In addition, in order to reduce the exposure dose associated with the works for each construction order at the power plant, the procurement section of TEPCO is required to have a fundamental policy on engineering measures for construction methods, equipment, facilities, construction machines, etc., and to incorporate these engineering measures into the construction specifications as exposure reduction specifications in placing construction orders. The power plant staff and primary contractors are also required to incorporate measures based on the exposure reduction specifications into the construction plans as radiation control plans. In addition, in conducting the works, they should implement the matters provided in the radiation control plans appropriately as well as to take measures for controlling the works such as shortening working hours and wearing protective equipment, according to the specific works.

4. Implementing appropriate healthcare, securing an emergency medical care system, and improving the work environment

For workers' healthcare, the statutory medical examination and the follow-up actions based on it should be appropriately implemented, and daily healthcare and heatstroke measures should be appropriately taken. In addition, based on the "Guidelines on Maintaining and Improving Health of Emergency Workers at the TEPCO Fukushima Daiichi Nuclear Power Plant," (Public Notice No. 5, 11 October 2011, which will be revised as “Guidelines on Maintaining and Improving Health of Emergency Workers at Nuclear Facilities”, hereinafter referred to as "Ministerial Guideline", from 1 April 2016), an appropriate long-term healthcare should be provided to workers who were engaged in emergency works at the power plant.

In preparation for occurrence of occupational accidents, an emergency medical care system at the power plant site needs to be established, and the organization for conveying affected workers quickly to an appropriate medical institution should be strengthened.

In addition, in order to improve the work environment during decommissioning works, etc., it is

necessary to improve rest stations and food service facilities, remove or isolate contaminated radiation sources, and optimize protective equipment.

Section 2 Works for application of the guideline

This guideline should be applied to radiation works and separate construction works to be conducted at the power plant site.

Section 3 Establishment of the occupational safety and health management system

1. Matters be dealt with by TEPCO

Although each employer is responsible for the safety and health control of radiation works and separate construction works at the power plant site pursuant to the Industrial Safety and Health Act and Ordinance on Prevention of Ionizing Radiation Hazards (hereinafter referred to as the "Ionizing Radiation Ordinance"). When workers of two or more employers are engaged in radiation works and separate construction works to be conducted by TEPCO itself at the same place on the basis of several contract agreements, the head of the power plant (hereinafter referred to as the "plant director") should provide instructions or support to the relevant subcontractors and conduct the following matters so that the occupational safety and health management will be conducted integrally for all radiation works and separate construction works as a whole.

(1) Selection of the general safety and health manager at the power plant

The plant director assigns a general safety and health manager, and instructs him/her to conduct the matters described in subsections (3) to (7) below so that the occupational safety and health management of the radiation works and the separate construction works as a whole would be implemented appropriately at the power plant site.

It should be noted that, when TEPCO does not do the works itself but conducts only the ordering and design control of the works, and outsources the radiation works and separate construction works to the primary contractors, the plant director should, considering the special nature of the radiation works and separate construction works, instruct the general safety and health manager to conduct the matters shown in Section 3, item 1 subsections (4), (6) and (7) under close cooperation with the primary contractors. In this case, the safety and health coordinating meeting described in item 1 subsection (4) should consist of all the primary contractors. In addition, when TEPCO outsources the works which it does not conduct itself at

the same place to two or more primary contractors, TEPCO should select and assign a worker who supervises and conducts the matters described in Section 2, item 2 for two or more works from the workers of the primary contractors concerned.

(2) Selection of the construction execution safety manager

The plant director assigns the construction execution safety manager who takes charge of the safety of the separate construction works at the power plant site, and instructs him/her to assist the general safety and health manager and control technical matters among those described in the subsections (3) to (5) below.

In addition, the plant director makes him/her responsible for controlling persons in charge of separate construction works at the power plant. Especially in the case where dangerous works will be conducted, the plant director should instruct him/her to provide the required instructions for securing safety at the construction site under the supervision of persons in charge of the construction works.

It should be noted that the plant director should actively involve not only persons in charge of the radiation control department and the disaster remediation department but also those in charge of the occupational safety and health department in the supervision of construction works.

(3) Selection of the person who conducts the occupational safety and health management in each relevant subcontractor

The plant director should request relevant subcontractors to select a person who conducts the occupational safety and health management, and instruct him/her to conduct the matters described below:

a. Communicate with the general safety and health manager

b. Coordinate with the general safety and health manager and the said relevant subcontractors about the required activities described in subsections (4) to (6) below.

c. Communicate and coordinate works among all relevant subcontractors when the said relevant subcontractors are entrusted with some part of the works.

(4) Holding etc. of safety and health coordinating meetings for all the relevant subcontractors who conduct radiation works and separate construction works

a. The plant director should set and hold periodically once within a month the safety and health coordinating meeting for all the relevant subcontractors, and request participation of the general safety and health manager, the construction execution safety manager, and those who conduct the safety and health control in relevant subcontractors.

b. Matters to be discussed in the safety and health coordinating meetings should be as follows:

- Those related to communication and coordination between the head office, etc. and the power plant staff and relevant subcontractors.
- Those related to implementation of working environment measurements in terms of external radiation and concentration of radionuclides in the air, and of matters related to precautions in conducting the works based on the results.
- Those related to measures to ensure safety in separate construction works including promotion of information sharing and cooperation, and promotion of causative analysis of industrial accidents and elimination of prevention measures in the case of nearby construction works; together these should exceed what would be available for each separate contract relation.
- Those related to implementation of the safety and health education including matters about radiation works such as the special education.
- Those related to preparation or improvement of work plans (including those related to exposure control of workers and measures to reduce workers' exposure dose. The same should be applied hereinafter).
- Those related to unification of signals and alarms given during radiation works and separate construction works.
- Those related to actions such as evacuation when an accident should occur.

(5) Instructions or support for the preparation of work plans, etc.

a. Provide appropriate data and information as well as provide instructions or support as appropriate, to relevant subcontractors so that the work plans that the said subcontractors prepare may be suitable.

b. Check the work plans for the works, considering the possibility that the effective dose may exceed 1 mSv per day, among those works which the related subcontractors conduct.

c. In conducting the check described in a above, the radiation control department of TEPCO should mainly check the exposure control method, and, if required, provide instructions or support about improvement of the work plans, etc.

d. The relevant subcontractors should provide instructions to make the work plans known to the relevant workers.

(6) Understanding exposure status, etc.

Conduct the matters described in Section 5 item 1.

(7) Implementation of investigation of the dangers or hazards of radiation works and separate

construction works (risk assessment), and taking measures based on the assessment and safety and health education

Conduct the matters described in Section 4.

2. Matters for primary contractors to conduct

Each employer is responsible for the occupational safety and health management concerning the radiation works and separate construction works at the power plant site pursuant to the Industrial Safety and Health Act and the Ionizing Radiation Ordinance; however, in implementing the radiation works and the separate construction works at the power plant site, when primary contractors receive contract orders from TEPCO and direct relevant subcontractors in works that the primary contractor should conduct at the same location, the primary contractors should provide instructions or support to relevant subcontractors so that the measures will be appropriately taken by relevant subcontractors as an employer, and conduct the following matters so that the occupational safety and health management of radiation works and separate construction works are conducted appropriately.

(1) Selection of the general safety and health manager in primary contractors

The primary contractors should select a general safety and health manager among supervisors of works (he/she should be a general safety and health manager as prescribed in Article 15 of the Industrial Safety and Health Act in the case where the works falls under construction of a certain scale; the same should be applied hereinafter.) so that occupational safety and health management of the radiation works and separate construction works will be implemented appropriately, and instruct him/her to conduct the matters described in subsections (2) to (6) below in cooperation with the general safety and health manager and construction execution safely manager who are selected by TEPCO as shown in item 1, subsections (1) and (2).

(2) Selection of the person who conducts the occupational safety and health management in each relevant subcontractor

Relevant subcontractors should be requested to select a person who conducts the job of occupational safety and health management (he/she should be a general safety and health manager as prescribed in Article 16 of the Industrial Safety and Health Act in the case where the works falls under construction of a certain scale; the same should be applied hereinafter), and instruct him/her to conduct the matters described below:

a. Communicate with the general safety and health manager of the primary contractors

b. Coordinate with the general safety and health manager of the primary contractor about the required activities, as described in subsections (3) to (5) below, to be conducted by the said

relevant subcontractors.

c. Communicate and coordinate works among all relevant subcontractors when the said relevant subcontractors are entrusted some part of the works.

(3) Holding safety and health coordinating meetings etc. for all the relevant subcontractors

a. Set a safety and health coordinating meeting for all the relevant subcontractors, and hold periodically once within a month, while cooperating with the safety and health coordinating meetings which TEPCO holds as described in the item 1 subsection (4).

b. Matters to be discussed in safety and health coordinating meetings should be as follows:

- Those related to exposure control.
- Those related to measures to ensure safety in separate construction works including promotion of information sharing and cooperation, and promotion of causative analysis of industrial accidents and elimination of prevention measures in the case of nearby construction works; together these should exceed what would be available for each separate contract relation.
- Those related to implementation of safety and health education including the matters about radiation works such as the special education.
- Those related to preparation or an improvement of work plans.
- Those related to unification of signals and alarms given during radiation works and separate construction works
- Those related to actions such as evacuation when an accident should occur.

