

Integration of Information system, FUA update

Accelerating the timeline for the development of a comprehensive website that includes all monitoring and analysis results and Data Paring with detection limits alongside activity concentrations

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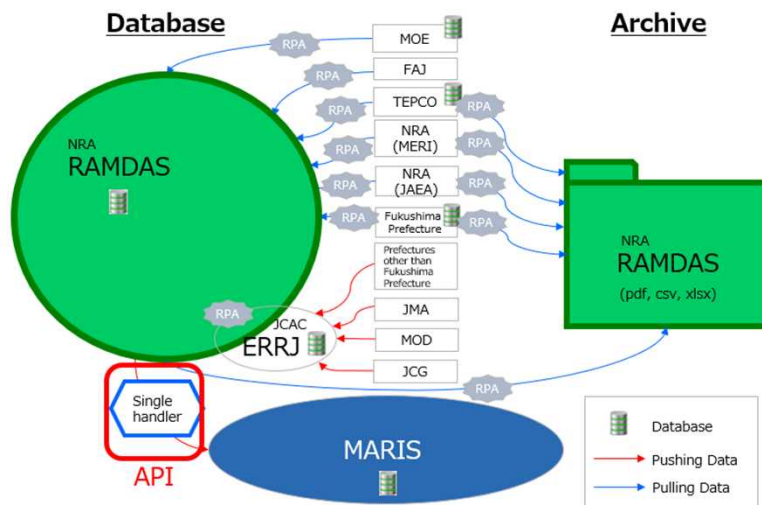
May 26, 2025 (IAEA review mission)

- Accelerating the timeline for the development of a comprehensive website that includes all monitoring and analysis results
- Data Paring with detection limits alongside activity concentrations
(The compilation of monitoring data by different detection limit(rapid or precise analysis) in marine environmental samples and progress of integration about marine monitoring data



- The Task Force recommended accelerating the timeline for the development of a comprehensive website that includes all monitoring and analysis results.
- NRA presented plans for a new comprehensive system that would address the Task Force's recommendation from the previous mission that a comprehensive website containing all the monitoring and analysis results would be beneficial for the public and help to streamline the access and consumption of relevant data.
 - The Task Force welcomed this initiative but expressed some concern about the proposed timeline, with completion not expected until April 2027.

*Reference: Report 3: Third Review Mission to Japan after the Start of ALPS Treated Water Discharge (December 2024)
[third-alps-task-force-mission-report-after-the-start-of-the-discharge-200325.pdf](https://www.nra.go.jp/en/press/2024/12/20241225_03.pdf)



- Based on the Task Force's intention to accelerate the development, NRA decided **to provide data to MARIS via API by the end of FY2025 (until April 2026)**. This will consolidate all monitoring data on the IAEA's website, MARIS. NRA will strive to make the marine monitoring data of ALPS-treated water as accessible as possible.

However, due to technical challenges and budget constraints, NRA plans to maintain the schedule to develop systems for automatic data extraction from individual databases by the end of FY2026 (April 2027).



➤ All monitoring data should consistently include measurement uncertainty values and method detection limits alongside activity concentrations.

- The Task Force concluded that the current TEPCO's presentation of tritium monitoring data in seawater needs to be enhanced to avoid unnecessary confusion from the combination of results from analytical methods with significantly different detection capabilities.
- To improve clarity and transparency, monitoring results from rapid measurements (detection limit 10 Bq/L and more sensitive analyses (detection limits 0.1 Bq/L (electrolytic method) and 0.4 Bq/L (Distillation method)) should be presented separately with appropriate explanations of their distinct purposes and limitations

*Reference: Report 3: Third Review Mission to Japan after the Start of ALPS Treated Water Discharge (December 2024)
[third-alps-task-force-mission-report-after-the-start-of-the-discharge-200325.pdf](https://www.nra.go.jp/en/press/2024/12/20241225_03.pdf)

➤ **Analysis values must be explicitly labeled with the method used for analysis.**

This ensures that the analysis method is accurately conveyed even when the analysis values are transferred to another database.

➤ This year, the NRA database (RAMDAS) is being designed*. Additionally, coordination with the IAEA is planned to facilitate the identification of this data in the IAEA's MARIS.

*: NRA is evaluating whether to request relevant ministries, agencies, local government, and TEPCO, as data providers, to label the data. This process will ensure that analytical values are displayed in the RAMDAS database properly.



- The addition of labels distinguishing measurement methods to the analytical values will be executed as part of an initiative to incorporate other seawater attribute data with the analytical values.
- To gain a comprehensive understanding of tritium diffusion behavior, the NRA intends to publish previously unreleased attribute data, such as seawater salinity, temperature, and turbidity, by associating them with the analytical values.

