

Review and Follow-up of Fukushima Daiichi NPS Workers Eligible for Long-Term Health Management Following Internal Exposure Dose Correction

Reference
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Tokyo Electric Power
Company

- TEPCO has been implementing various medical examinations (long-term health management) based on its own standards that it has added on to the guidelines of the Ministry of Health, Labour, and Welfare. Following the correction in internal exposure dose (previously announced on July 5, 2013), workers eligible for long-term health management are being reviewed.
- As a result, the number of those newly eligible for long-term health management increased by 30 people in various cancer screenings and by 121 people in thyroid ultrasound examinations. The number of workers eligible after the correction is 1,307 people in various cancer screenings and 1,972 people in thyroid ultrasound examinations.

(Reference: Outline of the internal exposure dose correction)

- Number of workers subject to inspection (population parameter) 19,592 people (TEPCO 3,290 people; contractors 16,302 people)
- Upward revision (maximum value +48.91mSv) 452 people (TEPCO 30 people; contractors 422 people)
- Downward revision (maximum value-9.24mSv) 27 people (TEPCO 2 people; contractors 25 people)

Outline of the Ministry of Health, Labour, and Welfare's Guidelines for Maintaining and Enhancing the Health of Emergency Workers, etc.

Eligible persons	Examination items (roughly once per year)	
Effective dose from designated emergency work*1 exceeds 50mSv	Eye examination for cataracts*2	<ul style="list-style-type: none"> • Eye examination for cataracts using a slit-lamp microscope • Ideally, a photo of the lens of the eye should be taken
Effective dose from designated emergency work exceeds 100mSv	Thyroid gland examination*2	<ul style="list-style-type: none"> • Examination of thyroid-stimulating hormone (TSH), free triiodothyronine (free T3) and free thyroxine (free T4) through blood draw • Neck ultrasound if required by a doctor based on the results of the above examinations and exposed dose, etc.
	Stomach cancer screening*2	Stomach x-ray fluoroscopy or stomach endoscopy
	Lung cancer screening*2	Chest x-ray exam and sputum cytology
	Large intestine cancer screening*2	Stool test for occult blood

***1: Emergency work at the TEPCO Fukushima Daiichi Nuclear Power Station due to the Great East Japan Earthquake which occurred on March 11, 2011, designated by the Minister of Health, Labour, and Welfare (Emergency work designated by the Minister of Health, Labour, and Welfare based on Article 59-2, Item 1 of the Ordinance on Prevention of Ionizing Radiation Hazards (2011 Notification 402 of the Ministry of Health, Labour, and Welfare))**

***2: Implemented at each company (each operator) for applicants**

TEPCO's Own Efforts in Addition to the Ministry of Health, Labour, and Welfare's Guidelines

Eligible persons	Examination items (roughly once per year)		Eligible persons*4
Was involved in designated emergency work, and the total of the subsequent cumulative effective dose at TEPCO's nuclear power station up to the end of March 2016 and the effective dose from designated emergency work exceeds 50mSv . However, those eligible for long-term health management based on the guidelines of the Ministry of Health, Labour, and Welfare and excluded (because examinations are implemented based on the Ministry's guidelines)	Thyroid gland examination*2	<ul style="list-style-type: none"> Examination of thyroid-stimulating hormone (TSH), free triiodothyronine (free T3) and free thyroxine (free T4) through blood draw Neck ultrasound if required by a doctor based on the results of the above examinations and exposed dose, etc. 	Employees 534 people (1 person) Contractors 600 people (29 people)
	Stomach cancer screening*2	Stomach x-ray fluoroscopy or stomach endoscopy	
	Lung cancer screening*2	Chest x-ray exam and sputum cytology	
	Large intestine cancer screening*2	Stool test for occult blood	
Those requiring secondary examinations (detailed examinations) based on the above examinations	Detailed examination*2	Thyroid cancer, stomach cancer, large intestine cancer, lung cancer, leukemia	
Was involved in designated emergency work, and the total of the subsequent cumulative thyroid equivalent dose at TEPCO's nuclear power station up to the end of March 2016 and the thyroid equivalent dose from designated emergency work exceeds 100mSv *1.	Thyroid gland examination*2	Neck ultrasound	Employees 976 people (2 people) Contractors 996 people (119 people)

*1: The thyroid equivalent dose evaluation is conducted individually at TEPCO in order to identify those that should undergo a neck ultrasound examination.

*2: TEPCO covers the examination costs. TEPCO covers part of the costs for the detailed examinations.

*3: A health consultation service desk was installed by TEPCO, and a framework for responding to various inquiries, including this system, has already been established.

*4: Selected based on the dose at Fukushima Daiichi as of the end of March 2013. The number in parentheses is the number of additional people following the review of internal exposure dose.

Follow-up Associated With Review of the Internal Exposure Dose

- Re-dissemination of evaluation methods
 - Ensure that the “Evaluation method of internal exposure dose at the Fukushima Daiichi Nuclear Power Station” stipulated by TEPCO is used by all contractors conducting radiation work on the premises of the Fukushima Daiichi Nuclear Power Station.
- Explanation to those subject to dose review and correction of the radiation management notebook
 - The reason for changes will be carefully explained to all TEPCO workers subject to review, and all the radiation management notebooks will be corrected.
 - Corrections to the radiation management notebooks, etc., implemented by contractors will be supported in an appropriate manner.
 - ◆ Information-sharing with the Radiation Effects Association and provision of the obtained information to the contractors
 - ◆ Information-sharing among the electric utilities and provision of the obtained information to the contractors, etc.
- Establishment of consultation services
 - Establish a consultation service to handle inquiries from emergency workers
 - ◆ Continue the services at the contractors until explanation to workers subject to dose review and correction of radiation management notebooks are complete
 - ◆ Actively spread word about the consultation services by disseminating the information through contractors, posting the information in the power station, and sending direct mail, etc.
- Implementation of health management
 - Implement appropriately based on the guidelines of the Ministry of Health, Labour, and Welfare. In addition, provide the necessary support to contractors, such as referral of medical institutions, etc.
 - Send information to those eligible to TEPCO’s own long-term health management, as appropriate.