(4) Instructions or support to prepare work plans, etc.

a. Provide instructions or support to relevant subcontractors so that the work plans that the said subcontractors prepare may be suitable.

b. Check in advance the work plans for the works whose effective dose is likely to exceed 1 mSv per day, among those works which relevant subcontractors conduct as well as report to the Director of the Tomioka Labour Standard Bureau about the radiation works pursuant to Section 8 item 4.

c. Provide instructions to the relevant subcontractors in order to make the work plans be known to the said subcontractors' workers.

(5) Understanding exposure situation, etc.

Conduct the matters described in Section 5 item 2.

(6) Implementation of the risk assessment concerning radiation works and separate construction works, and taking measures based on the results, implementation of safety and health education

Conduct the matters described in Section 4.

Section 4 Implementation of risk assessment and the measures based on the results, and implementation of safety and health education, etc.

1. Implementation of risk assessment and the measures based on the results

TEPCO and the primary contractors should, for works conducted by themselves or as part of the works that are outsourced to relevant subcontractors, conduct risk assessment and take measures based on the results in accordance with the considerations shown in item 2 below.

It should be noted that, when TEPCO outsources works not conducted by it, TEPCO should support the risk assessment which primary contractors and relevant subcontractors conduct and the measures taken by them based on the results by directing persons in charge of executing the construction to participate in the planning.

2. Considerations in conducting the risk assessment

(1) TEPCO and primary contractors should identify dangers or hazards caused by the buildings, equipment, raw materials, gases, steam and dust, actions for the works or other reasons, and take measures as specified in regulations, or measures required in order to prevent workers' dangers or health hazards based on the results.

(2) The risk assessment should be conducted in formulating construction plans as described in Section 6 item 2 subsection (1), as well as at the time described below. It should be noted that, for those works that are being conducted now and that the risk assessment has not been conducted yet, the risk assessment should be conducted wherever possible.

a. When structures are installed, transferred, changed or dismantled.

b. When new equipment, raw materials, etc. are adopted or changed.

c. When new working methods or work procedures are adopted or changed.

d. In addition, when dangers or hazards caused by buildings, equipment, raw materials, gases, steam and dust, actions for the works or other reasons have changed or are likely to change, such as the cases described below:

(i) When there is a problem in the specific investigation in the past, among cases in which occupational accidents occurred.

(ii) When there are degradations of machines/equipment by aging, changes in the knowledge and experiences concerning occupational safety and health of workers due to turnover of workers, and new accumulation of the knowledge concerning occupational safety and health, after a certain period of time since the previous risk assessment.

(3) The following matters should be taken into account in implementing the risk assessment.

a. The exposure reduction measures (e.g. wearing a protective mask, restriction of working hours) may be obstacles for implementing reduction measures against dangers or hazards other than radiation (e.g. risk of narrowing the worker's field of view or causing heatstroke by wearing a protective mask, risk of increased travel time or heatstroke due to the physical load when wearing protective clothing, and less time to keep workplace in proper order due to shortening of working hours). For these reasons, optimal methods need to be studied so that exposure reduction measures and the dangers or health hazards of preventive measures are compatible.

b. The risk assessment and measures based on the results should be conducted according to provisions in the "Guideline on investigation of dangers or hazards, etc." (Guideline Notification No. 1, 10 March 2006).

3. Implementation of safety and health education, etc.

The plant director and primary contractors should provide their workers with the education defined in subsections (1) to (3), and provide instructions or support to the relevant subcontractors so that they can conduct the said education appropriately. Especially the plant director should give support by dispatching lecturers or providing education materials or educational facilities.

(1) Implementation of new workers' education

New workers at the power plant should be provided with the special education defined in Article 52-7 of the Ionizing Radiation Ordinance as well as those considering the peculiarity of the works at the power plant site as described below.

a. Performance and handling methods of protective equipment such as protective masks (including giving appropriate instructions using the fit tester for wearing respiratory protective devices and taking measuring against leak by having persons wearing eyeglasses use the seal piece, etc.).

b. Handling method of the personal alarm dosimeter (hereinafter referred to as "PAD"), and the exposure dose control method such as how to read the exposure dose record.

c. Contamination prevention measures and decontamination methods, such as of the body, protective equipment, removable tools, and other items.

d. Narrowed view of view when wearing protective masks, and danger of getting protective equipment including clothing, footwear and gloves caught in movable parts of machines when carrying out works.

e. Danger of heatstroke and its preventive measures due to wearing protective equipment, including clothing, footwear, gloves, and masks, and the limited number of rest stations.

f. Exposure dose reduction measures such as identifying locations with high dose rates and securing a separation distance from the radiation source, effective utilization of radiation shielding, wearing of protective equipment, and shortening of working hours.

g. First aid for injured or ill persons and emergency communication methods.

(2) Strengthening of education for operation leaders of the relevant subcontractors

For leaders of the workplaces of the relevant subcontractors (such as work group leaders, or foreman, hereinafter referred to as "operation leader"), education on matters described below should be provided in addition to the education for new workers.

a. Locations with high dose rate at the power plant and shielding equipment.

b. Rest stations, evacuation routes in the case of emergencies, etc.

c. Determination of exposure reduction measures by work management, such as shortening of working hours and wearing of protective equipment, and the methods for monitoring the reduction measures.

d. Methods to determine the exposure dose during the works and to control working hours.

e. Methods to determine the amount of planned dose as well as the PAD setting value, and the methods to observe them.

(3) Strengthening of education for construction planners of the primary contractors

Primary contractors should provide the construction planners with education on the matters described below in addition to the education for new workers described in subsection (1).

a. Knowledge on construction methods based on fully automated or remote control.

b. Knowledge on decontamination, etc. of locations with high dose rate before starting the works (removal of radiation sources).

c. Methods for securing a separation distance from the radiation source in locations with high dose rate.

d. Knowledge on shielding of the radiation source at locations with high dose rate.

e. Knowledge for setting routes from rest stations, etc. to workplaces.

f. Knowledge for setting rest stations, etc.

g. Knowledge for setting planned total exposure dose and planned personal dose of workers.

Section 5 Exposure dose control

1. Matters for TEPCO to conduct

(1) Integrated exposure dose information control

In order to manage workers' basic information and the exposure dose information for all the

workers engaged in radiation works and separate construction works at the power plant site, the information should be managed in an integrated manner. For this reason, the plant director, in cooperation with the head office, etc., should establish the organization to manage the exposure dose related information (hereinafter referred to as "systematic control organization") and instruct the organization to manage the exposure dose information securely, considering the points of Attachment 1.

(2) Strengthening of the control function of access to the power plant site for radiation workers and separate construction workers

The plant director should have information for all workers who enter the power plant and conduct matters described in a to c below.

a. Obtaining workers' basic information.

b. Checking the special education implementation record (excluding the practical skill education).

c. Issuing each worker’s identification card with a personal ID number and face photo and implementation of access control.

(3) Ensured recording, integration, and notification of the exposure dose information

The plant director should record the exposure dose information corresponding to each worker’s fundamental information to control their cumulative dose, and notify his/her employees and the primary contractors’ employees of the results periodically.

(4) Support to relevant subcontractors, etc.

The plant director should take appropriately actions described below in notification of the exposure dose.

a. Provide required support to primary contractors to enable them to notify workers of the exposure dose without delay.

b. Provide support to relevant subcontractors to enable them to notify workers of the exposure dose in writing in order that workers are certainly notified of the exposure dose.

2. Matters for primary contractors to conduct

(1) Exposure dose control

In order to implement appropriately the exposure dose control of workers of the primary contractors and relevant subcontractors who are engaged in radiation works and separate construction works, considering the matters described in Attachment 1, the primary contractors should select radiation control persons and establish a system to know the exposure dose of all workers of primary contractors and relevant subcontractors under the supervision of the general

safety and health manager shown in in Section 3 item 2 subsection (1), including matters as described below:

a. Conduct exposure dose control of primary contractors' and relevant subcontractors' workers in cooperation with TEPCO.
b. Instruct the relevant subcontractors' radiation control persons so that exposure dose control of relevant subcontractors' workers will be conducted properly.
c. Manage appropriately the workers' identification cards which the plant director issues so that the card will not be used by any other person than whom the card is issued to.
d. Participate in the safety and health coordinating meetings which TEPCO holds as described in the Section 3 item 1 subsection (4) and discuss the matters related to the radiation control.
e. Conduct other matters required for the radiation control.

