provisional translation

Summary of Basic Policy for the Contaminated Water Issue (decided by Nuclear Emergency Response Headquarters on 2013/09/03)

Basic Policy: In order to realize the restoration and revitalization of Fukushima as soon as possible, it is a matter of urgency to fundamentally settle the contaminated water issue.

1. The Government of Japan has determined to play a proactive role in TEPCO's implementing the necessary countermeasures.
2. Beyond the follow-up measures, the preventive and multi-layered measures will be taken through identification of any potential risks.
3. The appropriate measures will be taken through intensive examination in order not to miss new events and to minimize the influence of them.

Government Initiatives

1. Inter-ministerial council

The GoJ establishes "Inter-Ministerial Council for Contaminated Water and Decommissioning Issues" with the chair of Chief Cabinet Secretary under the Nuclear Emergency Response Headquarters. It aims to mobilize the related technologies and expertise at home and abroad for the earliest and fundamental settlement of the contaminated water issue and to enable the entire Government to implement the necessary countermeasures.

2. Intergovernmental liaison office

The GoJ establishes "Intergovernmental Liaison Office for Contaminated Water Issue and Decommissioning" near the TEPCO's Fukushima Daiichi NPS. It aims to strengthen organizational structure, for example, by dispatching liaison staff from the related ministries to the site.

3. Intergovernmental council for coordination

The GoJ establishes "Intergovernmental Council for Fostering Mutual Understanding on the Contaminated Water Issue". It aims to properly responding to the contaminated water issue by strengthening cooperation and coordination among the government and stakeholders such as TEPCO at site and by swiftly responding to the needs of the municipalities and locals, as well as by enhancing information sharing structures and coordination at site.

4. Progress management and risk identification

The GoJ will play a proactive role in managing the process and progress for the sound progress of works on decommissioning and contaminated water countermeasures in addition to strengthening TEPCO's countermeasures. The GoJ will identify all of potential risks through the processes and will constantly consider concrete preventive measures and the way of emergency response utilizing such technical expertise as the Committee on Countermeasures for Contaminated Water Treatment. The timing of the implementation of each measure will be accelerated through consideration of all possible methods such as examinations of the work processes, application and modification of technologies.

5. Financial support

The GoJ will provide budgetary support for the expenditure of the whole project in order to install the land-side impermeable walls by the frozen soil method and to develop the multi-nuclide removal equipment with superior performance.

6. Monitoring activities, prevention of reputational damages, reinforcement of global communications

In order to prevent reputational damages or misinformation, the GoJ will promptly provide the accurate information on the results of observation of radioactive levels in the sea, in addition to reinforcement of open sea monitoring activities. The GoJ will establish the structure for information sharing and coordination among the relevant organizations in order to deliver integrated international public relations.

Countermeasures for the Contaminated Water Issue at TEPCO's Fukushima Daiichi Nuclear Power Station

- Contaminated ground water was detected in the area between the turbine buildings and plant port of the Fukushima Daiichi NPS.
- Fundamental countermeasures will be taken in several phases in addition to the immediate countermeasures.

Three principles for contaminated water countermeasures

1. Removing the source of the contamination
2. Isolating ground water from the contamination source
3. Preventing leakage of the contaminated water

Immediate countermeasures

1. Removing water containing high amount of radioactive materials from the trench (underground space where the pipes and electronic cables are set) (start from August 22)【Removing】
2. Improving the soil by sodium silicate (liquid glass), paving the land surface with asphalt, pumping out the underground water (pumping out: start from August 9) 【 Isolating】【Preventing leakage 】
3. Pumping out ground water from the mountain side (Bypassing ground water)【 Isolating】