(2) Appropriate implementation of the notice of exposure dose, etc.

a. The primary contractors should conduct matters described below for their employees who are engaged in works at the power plant in cooperation with TEPCO.
   (i) For daily external exposure dose, notify the worker himself/herself in writing (dose receipt) etc. at the time of the PAD return.
   (ii) For effective dose which is the total of the external dose and the internal dose, and its cumulative values, notify the worker himself/herself once in a month in writing.
b. The primary contractors should provide required instructions or support to relevant subcontractors so that the radiation control persons can conduct the matters described in a above appropriately for the said subcontractors' workers.
c. The primary contractor needs to conduct the actions described below appropriately to notify workers of the exposure dose.
   (i) Establish an organization that enables notification to workers of the exposure dose without delay.
   (ii) In order to notify relevant subcontractors' workers of an exposure dose certainly, provide instructions or support so that relevant subcontractors notify workers of the exposure dose in writing or by using an electronic system in the workplace (this is limited to those subcontractors that allow confirmation that the worker himself/herself reviews the data, and if not, that enables workers to receive E-mail messages, for example, drawing their attention to the availability of the data).

Section 6 Consideration and implementation of effective exposure reduction measures from the stage of placing orders

1. Activities during the stage of placing orders

(1) Preparation of order specifications that include exposure dose reduction measures

Exposure reduction measures related to methods, equipment, facilities and construction machines should be considered and the effective exposure reduction measures should be incorporated into the construction plans from the stage of placing orders. For this reason, when TEPCO plans the works conducted by itself or outsources the work that TEPCO itself does not conduct to primary contractors, TEPCO should prepare beforehand an “exposure dose reduction specification” that shows fundamental views on matters described below in cooperation with the section ordering the construction works and the radiation control section (in the case where they correspond to radiation works whose planned dose may exceed one man-sievert for the entire work (total planned dose of all workers, unit: man-sievert, hereinafter referred to as “total planned dose”, after hearing proposals from the primary contractors) to incorporate into the order specifications.

a. Promotion of construction methods based on fully automated or remote control.
b. Implementation of decontamination, etc. of locations with high dose rate before starting the works (removal of radiation sources).
c. Securing a separation distance from the radiation source in locations with high dose rate.
d. Shielding of the radiation source at locations with high dose rate.
e. Setting of rest stations, etc.
f. Minimization of travel routes from rest stations, etc. to workplaces.

(2) Systematic exposure dose reduction measures which include small-scale construction in the same building, etc.

When two or more small-scale constructions are ordered in the same building etc., it is effective to implement systematic exposure dose reduction measures considering the building etc. as a unit. For this reason, in such a case, TEPCO should prepare the exposure dose reduction specification in which the fundamental view on matters provided in subsection (1) a to f is shown, and incorporate it into the order specifications concerned, in order to take systematic exposure dose reduction measures which includes two or more small-scale constructions.

(3) Ex-post verification of planned dose by dividing according to the specific number of work

In order to take exposure dose reduction measures effectively, after setting the planned dose appropriately, the planned dose and the actual dose should be compared after the construction works to verify the validity of the planned dose. For this reason, TEPCO should assign a specific number for each operation process that allows comparison of the planned dose and the

actual dose.

(4) Instructions or support to primary contractors

The plant director should provide primary contractors with required instructions or support in the preparation of a radiation control plan as described in item 2 subsection (1).

2. Activities in the construction plan preparation stage

(1) Preparation of radiation control plans

In preparing construction plans of radiation works whose total planned dose may exceed one man-sievert, radiation control plans that describe matters given below should be prepared and incorporated into the construction plans, by the plant director for works conducted by TEPCO directly and by the primary contractors for radiation work outsourced from TEPCO.

a. Specific implementation on matters described in item 1 subsection (1) a to f.

b. Exposure dose reduction measures by the optimal work management according to the specific works, such as shortening of working-hours and wearing of protective equipment.

(2) Trial calculation of the exposure dose reduction effect, and the fundamental view of setting the planned dose

In order to evaluate the effect of exposure dose reduction measures, it is effective to compare the total planned dose assumed when the measures are not taken, and that assumed when the measures are taken. For this reason, TEPCO and primary contractors should, in preparing the radiation control plans described in subsection (1), conduct the calculation described below and incorporate the results into the plan.

a. Total planned dose assumed when the measures are not taken.

b. Total planned dose assumed when the measures are taken.

c. Fundamental view of setting planned dose for every worker assuming to take measures (average individual dose per day, operation process, average and the maximum individual dose for each operation period).

(3) Preparation of exposure dose reduction measures for each operation process

a. TEPCO and primary contractors should prepare exposure dose reduction measures for each operation process so that the matters described in the radiation control plans will be implemented in the workplace.

b. For reducing exposure doses, a specific planned dose needs to be set for each operation process. For this reason, the primary contractors should set a planned dose (the maximum individual dose, an average individual dose, a total planned dose) of each operation process.

(4) Ex-post verification of the planned dose for each operation process

In order to improve the exposure dose reduction measures continuously, it is necessary to compare the planned dose with the actual dose. For this reason, TEPCO and the primary contractors should compare the planned dose and the actual dose for each operation process. When the actual dose exceeds the planned dose, the cause should be investigated and, if required, the radiation control plan (in which the exposure dose reduction measures for every operation process are included) should be revised with respect to the said operation process.

Section 7 Healthcare measures, etc.

1. Implementation of the medical examination, etc.

(1) Workers' healthcare

a. Implementation of the medical examination

The plant director and primary contractors should regularly provide the medical examination pursuant to the Occupational Safety and Health Act and other regulations, and the medical examination pursuant to the Ionizing Radiation Ordinance to their workers. As a result of hearing opinions from a medical doctor about the results of the medical examination concerned, they should take appropriate actions for workers who were diagnosed as impaired, and requiring consideration of their present employment, taking opinions from the medical doctor into account.

b. Daily healthcare

The plant director and primary contractors should check each worker's condition before starting work daily, such as for symptoms of fever and diarrhea. In the case of poor health, they should urge the worker consult a doctor.

For workers who have engaged in works at the power plant for a long period of time (approximately three months, as a rough indication), in addition to workers recognized to be striving to maintain their health based on the results of the medical examination, they should provide health guidance by a medical doctor or public health nurse, taking the opportunity at the time of a medical examination. All possible measures for preservation of health should be taken for workers who were proved to have underlying diseases such as cardiac disease and cerebrovascular disease, from the results of past medical examinations, the existence of previous diseases based on health questionnaire results, existence of subjective or objective symptoms, etc. by providing thorough daily checks of conditions as well as implementing health guidance.

c. Instructions and support to relevant subcontractors

The plant director and primary contractors should provide required instructions and support to relevant subcontractors so that the relevant subcontractors can conduct the matters shown in a and b appropriately.

(2) Considerations in implementing the ionizing radiation medical examination

Matters described below should be considered in implementing the ionizing radiation medical examination.

a. Although for the ionizing radiation medical examination pursuant to Article 56, paragraph 1 of the Ionizing Radiation Ordinance, it is allowed to omit some inspection items in paragraphs 3 and 4 of the same article, for workers who may exceed 5 mSv a year as an effective dose, it is not desirable to omit the items allowed in paragraph 3 of the same article for workers considering the possibility that the effective dose received in one year may exceed 5 mSv.

b. For workers whose accumulated doses from 11 March 2011 to 31 March 2012 exceeded 50 mSv after 13 December 2011, the inspection of the eyes for cataract should be conducted without omission during the period when they are engaged in radiation works. In the said inspection, the examination under a slit-lamp microscope should be conducted approximately once a year. It should be noted that this should not apply when the workers concerned do not want the examination.

2. Ensuring the emergency medical system

The plant director should, in cooperation with the head office, etc., strive to strengthen an emergency transport organization and utilize positively an air ambulance to shorten transport time. Also, in order to provide first aid to severely injured persons immediately, he/she should establish the required health and medical organization and allocate medically trained persons to work in an examination room, etc. as well as secure the medical materials and equipment required for first aid. In order to secure medical staff and maintain and improve the appropriate transport system of injured persons, the head office, etc. and the plant director should participate in a liaison organization consisting of relevant national organizations, relevant medical institutes, neighboring fire departments, etc.

3. Heatstroke measures

The plant director and the primary contractors should take appropriate heatstroke measures according to Attachment 2.

4. Long-term healthcare measures

The plant director and the primary contractors should provide appropriate long-term healthcare to those who were engaged in emergency works at the power plant site according to the ministerial guideline.

5. Improvement of the work environment

TEPCO should, in order to improve the work environment at the power plant, promote paving, etc. of soil systematically for reducing ambient dose rate in air by removing and isolating contaminants and preventing internal exposure due to dust, etc. Also, it should improve rest stations and food service facilities as efforts to prevent accumulation of fatigue and promote recovery from it.

Section 8 Reporting to the Ministry of Health, Labour and Welfare

1. Reporting of accidents, etc.

The plant director should report to the Director of the Tomioka Labour Standards Inspection Office immediately to that effect (arbitrary form) when occupational accidents, etc. (limited to those requiring medical treatment at an outside medical institute) have occurred, when a fire or explosion has occurred, when leakages of radioactive materials or materials contaminated with radioactivity or abnormal exposures to radiation have occurred, or locations with unusually high ambient dose rate have been newly discovered.

2. Reporting of selection of the general safety and health manager

When the general safety and health manager is selected as described in the Section 3 item 1 subsection (1), the plant director should report to the Director of the Tomioka Labour Standards Inspection Office immediately to that effect (arbitrary form). When the general safety and health manager is changed, the plant director should report to that effect in the same way as described above.

3. Reporting of the radiation control plan and the results of risk assessment

a. The plant director or primary contractors should submit the radiation control plan prepared according to Section 6 item 2 subsections (1) to (3) together with Form 1 to the Director of the Tomioka Labour Standards Inspection Office within 14 days before the start of the operation process for works for which the total planned dose may exceed one man-sievert among the radiation works and separate construction works conducted by themselves (except for

preparatory tasks such as transportation of materials to the site, etc.). When the radiation control plan is revised, the revised radiation control plan should be submitted to the Tomioka Labour Standards Inspection Office before starting the operation process related to the change.

b. The plant director or primary contractors should submit the comparison results of actual and planned doses for each operation process conducted according to Section 6 item 2 subsection (4) in to the Director of the Tomioka Labour Standards Inspection Office (arbitrary form) immediately.

c. TEPCO or the primary contractors should submit a summary of the results of the risk assessment conducted according to Section 4 item 2 subsection (2) in the construction planning stage promptly to the Director of the Tomioka Labour Standards Inspection Office, together with the radiation control plan as specified in Attachment 3 for radiation works and separate construction works that may exceed one man-sievert. It should be noted that, the same should be applied when the results of the risk assessment are changed.

d. The radiation works and the separate construction works for which the radiation control plan is prepared and the risk assessment described in item 3 a and c will be conducted should be those ordered after 1 November 2015.

4. Reporting of radiation works

a. Among radiation works and separate construction works conducted at the power plant site, for those in which workers may be exposed to an effective dose of 1 mSv per day or higher, the plant director or primary contractors should submit the registration Form 2, “Radiation work registration at TEPCO Fukushima Daiichi Nuclear Power Plant” for each operation process (using the assigned number for each said process) to the Director of the Tomioka Labour Standards Inspection Office beforehand (or immediately after completing the work in the case where response is required within 24 hours after recognition of the situation, such as response to an emergency).

In addition, after completing the said operation process, the average effective dose, the highest effective dose, and the total effective dose of the engaged workers should be reported to the Director of the Tomioka Labour Standards Inspection Office (arbitrary form) immediately.

It should be noted that, for the notification concerning the works for which the radiation control plan described in in Section 6 item 2 subsection (1) is submitted, Form 3 should be submitted together with the exposure dose reduction check list (Form 4) prepared based on the exposure dose reduction measures for every operation process.

b. The plant director or primary contractors should submit the "Work registration sheet to register designated high dose work" (Form 5) with an attached list of names of workers to be engaged in the works when the works to be conducted by themselves are judged to correspond to the

designated high dose works.

5. Reporting of exposure doses of workers

The administrator in the head office should report the total cumulative dose of all workers engaged in radiation works or designated high dose work within the power plant site at the end of the month to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare. It should be noted that all workers and designated high dose workers should be treated separately in the report.

6. Reporting of occupational safety and health management

The plant director should submit a report on the implementation status of actions in Section 3 item 1 and Section 5 item 1 once in a quarter using Form 6 to the Director of the Tomioka Labor Standards Inspection Office.

7. Submission of records, etc. of designated emergency workers

TEPCO and the primary contractors should submit records concerning designated emergency workers as described below to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare concerning the matters specified in Attachment 4.

(1) Copy of the record of results of the medical examination as specified in Article 59-2, paragraph 1 of the Ionizing Radiation Ordinance
(2) Exposure dose control implementation reports as specified in Article 59-2, paragraph 2 of the Ionizing Radiation Ordinance
(3) Examination results of cancer screening, etc. as specified in Section 2-2 of the ministerial guideline

Attachment 1

Considerations for Exposure Dose Control of Workers Engaged in Decommissioning Works, etc. at the TEPCO Fukushima Daiichi Nuclear Power Plant

1 Access control of workers engaged in radiation works and separate construction works

The plant director should know the information of all workers who enter the power plant without omission and regularly implement matters described in subsections (1) to (6) below.

(1) Acquisition of workers' fundamental information

The plant director should, in cooperation with primary contractors, request all employers who conduct radiation works and separate construction works at the power plant site to submit the fundamental information described below and keep it.

Worker’s identification number, Central registration number, Primary contractor’s work place, Affiliation office name, Worker’s name, Birth date, Present address, Telephone number, Date of the latest medical examination (special -- general), and Date when the new worker’s education (special education) was implemented

(2) Implementation of new worker’s education and its record, etc.

The plant director should, in cooperation with primary contractors, implement the new worker’s education that contains the details of the special education specified in Article 52-7 of the Ionizing Radiation Ordinance to all workers engaged in radiation works and separate construction works for the first time at the power plant, and add the implementation record to the workers' fundamental information. In addition, a summary of the workers’ accident compensation insurance should be well-known to them.

(3) Issue of worker’s identification card, etc. and access control

The plant director should issue the worker’s identification card, etc. with the personal ID number and his/her photograph to those who finished the new worker’s education, and record the gate entry time and leaving time by checking the ID number.

(4) Ensured recording of exposure dose information

a. The plant director should record the PAD data of the workers engaged in radiation works and separate construction works every time when the PAD is returned by checking the ID number.

b. The plant director should notify workers of the record described in a above in writing when

the PAD is returned.

c. The plant director should manage information to provide notification to workers regarding the measurement time limit so that internal exposure dose of workers who are engaged in designated high dose work can be measured once within a month.

(5) Integration and notice of exposure dose information

a. Integration of worker's fundamental information and exposure dose information

The plant director should integrate the worker's fundamental information and exposure dose information by checking the personal ID number to calculate an accumulated dose.

b. Notice to employers and workers

The plant director should notify the integrated exposure doses to all workers engaged in the radiation works and separate construction works on the next day (when the next day is a holiday, notice should be on the next day following the holiday) for an external dose, once a month for the effective dose which is the total of the external exposure dose and internal exposure dose and its accumulation. The notification should be in writing or as electronic data provided to TEPCO's employees and primary contractors.

(6) Off-limits measurement during designated high dose work, etc.

The plant director should manage the exposure dose of the workers engaged in the works (work to maintain cooling functions of the reactor facility or spent fuel storage pool, or work to maintain radioactive material release restriction functions in the reactor facility and steam turbine and its auxiliary facility or areas around them where the potential ambient dose rate may exceed 0.1 mSv/h (hereinafter referred to as "designated high dose work")) to which the emergency dose limit (100 mSv) prescribed in Article 7 of the Ionizing Radiation Ordinance is applied through Item 3, Labour Standards Bureau Notification No. 1216-1 dated 16 December 2011 separately from the exposure dose of workers engaged in other works. In addition, after positively identifying that the worker is a designated high dose worker from the identification card photo, such measures should be taken as having the operation leader directly supervise the designated high dose work so that unrelated workers do not enter the area.

2. Management of PAD

The plant director and primary contractors should conduct appropriately the matters described below.

(1) Loan of PAD

The plant director should, in order to know certainly that the person himself/herself received the

PAD, put the personal loan into practice.

(2) Alarm value setting

a. Since an alarm is set not to exceed the maximum dose expected per day, the alarm should be set at the value as near the maximum dose per day expected as much as possible.

b. The alarm setting value should be made closer to the record of the dose through regular comparison with the recorded value of the dose after work.

(3) The plant director and primary contractors should, after checking the measured value with the PAD, conduct the matters described below immediately.

a. Check the external effective dose from gamma-rays. If the dose is abnormal such as that the dose is remarkably low as compared with the alarm setting value (e.g. 5-10% or less of the alarm setting values), check the specific work, etc.

b. When the excessive alarm setting value is set as compared with the specific works, correct to an appropriate value.

c. For workers with considerably low exposure dose compared with that other workers in the same working group who have adopted the same alarm value (e.g. 5-10% or less compared with workers with the highest exposure dose), check specific works of the workers. When an excessive alarm setting value is set as compared with the specific works, correct it to an appropriate value.

3 Management of integrating dosimeters

The plant director and primary contractors should conduct appropriately the matters described below.

(1) Management method

It is necessary to wear an integrated personal dosimeter (hereinafter referred to as "integrating dosimeter") only during the time when workers are engaged in the works for appropriate occupation exposure dose measurement. The integrating dosimeters should be worn at the start of the said works and kept in an appropriate place when the said works are completed, under the management of the plant director or primary contractors.

(2) Control badge

In order to correctly measure occupational exposure dose with the integrating dosimeter, appropriate operation of the control badge is important where the exposure dose during the time not engaged in the works is deducted. For that reason, the control badge should be kept at the place at an equivalent ambient dose rate to that the place where integrating dosimeters in use are kept.

It should be noted that the integrating dosimeters not in use should be kept at the place at the equivalent ambient dose rate to that of the control badge.

4. Comparison and evaluation of measurements with the PAD and the integrating dosimeter

The plant director and primary contractors should conduct appropriately the matters described below.