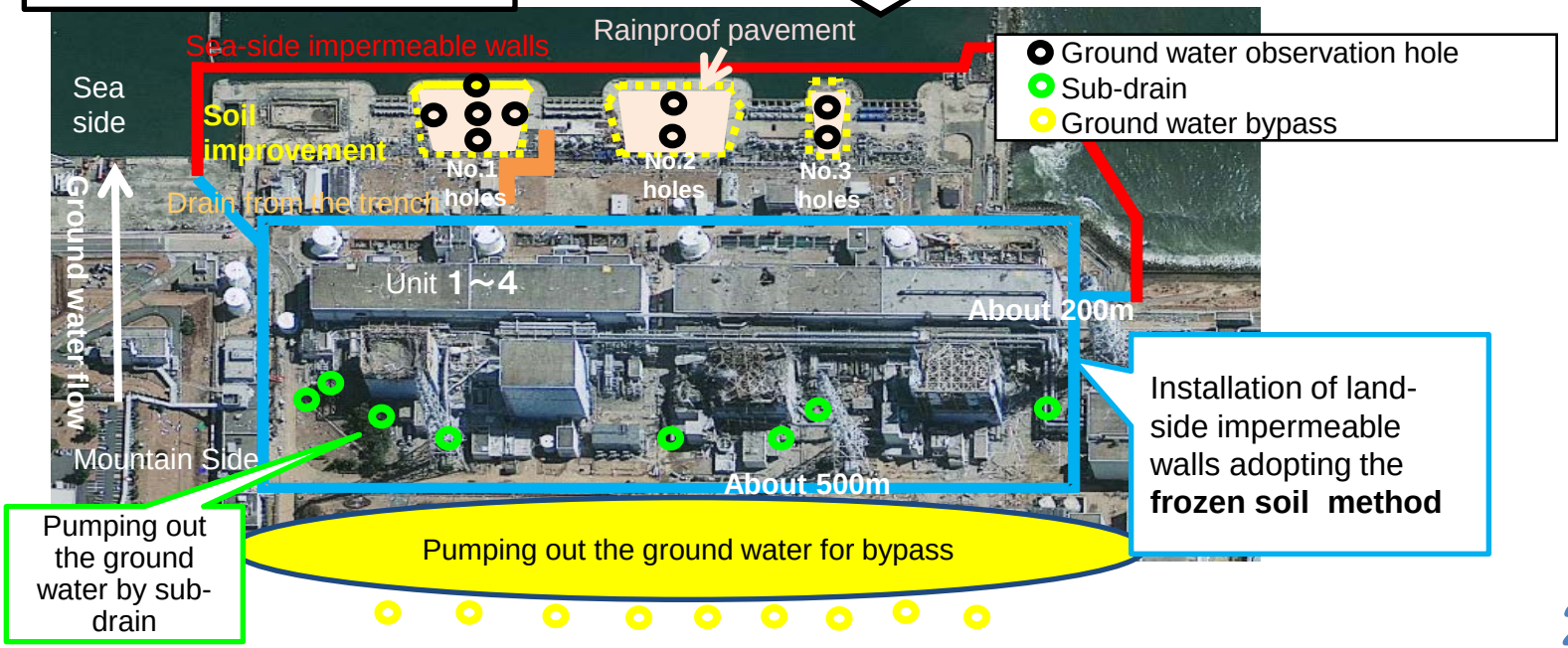
Fundamental countermeasures
（Coming 1-2years）

1. Pumping out the ground water from the sub-drains【 Isolating 】
2. Installation of sea-side impermeable walls 【 Preventing leakage 】
3. Installation of land-side impermeable walls adopting the frozen soil method【 Isolating 】【Preventing leakage 】
4. Installation of high performance contaminated water treatment equipment【Removing】 etc.