(1) It is believed that an integrating dosimeter is more reliable than PAD because the former can be worn continuously during the works and the error due to the directional characteristics etc. is smaller than for the PAD. However, when there is deviation between them which exceeds the fixed standard set by each employer in the measurement of effective dose by gamma-rays, they should investigate the cause by such means as checking data, etc., after considering matters the described below.

(i) In the Japanese Industrial Standards (JIS), a directional error of ±30% is acceptable for the PAD and an error of up to approximately 35% is accepted in general for the measurement using two independent instruments in the safety standard of the International Atomic Energy Agency (IAEA). However, more prudent handling should be required for workers who are working when they have an exposure dose near the statutory exposure dose limit, such as 40 mSv per year.

(ii) For this reason, it is desirable to set the criterion for investigating deviation to the value which does not exceed ±20% which is twice the standard deviation (0.094) of this data analysis.

(2) When the value with the PAD is higher than that with the integrating dosimeter even after the check described in subsection (1), the value of PAD should be adopted as the value to be recorded.

5 Measurement of internal dose

The plant director and primary contractors should measure the internal exposure dose with a whole body counter (hereinafter referred to as "WBC") immediately when ingestion of radionuclides is suspected. When the measurement of the internal exposure dose with the WBC becomes difficult according to an unavoidable emergency situation, the internal exposure dose should be evaluated according to the “Evaluation method of the internal dose in TEPCO Fukushima Daiichi Nuclear Power Plant" (hereinafter referred to as "unified evaluation method") issued on 2 August 2011.

6 Appropriate management / storage of exposure dose record

The plant director and primary contractors should establish an organization required to conduct the matters described below.

(1) Both external exposure dose and internal exposure dose values should be kept in their original form as much as possible (including data in electronic media obtained by scanning paper media) with respect to the type of measuring instrument, measurement conditions and measurement results in order to prepare for future verification.

(2) When the internal dose is evaluated, including identification of nuclides, since the internal dose may exceed 1 mSv as the result of the internal exposure dose measurement, detailed measurement data should be kept such as the spectra, detection limit, original data that support ingestion date (date when the work started) including documents when measured with the WBC, the shift roster, attendance record, copy of the radiation passbook as well as the internal dose calculation method.

(3) The primary contractors should manage and keep similarly the measurement results for workers of relevant subcontractors.

7. Evaluation of exposure doses by beta-rays

The plant director and primary contractors should conduct the matters described below.

(1) In the case where the exposure dose by beta-rays may be larger than that by gamma-rays by a factor of 10 or more, the measuring instrument to be worn at the part as specified in Article 8, paragraph 3, item 1 of the Ionizing Radiation Ordinance should be those that allow measurement of the 1-cm dose equivalent and the 70-μm dose equivalent.

(2) In addition to the above item (1), in the case where the situation corresponds to that specified in item 3 of the same paragraph and the same article such as the case dealing with processed waste water, the measurement should be conducted while wearing an instrument that allows measurement of 70-μm dose equivalent at the part which may be exposed most significantly.

(3) Addition of the dose by -beta-rays to the effective dose

In the case where the value of the daily 70-μm dose equivalent measured according to (1) is larger than the value of the daily 1-cm dose equivalent by a factor of 10 or more, and where the value calculated according to a or b below is higher than the lower measurement limit of the integrating dosimeter (0.1 mSv), the monthly effective dose should be calculated by adding the value calculated according to the said a or b to the monthly 70-μm accumulated dose equivalent depending on each case.

a. The value of the monthly 70-μm accumulated dose equivalent multiplied by the tissue

loading coefficient of the skin (0.01) measured according to subsection (1) when the measurement described in subsection (2) is not conducted.

b. The value of weight averaged (by skin areas) monthly 70-μm accumulated dose equivalent measured according to subsection (1) and according to the description in subsection (2) multiplied by the tissue loading coefficient of the skin (0.01) when the measurement described in subsection (2) is conducted.

(4) Evaluation of the case where uneven exposure should occur

When uneven exposure should occurred by wearing shielding-protective clothes, addition to the effective dose obtained according to subsection (3) should be appropriately provided according to the ratio of the shielded part to the whole body area.

8. Evaluation of uneven exposure by gamma-rays

The plant director and the primary contractors should conduct the matters described below.

(1) For evaluation of exposure by gamma-rays when uneven exposure should occur by wearing the shielding-protective clothes, effective dose should be calculated according to the guideline, "Technical guideline concerning evaluation method of external exposure and internal exposure" (General Administrative Group, Radiation Council, April 1999).

(2) When the area of the part covered with shielding-protective clothes is small compared to the area defined in the guideline, for a more appropriate evaluation, the formula should be set according to the part covered with the shielding based on the table of load factors by the part of the body described in Annex 4 of the guideline, and then an effective dose is calculated.

Attachment 2

Heatstroke prevention measures for workers engaged in the decommissioning works at TEPCO Fukushima Daiichi Nuclear Power Plant

Heatstroke prevention measures for workers engaged in the decommissioning works at TEPCO Fukushima Daiichi Nuclear Power Plant should be taken according to the Labour Standards Bureau Notification No. 0619001, 19 June 2009, "Prevention of heatstroke in the work place" especially emphasizing the following points described below.

1. Work environment management

The plant director and principal contractors should conduct the matters described below.

(1) Utilization of the value of the WBGT (Wet-Bulb Globe Temperature)

The WBGT measuring instrument should be installed at every workplace to identify and evaluate the risk of heatstroke in the place concerned and in order to change working hours, frequency and time of work breaks, work load, etc. The evaluation results of the heatstroke risk should be recorded.

(2) Setting rest stations

Rest stations required for workers' break should be set appropriately considering the number of workers who are engaged in works, the distance from workplaces, etc. The rest stations should be equipped with air conditioners and a toilet and provide workers with water and a way to replenish body electrolytes. Also they should be provided with equipment to correspond to emergencies such as coolants for cooling the body, heart rate meters, and thermometers. Depending on the works, simplified and portable rest stations should be set near the workplace such as by using vehicles etc.

Especially in supplying water and electrolytes, the concentration of the radionuclides in the air should be measured in the facility in order to prevent internal exposure dose and as well measures are required for reducing the concentration of the radionuclides as much as possible, such as removal of the radionuclides in the air with filters, and utilization of sticky mats to trap contaminated dust.

2. Work control

The plant director and principal contractors should conduct the matters described below.

(1) Shortening of working hours, etc.

Measures should be taken according to the risk of heatstroke in the workplace place, such as

shortening of working hours and change of frequency of work breaks, rest hours or work load, etc. In addition, considerations should be given in setting the working hours, such as setting a maximum number of consecutive working hours and focusing on carrying out works in the relatively cool times of early morning and the evening to avoid the hottest time in the afternoon.

Considerations should be given to the severity of working conditions in setting the working hours, such as not carrying out works that have a high risk of heatstroke in principle under the blazing sun in the time period from 14:00 to 17:00 in July and August when death due to heatstroke occurs most frequently. In the case where workers must engage in such works unavoidably such as in those requiring continuous monitoring, all possible measures to prevent heatstroke should be taken, such as increasing the frequency of breaks and lengthening the break times.

(2) Acclimatization to heat

For the workers newly engaged in the works, a period for acclimatization should be set and considerations should be given to the acclimatization, such as change of working hours, the frequency of breaks, and work load, etc. The period for acclimatization should be set for seven days or more in principle during which the time exposed to the heat should gradually be extended.

(3) Ingestion of water and electrolytes

Those who control works should remind workers to drink water and replenish body electrolytes, and make them consume water and electrolytes before and after the work irrespective of the existence of workers' subjective symptoms. In addition, they should check and record that each worker consumed water and electrolytes regularly using a check list, etc.

(4) Wearing of appropriate protective clothes

Workers should wear clothes with good permeability and breathability, and, if required, work clothes with a function to cool the body (cooling vest, etc.). In addition, under the direct rays of the sun, they should wear helmets with good breathability and/or attached with a cloth at the rear to block radiant heat.

(5) Checks and instructions by those who control works

During works, in order to check whether there are any abnormalities in workers’ health, supervisors or work leaders should patrol frequently and also considerations should be given to mutual checks of health conditions among workers themselves, such as calling to each

other.

In addition, those who control works should check the measured WBGT value and instruct workers in its meaning, check the consumption of water and electrolytes and instruct workers in the purpose of their consumption, and check health conditions of workers and thoroughly instruct workers in the measures regularly.

3. Healthcare

The plant director and principal contractors should conduct the matters described below.

(1) Check of workers' health conditions, etc.

The operation leaders check each worker's health conditions by using a check list, etc. and before starting operations, records the information for such items as sleep habits, meal habits, alcohol consumed the previous day, fever and diarrhea conditions, as well as takes appropriate measures after checking whether there is any change in break hours, and the health conditions after finishing the assigned works. They also should give instructions about daily healthcare to workers, and in the cases when significant symptoms are seen in some workers during the morning meetings, changes the workplace or the assigned works for said workers. Furthermore, since a lack of communication may occur due to wearing the full-face mask, they should also make workers well-aware of the need to report their health condition when it is poor.

(2) Actions based on the results of the medical examination etc.

a. The regular medical examination etc. and follow-up actions based on the examination should be ensured. In addition, careful attention should be given to the existence of diseases with a possibility of affecting the onset of heatstroke, such as diabetes, hypertension, cardiac disease, and renal disease, and take appropriate measures, such as restricting working hours.

b. When the signs for excessive exposure to heat that require work to be stopped are identified through the patrol by supervisors/superintendents, reported by workers themselves, or found from monitoring results of heart beat rate (bpm) at the time of a break, etc., the workers should be provided healthcare, such as restricting working hours. It should be noted that the signs for the exposure to heat that require work be stopped should include the heart beat rate continuing for several minutes at the value of 180 minus the worker’s age or higher for workers with normal cardiac function, the heart beat rate for 1 minute after a strenuous task reaching a peak of 120 or higher, and the appearance of symptoms such as a rapid and intense feeling of fatigue, nausea, giddiness, or loss of consciousness.

4. Occupational safety and health education

The plant director and principal contractors should conduct the matters described below.

The plant director and principal contractors should provide occupational safety and health education repeatedly, focused on the points as described below to those who control works and workers. In addition, they should daily remind them to practice the educational details, and make them well-informed of required matters such as actions in an emergency, etc. by posting a notice at the rest facility.

- Supply of water and electrolytes regardless of worker's subjective symptoms
- Daily healthcare
- Identification of signs for which exposure to heat requires work to be stopped
- First aid and communication methods in an emergency

5. First aid

The plant director should, in preparation for the occurrence of heatstroke among workers engaged in emergency works, operate appropriate medical offices in which medical staffs such as medical doctors are present regularly. He/she also prepares procedures for communicating with medical doctors, transportation to medical offices, etc., first aid such as cooling methods of the body, transportation to hospitals, etc. and for informing related persons such as medical doctors and personnel who control the works so that first aid will be provided immediately. These procedures should be posted in the rest stations to ensure workers at the power plant are well-aware of them.

The primary contractors should encourage operation leaders and workers to utilize medical offices set by TEPCO as well as make them well-aware of the need to communicate immediately when workers feel abnormal.

6. Instructions and support to cooperated company

The plant director should provide instructions to implement actions described in sections 1 to 5 above and support in conducting occupational safety and health education and utilization of the rest stations from the viewpoint of preventing heatstroke, to primary contractors and relevant subcontractors that TEPCO has outsourced the works to.

Attachment 3

Information Required in the Report Summarizing the Risk Assessment Results

The risk assessment which TEPCO and primary contractors conduct when they prepare a construction plan described in Section 6 item 2 subsection (1) of the main document should be conducted according to the description shown in the Guideline Concerning Identification of Dangers and Hazards, etc. (Guideline Notice No. 1, 10 March 2006) for radiation works and separate construction works including those conducted by relevant subcontractors.
The risk assessment should be conducted for each operation process, and the summary of the assessment should include information concerning the matters described below.

1. Outline of construction
   (1) Outline of the specific construction
   (2) Operation process
   (3) Specific work in each operation process

2. Identification of dangers and hazards in each operation process
   (1) Work methods (including type, number, layout of machines and equipment to be used in conducting the work)
   (2) Dangers or hazards, potential accidents
   (3) Planned accident prevention measures (including reduction measures of dangers or health hazards such as radiation exposure reduction measures (wearing a protective mask, restriction of work hours, etc.))

3. Estimation of risk in each operation process and setup of the priority of the risk reduction measures
   (1) Identified dangers or hazards
   (2) Estimated risk
   (3) Priority of the setup risk reduction measures

4. Details of the risk reduction measures in each operation process
   (1) Details of the risk reduction measures (including radiation exposure reduction measures, and type, number, layout of machines and equipment to be used in conducting the works)
   (2) Estimation of risk after taking measures, and residual risks (date when measures are taken, matters to be considered in the following time)

5. Checker

(1) A person responsible for the risk assessment and risk assessment implementer, implemented date

(2) A person responsible for construction (only when the works which TEPCO does not conduct by itself are outsourced)

Attachment 4

Points to be Noted in Submitting the Record of the Results of Medical Examinations for Designated Emergency Workers

1 Submission of a copy of a record of the results of medical examinations pursuant to Article 59-2, paragraph 1 of the Ionizing Radiation Ordinance.

(1) Form 5 of the Ordinance on Industrial Safety and Health Act (Ministry Of Labour Ordinance No. 32 of 1972) should include the results of the temporary medical examination by the instructions based on Article 66, paragraph 4 of the Industrial Safety and Health Act (Act No. 57 of 1972).

Form 1 and 2 of the Ionizing Radiation Ordinance and Form 2 pursuant to the Ordinance on the Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works, etc. (Ministry of Health, Labour and Welfare Ordinance No. 152 of 2011, (hereinafter referred to as the “Ionizing Radiation Ordinance for Decontamination”) should include results of the medical examinations conducted when the worker are transferred to other works. It should be noted that the emergency ionizing radiation medical examination card (Form 1-3) for exceptional emergency workers for which submission is prescribed in Article 59-2 of the revised Ionizing Radiation Ordinance to be enforced on 1 April 2016 should include results of medical examinations conducted at the time when the workers are transferred to other works and when they terminate their employment.

(2) For data concerning workers engaged in works at the power plant site, the plant director or primary contractors should, together with subcontractors engaged in works which they conduct by themselves, submit a report to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare. However, this does not apply to the case where the number of both relevant subcontractors and workers concerned are small and it is recognized that the reporting by the relevant subcontractors will be ensured.

Since the reporting is obliged for all employers who have emergency workers engaged in radiation works (including the new employer of a worker employment when the worker concerned changes his/her employment), in nuclear facilities, etc. other than the power plant, primary contractors should submit the report to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and

Welfare, together with those concerning workers of subcontractors in principle, from the viewpoint of conducting appropriately the long-term healthcare of emergency workers.

(3) The report should be conducted, in principle, by submitting copies of medical examination cards (electromagnetic data in PDF form obtained by scanning the medical examination cards concerned in the case where electromagnetic recording media are used). In the case where the results of medical examinations are managed electromagnetically in each office and reporting by the above method is difficult, the reporting should be conducted in an electromagnetic record filed in the CSV data format shown in Annex 1 for general medical examination results and that shown in Annex 2 for medical examination results conducted pursuant to the Ionizing Radiation Ordinance, or Ionizing Radiation Ordinance for Decontamination.

It the case where two or more persons' results or two or more medical examination times are shown including past medical examination results, or two or more workers' medical examination results are shown on one medical card, the report should be submitted after clarifying the examination results of concern by placing checks on the examination results to be reported and others should be deleted with diagonal lines, or attaching separately a list which shows the workers and date of the medical examination of concern.

(4) Form 1 should be attached to the report after fulfilling the requirement in order to correctly distinguish the reporting of concern, number of cases, etc.

2. Reporting of controlling status of exposure dose, etc. pursuant to Article 59-2, paragraph 2 of the Ionizing Radiation Ordinance

(1) Reporting on controlling status of exposure dose, etc. at the power plant site

The plant director should compile and submit a report concerning all designated emergency workers (including workers of primary contractors and relevant subcontractors) who engage in designated emergency works or radiation works at the power plant site to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare.

In this case, primary contractors and relevant subcontractors need not report again; however, changes in the description in the report such as changes in address or affiliated work place of workers should be compiled and reported by the primary contractors to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare. This may be done through TEPCO.

It should be noted that this should be applied to the reporting on controlling status of exposure

dose, etc. concerning exceptional emergency workers as obliged pursuant to Article 59-2 of the revised Ionizing Radiation Ordinance to be enforced on 1 April 2016.

(2) Reporting on controlling status of exposure dose, etc. in works at nuclear facilities other than the power plant.

Since the reporting is obliged for all employers who have designated emergency workers engaged in radiation works (including the new employer of a worker employment when the worker changes his/her employment) at nuclear facilities, etc. other than the power plant, primary contractors should submit a report to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare, together with those concerning workers of subcontractors in principle, from the viewpoint of conducting appropriately the long-term healthcare of emergency workers.

It should be noted that this should be apply to the reporting on controlling status of exposure dose, etc. concerning exceptional emergency workers as obliged pursuant to Article 59-2 of the revised Ionizing Radiation Ordinance to be enforced on 1 April 2016.

(3) The reporting should be conducted in electromagnetic data filed in the CSV data format shown in Annex 3.

Form 1 should be attached to the report after fulfilling the requirement in order to correctly distinguish the reporting of concern, number of cases, etc.

3 Reporting of results of the cancer screening conducted according to the ministerial guidance

(1) When the examination such as cancer screening specified in 2 of Section 2 of the ministerial guideline is conducted for emergency workers, its results including the doctor's diagnosis and comments should be reported to the Industrial Health Division, Industrial Safety and Health Department, Labour Standards Bureau, Ministry of Health, Labour and Welfare, after obtaining the workers' consent. When the photograph of a crystalline lens is taken in the examination of the eyes with respect to cataract, the photograph should be submitted as electromagnetic data, etc.