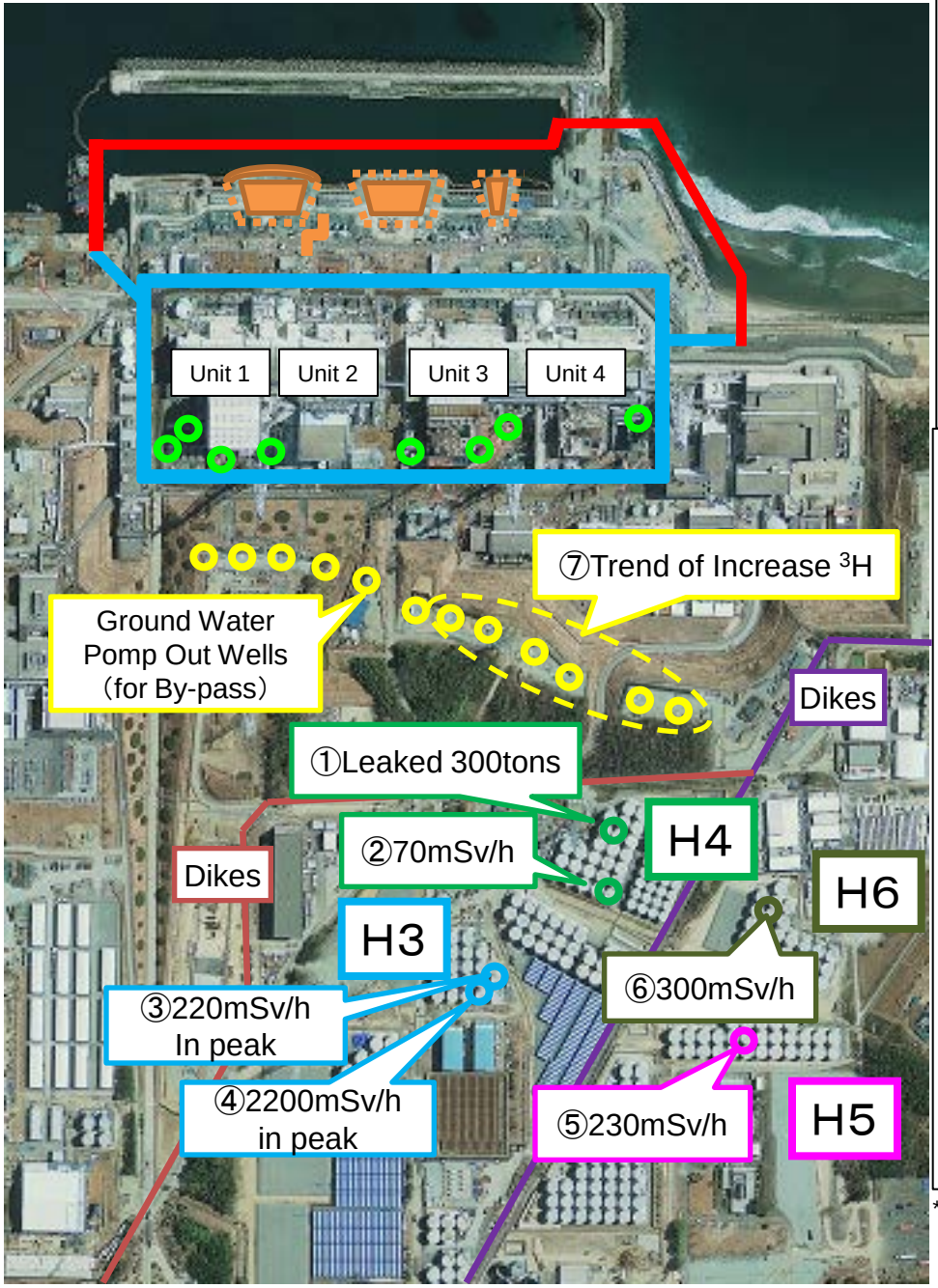
Current situation of the ground water

TEPCO estimates that the whole area of units 1 to 4 has approx. 1000 m^3 of ground water flow every day and 400 m^3 of this flows into the basement of the facility buildings. And some part of the other water is considered to be contaminated by the water in the trench and flows into the port through the soil.

Overview of the countermeasures



Leakage of Contaminated Water from Tanks and Countermeasures



1. **Enhance the management of tanks and surrounding area（Direction on Aug.26+Basic Policy(6.) on Sep.3）**
   （"normally closed" use of drain valves, Reinforce tank bottoms by concrete, Install level gauges and leak detectors, Install centralized annunciators）
2. **Reinforce patrol**（Increase patrols around tanks from twice to four times a day, Improve patrol procedures to record details such as air dose rate, etc.）
3. **Accelerate construction of welded joint tanks and replace bolted joint tanks**
4. **Accelerate treatment of contaminated water（Start ALPS operation in order from Sep.）and reduce air dose rate by removing contaminated soil**
5. **Identify any potential risks related to storage of highly-contaminated water and prepare its countermeasure**
6. **Strengthen regular monitoring activities in the sea area and on dikes into which contaminated water from leaking tanks or piping may flow**

Leakage of Contaminated Water from Tanks（figures show β dose）

【H4 Tank Zone】
①**300tons of contaminated water leaked** from Tank No.5 **(found Aug.19)**. Spread beyond leak barrier through a rain drain valve.
②**70mSv/h detected** at the bottom plate joint of Tank No.6**（Aug.31）.**

【H3 Tank Zone】
③**70mSv/h detected** at the bottom plate joint of Tank No.6**（Aug.31）.** The same part indicated **220mSv/h（Aug.31）、80mSv/h（Sep.1）.**
④**1800mSv/h* peak detected** at the southern side bottom plate of Tank No.4 **（Aug.31）Northern** side bottom plate **indicated 2200mSv/h peak (Sep.3).**

【H5 Tank Zone】
⑤**230mSv/h detected** at the ground under connection pipe Tank No.5-No.6 **（Aug.31）**

【H6 Tank Zone】
⑥**300mSv/h detected** at bottom plate joint of Tank No.7 **(Sep.3).**
※Related to above ①～⑥, possibility of leaked water flowing into the sea through the dikes is considered as unlikely because the dose rates of them stay relatively low.

【Ground water pump out well for by-pass】
⑦**Trends of increase of tritium showed** Well 7：30(Mar.), 470(Aug.), Well 11：57(Feb.), 300(Aug.), Well 12：450(Feb.), 900(Aug.)（Unit; Bq/L）. Rf. plant operational limit 60,000Bq／L.

* "1800mSv/h" is a value of "equivalent dose" which was measured for evaluating the effects of external exposure. In actual measurement, γ rays consists 1mSv/h out of 1800mSv/h, and the rest consists β rays, therefore its influence to human body is limited. Whereas, the annual dose limits for workers', "50mSv/y" is "effective dose", thus, "1800mSv/h" and "50mSv" are not comparable.

Schedule for Three Principles for the Countermeasures against Contaminated Water Issue