(2) The reporting should be conducted, in principle, by submitting copies of medical examination cards (electromagnetic data in PDF form obtained by scanning the medical examination cards concerned in the case where electromagnetic recording media are used). In the case where the results of a medical examination are managed electromagnetically in each office and the reporting by the above way is difficult, the reporting should be conducted in electromagnetic

record filed in the CSV data format shown in Annex 4.

It should be noted that, in the case where the workers' consents could not be obtained, a report should be submitted describing the type of medical examination, personal ID number, central registration number, furigana of the worker's name, name of the worker, birth date, examination date with the comment "Submission not approved" in the examination item column. Others should be dealt with in the same manner as the contingency 1 (3) and 1 (4).

(3) When one chest X-ray inspection is conducted both for a general medical examination and a lung cancer screening based on the ministerial guideline, the results should be reported not only based on subsection 1, but also as results of cancer screening separately. In this case, the type of medical examination should be described in the report by submitting a copy of the medical examination card (or electromagnetic data in the PDF form obtained by scanning the medical examination cards concerned).

4. Others

When submitting electromagnetic data, media such as DVDs should be used in principle as the submitting media. It should be noted that, when submitted using USB memory devices etc., the USB memory devices concerned will not returned.

Form 1 (Related to Attachment 3)

Results of Long-term Healthcare of Workers in a Power Plant

1. Name of reporting company:
   Name of person-in-charge:
   TEL:
   e-mail:

2. Report dates: d m y

3. Covered exposure dose report period: m y to m y
   * Three-month period in principle

4. Covered period of the medical examination result report:
   * Note that it should be reported without delay after filling into the record.

5. Number of pages of the report, etc.: pages/file
   * In the case of a reporting with electromagnetic recording media, number of files should be given here (e.g.: PDF ○ files, CSV ○files).

6. Number of reporting event

Type	Number of events
General medical examination results	events
Ionizing radiation medical examination results	events
Work / exposure dose status (monthly)	events
Work / exposure dose status (Daily)	events
Other examinations	events

Annex 1

Data Format Concerning the General Medical Examination

(Points to be noted)

- Items in the left column of the table below should be separated with a comma for examination per person to make data fit on one line.
- In giving data, matters in the remarks column should be noted, especially for the unit in the blood test, etc.
- Describe as “”, “_” or “Not inspected” when the examination of concern was not conducted. (This is because it is impossible to judge whether “-” means “negative” or “not inspected”.)

Format of the report to be submitted	Remarks
Primary contractor company, Contact company, Type of examination (general medical examination/medical examination at the time of employment), Personal ID number, Central registration number, Furigana of worker’s name, Workers’ name, Birth date, Employed date, Sex (male or female), Examined date, Past illness, Subjective symptoms (none or description), Objective symptoms (none or description), Height (cm), Weight (kg), BMI, Abdominal girth (cm), Right eyesight (naked eye), Right eye sight (corrected), Left eye sight (naked eye), Left eye sight (corrected), Right ear hearing ability 1000 Hz (with remarks / without remarks), Right ear hearing ability 4000 Hz (with remarks / without remarks), Left ear hearing ability 1000 Hz (with remarks / without remarks), Left ear hearing ability 4000 Hz (with remarks / without remarks), Hearing test method (audiometer/others)	· Personal ID number: The number on the worker’s identification card issued by TEPCO to each worker. · Date: The “year” should be based on the western calendar.
Chest X-ray(direct/indirect), Photo date, Test results (NP - description), Film number, Sputum examination (NP - description), Systolic arterial pressure (mmHg), Diastolic blood pressure (mmHg)	· For the chest X-ray, the method to take photographs should be given. When combined with the chest cancer screening described in the ministerial ordinance, it should also be given in Annex 4.
Amount (g/dL) of hemoglobin, Red blood cell count (10,000 /	(Anemia examination)

mm^3),(%), Hematocrit (%), Number of blood platelets (10,000 / $mm^{3)}$	
GOT (AST) (IU/L), GPT (ALT) (IU/L), Gamma-GTP (IU/L), Total cholesterol (mg/dL), LDL cholesterol (mg/dL), HDL cholesterol (mg/d)L), Triglyceride (mg/dL),	(Liver function test)
Blood sugar (mg/dL), HbA1c (%)	(Blood sugar analysis)
Urinal sugar (+---++-+++), Protein in urine (+---++-+++), Uric blood (+---++-+++)	(Urinalysis)
Electrocardiogram (remarks)	(Electrocardiogram examination) :
Other examinations, Doctor's diagnosis (No abnormality - detailed examination required- medical treatment required- description), Name of the examining doctor, Name of the examining medical institution, Medical doctor's remarks, Name of the medical doctor who made remarks, Remarks	· Other inspections: Describe, if any, the results of inspections conducted simultaneously for items other than those of the general medical examination and ionizing radiation medical examination. The items shown in Annex 4 should be excluded.
Alcohol consumption, Age when alcohol consumption was started, Age when alcohol consumption stopped, Amount of alcohol consumed per day (as Japanese sake), Smoking, Age when smoking started, Age when smoking ended , Number of cigarettes smoked per day	(Lifestyle) · The number of cigarettes smoked should be given as in integer number. · The descriptions that are not integer expressions such as "20 or more per day" should be given in the smoking remarks column, when the number space is left blank.

Annex 2

Data Format Concerning the Ionizing Radiation Medical Examination, Temporary Medical Examination, and Emergency Ionizing Radiation Medical Examination

(Points to be noted)

- Items in the left column of the table below should be separated with a comma for examination per person to make data fit on one line.
- In giving data, matters in the remarks column should be noted, especially for the unit in the blood test, etc.
- Describe as "", "_" or "Not inspected" when the examination of concern was not conducted.

(This is because it is impossible to judge whether "-"means "negative" or "not inspected".)

Format of the report to be submitted	Remarks
Primary contractor company, Contact company, Type of examination (the Ionizing Radiation Medical Examination, Temporary Medical Examination, and Emergency Ionizing Radiation Medical Examination), Personal ID number, Central registration number, Furigana of worker's name, Workers' name, Sex (male or female), Birth date, Employed date, Judgement and actions, Examined date,	Personal ID number: The number on the worker's identification card issued by TEPCO to each worker. · Date: The "year" should be based on the western calendar.
White blood cell count (/ mm^3), Lymphocyte (%), Monocyte (%), Atypical lymphocyte (%), Neutrophil perched (%), Neutrophil segmented (%), Neutrophil total (%), Eosinophil(%), a Basophilic leukocyte (%), Red blood cell count (x 10,000 / mm^3), Hemoglobin content (g/dL), Hematocrit (%), Others	(Blood test)
Opacity of crystalline lens (yes / no),	(Inspection of eyes)
Thyroid stimulating hormone (TSH), Free triiodothyronine (free T3), Free thyroxine (free T4),	(Thyroid gland)
Rubor (yes / no), Dryness or vertical line (yes/ no), Ulcer (yes / no), Abnormal nails (yes / no)	(Inspection of the skin)
Weight	
Others inspections, Systemic view, Subjective symptom , Reference matter, Doctor's diagnosis (No abnormality - detailed examination required- medical treatment required- description), Name of the examining doctor, Name of the examining medical	· Other inspections: Describe, if any, the results of inspections conducted simultaneously of items

institution, Medical doctor’s remarks, Name of the medical doctor who made remarks, Remarks	other than those of the general medical examination and ionizing radiation medical examination. The items shown in Annex 4 should be excluded.

Annex-3-1

Data Format Concerning Work / Exposure Dose

(Points to be noted)

- Items in the left column of the table below should be separated with a comma for examination per person to make data fit on one line.
- In giving data, matters in the remarks column should be noted.

Format of the report to be submitted	Remarks
Primary contractor company, Contact company, Furigana of the worker's name, Workers' name, Birth date, Sex (male or female), Personal ID number, Central registration number, Exposure dose before being engaged in emergency works, Postal code, Present address, Telephone number, Name of affiliated office at the time of emergency works, Address of affiliated office at the time of emergency works, Telephone number, Name of present affiliated office, Address of present affiliated office, Telephone number	(Information to identify individuals) · For foreigners, in the case where they do not have a name written with Chinese characters, the name should be given in the Roman alphabet, and the address column should be filled in with their present address and their address in the mother country as well as their nationality. · Birth date: The "year" should be based on the western calendar. · Personal ID number: The number of the worker's identification card issued by TEPCO to each worker. · Exposure dose before being engaged in emergency works: When unclear, the registration number of his/her radiation passbook should be used. · Name of affiliated office at the time of emergency works, location of affiliated office at the time of emergency works, telephone number, name of present affiliated office, location of present affiliated office, telephone number should be given when changed from the previous report. · In the case where there is no present affiliated office, fill in the "Name of present affiliated office" column with "None".
Covered period (m y), Start date engaged in the works this month, Effective dose by external exposure	(Cumulative dose during the covered months) · Cumulative dose during the period concerned should be reported once a month during the period when engaged in emergency works and once in three months during the

(mSv), Equivalent dose to crystalline lens of the eye (mSv), Equivalent dose to skin (mSv)	period when engaged in regular radiation works. · The “year” should be based on the western calendar. · Temporary exposure doses should be accepted at the time of reporting. When corrected at the time of fixing the work, etc., the corrected exposure dose should be reported in the modified report when reported subsequently. When temporary ones were used, the statement “temporary” should be noted in the “Remarks” column.
Committed dose (mSv), Measured date, Ingested date, Nuclide, Measured value (Bq or cpm), Nuclide, Measured value (Bq or cpm), Nuclide, Measured value (Bq or cpm)	(Results of internal exposure dose measurement) · Measured value (Bq or cpm): The unit should be typed. (Bq or cpm should be typed after the numerical value in half-width characters.)
Distinction of regular/designated emergency works (regular – designated emergency), Location of work, Specific work, Use of stable iodine, Remarks	(Location of work and specific work) · Location of work: Location of work should be given even in the case of regular work. When engaged in radiation works in the TEPCO Fukushima Daiichi Nuclear Power Plant, the name of the facility concerned should be given. · Specific works: this column should be filled in when engaged in designated emergency works. For works which were engaged in, in the case where the "Radiation work notification during emergency works” has been submitted by the nuclear facility employer or primary contractor to the Labour Standards Inspection Offices with jurisdiction, the notification date, name of works and received date should be given. In the case where this has not been submitted, the primary contractor and relevant subcontractors should write the name of the primary contractors and name of the contract ordered from the nuclear facility employer, and the name of the construction that the subcontractor was contracted for. · Use of stable iodine: When stable iodine has been taken, the period should be given. If not taken, “No” should be written.

Data Format Concerning Daily Exposure Doses

(Points to be noted)

- Items in the left column of the table below should be separated with a comma for examination per person to make data fit on one line.
- In giving data, matters in the remarks column should be noted.

Format of a report to be submitted	Remarks
Primary contractor company, Contact company, Furigana of worker's name, Workers' name, Birth date, Sex (male or female), Personal ID number, Central registration number, Start date of measurement, End date of measurement, Effective dose by external exposure (mSv), Measured position of the body (breast, neck, hand)	(Information to identify individuals) · Personal ID number: The number of the worker's identification card issued by TEPCO to each worker. When the start date of measurement is unclear, fill in the column with "0:00:00" and when the end date of measurement is unclear, fill in the column with "23:59:59". (External dose) · Daily doses should be filled in for one month during the period when engaged in emergency works, and for three months during the period when engaged in regular radiation works. · One dose measurement should be recorded on one line. · When there are two or more measurement positions (breast, head, hand, etc.), this form should be prepared for each position.

Annex 4

Format of the Report to be Submitted Concerning Other Inspections and Health Consultation/Health Guidance

(Points to be noted)

- Items in the left column of the table below should be separated with a comma for examination per person to make data fit on one line.
- The columns from the (Cataract) to (Others) should be left blank in the case of health consultation and guidance.
- In giving data, matters in the remarks column should be noted, especially for the unit in the blood test, etc.
- When the photograph of the crystalline lens is taken in the examination of the eyes with respect to cataract, the photograph should be submitted by electromagnetic data, etc.
- Describe as "", "_" or "Not inspected" when the examination of concern was not conducted. (This is because it is impossible to judge whether "-" means "negative" or "not inspected".)

Format of a report to be submitted	Remarks
Primarycontractor company, Contact company, Type of medical examination (other inspection, health consultation, etc.), Personal ID number, Central registration number, Furigana of worker's name, Workers' name, Birth date, Name of the examining medical doctor, Name of examining institute,	· Personal ID number: The number on the worker's identification card issued by TEPCO to each worker. · Date: The "year" should be based on the western calendar.
Cataract inspection method, Remarks on an eye,	(Cataract)
Remarks on the skin,	(Skin)
Thyroid stimulating hormone (TSH), Free triiodothyronine (free T3), Free thyroxine (T4), TSH receptor antibody (TRAb), Anti-thyroid microsomal antibody (MCPA), anti-thyroid peroxydase antibody (anti-TPO antibody), Anti-thyroglobulin antibody (TgAb), Thyroid ultrasound	(Thyroid gland)
Abdominal X-ray fluoroscopy, Gastroendoscopy, Helicobacter pylori, Pepsinogen 1 (ng/mL), Pepsinogen 2 (ng/mL), Pepsinogen 1/2 ratio,	(Upper gastrointestinal tract and the stomach)
Fecal occult blood, Large intestine X-ray fluoroscopy, Large	(Lower digestive tract and

intestine endoscope, Chest X-ray (direct / indirect), Photography date, Inspection result (NP / description), Film number, Sputum cytodiagnosis (NP / description)	the large intestine) (Lung)
Head and neck, Chest, Abdomen, Other position of the body	(CT, MRI, etc.)
HBs antigen (HBsAg) (Qualitative), HBs antibody (HBsAb) (Qualitative), HBc antibody (HBcAb) (Qualitative), HBe antigen (HBeAg) (Qualitative), HBe antibody (HBeAb) (Qualitative), HCV antibody (HCV Ab) (Qualitative),	(Others (hepatitis B and hepatitis C))
Urea nitrogen, Creatinine, Uric acid,	(Renal function test)
Na, K, Cl, Ca, P,	(Serum electrolyte test)
High-sensitive CRP (mg/dL),	(Others)
items for health consultation and health guidance, Medical doctor's diagnosis (name of injury or sickness), Remarks	(Health consultation and health guidance)

Annex 3

Labour Standards Bureau Notification No. 0826-3
26 August 2015

To:
Chairpersons of the related employers groups, as listed in the separate sheet

From:
Director
Labour Standards Bureau
Ministry of Health, Labour and Welfare

Formulation of the: “Guidelines on Occupational Safety and Health Management at the TEPCO Fukushima Daiichi Nuclear Power Plant”

The continuing support and understanding in administrating actions of the Occupation Safety and Health Department are gratefully acknowledged.

The Ministry of Health, Labour and Welfare has repeatedly instructed thorough implementation of occupational safety and health management of works at the TEPCO Fukushima Daiichi Nuclear Power Plant (hereinafter referred to as the "power plant") which was the site of the accident associated with the East Japan Great Earthquake on 11 March 2011 to primary contractors, etc. who have undertaken construction works in TEPCO and the power plant through the Labour Standards Bureau Notification No. 1222-1 (22 December 2011) and other notifications.

Works for decommissioning, etc. are now progressing. However, last year, the number of occupational accidents increased significantly and a fatal accident occurred in January and in August this year. With the increase in the number of construction projects such as those to take measures against contaminated water, the number of workers at the power plant per day has doubled from that of one year ago; increasing from approximately from 3,500 to 7,000. Though the monthly average exposure dose has tended to decrease since October 2013, the number of workers whose exposure dose has exceeded 5 mSv remain unchanged, and total exposure dose of all workers has remained high since August 2013.

Under such a situation, the Inter-Ministerial Council for Contaminated Water and

Decommissioning Issues revised the Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station on 12 June 2015. The revision included: (1) Strengthening the occupational safety and health management system undertaken by TEPCO and the primary contractors together; (2) Improving the level of occupational safety and health management by the implementation of risk assessment by TEPCO, primary contractors and relevant subcontractors; and (3) Considering effective exposure dose reduction measures in terms of methods, equipment, facilities and construction machines and implementing those reduction measures by incorporating said measures into the construction plan from the stage of placing orders.

In order to implement these actions effectively and efficiently, the Ministry of Health, Labour and Welfare formulated a guideline to show the instructions in an integrated manner, "Guidelines on Occupational Safety and Health Management at the TEPCO Fukushima Daiichi Nuclear Power Plant" (Labour Standards Bureau Notification No. 0826-1, 26 August 2015) as shown in the annex.

In line with this, you are strongly requested to make those known to your group members and properly promote the prevention of occupational accidents at the power station while recognizing the objectives of the guideline.

Separate sheet

Japan Industrial Safety and Health Association
Japan Construction Occupational Safety and Health Association
National General Contractors Association of Japan
Japan Federation of Construction Contractors

The Federation of Electric Power Companies of Japan (FEPC)
The Japan Electric Association
The Japan Electrical Manufacturers' Association

Annex 4

Labour Standards Bureau Notification No. 0826-4
26 August 2015

To:
Secretary-General of the Nuclear Regulation Authority, the Nuclear Regulation Authority
Director General of the Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry

From:
Director
Labour Standards Bureau
Ministry of Health, Labour and Welfare

Formulation of the: "Guidelines on Occupational Safety and Health Management at the TEPCO Fukushima Daiichi Nuclear Power Plant"

The continuing support and understanding in administrating actions of the Occupation Safety and Health Department are gratefully acknowledged.

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In line with this, you are strongly requested to properly promote the prevention of occupational accidents at the power station while recognizing the objectives of the guideline.