Salinity	Lower depth of sampling(cm)
Temperature	Water content(%)
Turbidity	State of sample
Category	State of sampling point
Measurement type	Kind of sample(large classification)
Organization	Kind of sample(middle classification)
Mesh code	Kind of sample(small classification)
Latitude	note
Longitude	ID (Project ID)
Prefecture	(Basic Grid Square)
City, Town, Village	MeshID_250m
No. measurement point	MeshID_100m
Start date of sampling	MeshID_50m
Finish date of sampling	MeshID_20m
Correction base date	Distance from FDNPP(km)
Statistical error	Water Precise Analysis 0.1(Bq/L)
Detection lower limit	Water Precise Analysis 0.4(Bq/L)
Unit	Water Rapid Analysis 10.0(Bq/L)
Mass of sample (kg)	Fish Rapid Analysis All H-3 10.0(Bq/L)
Upper depth of sampling or Height of Measurement(cm)	Fish Precise Analysis TFWT H-3 0.1 (Bq/kg wet weight)
Lower depth of sampling(cm)	Fish Precise Analysis OBT H-3 0.5 (Bq/kg wet weight)
SS concentration (mg/L)	Seaweed Precise Analysis TFWT H-3 0.1(Bq/kg wet weight)
Water depth(m)	Seaweed Precise Analysis OBT H-3 0.5(Bq/kg wet weight)
Water content(%)	

Reference

Presentation materials for TFM held on 10 December, 2024

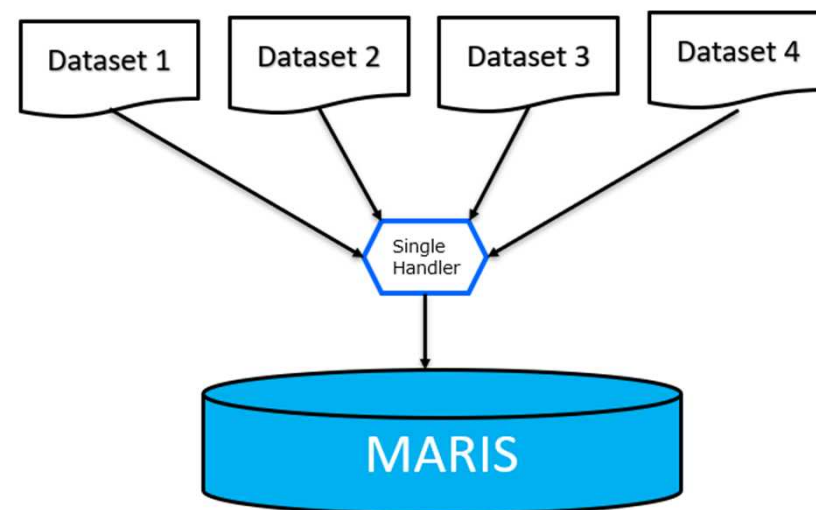
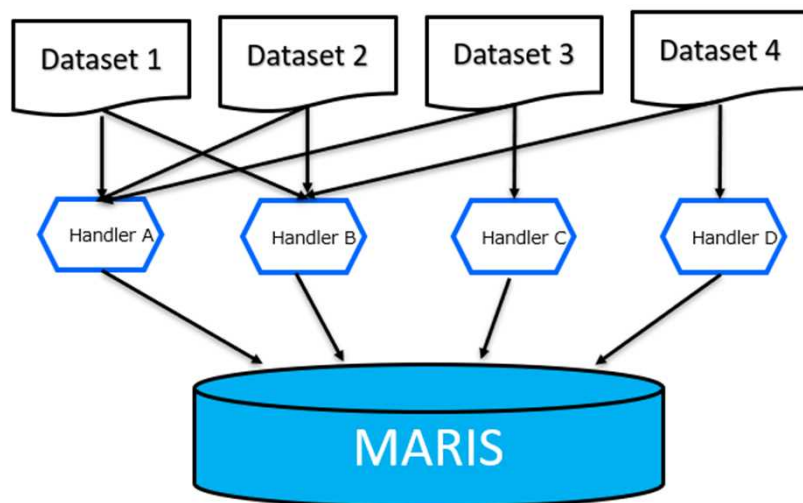
Consideration status for Integration of Sea Area Monitoring Data(1 of 2)



Further integration of information systems with respect to sea area monitoring data in Japan

Based on IAEA Task Force members' comments from the previous Review mission, **The IAEA Task Force recognizes that Government of Japan still needs to integrate up-to-date monitoring data.**

*The Information system: Each ministry, TEPCO, etc. have established databases (DBs) according to their own purposes, databases (DBs) and let the information available to the public on their websites.



➤ IAEA collects and publishes data from DBs all over the world including Japanese monitoring data.

➤ NRA considers to **integrate the information of each DB** in the portal site of the RAMDAS with an interface that is highly compatible with the IAEA's next-generation DB.



NRA will continue to consider the integration of information through our portal site with related agencies.

Consideration for integration of Sea Area Monitoring Data(2 of 2)

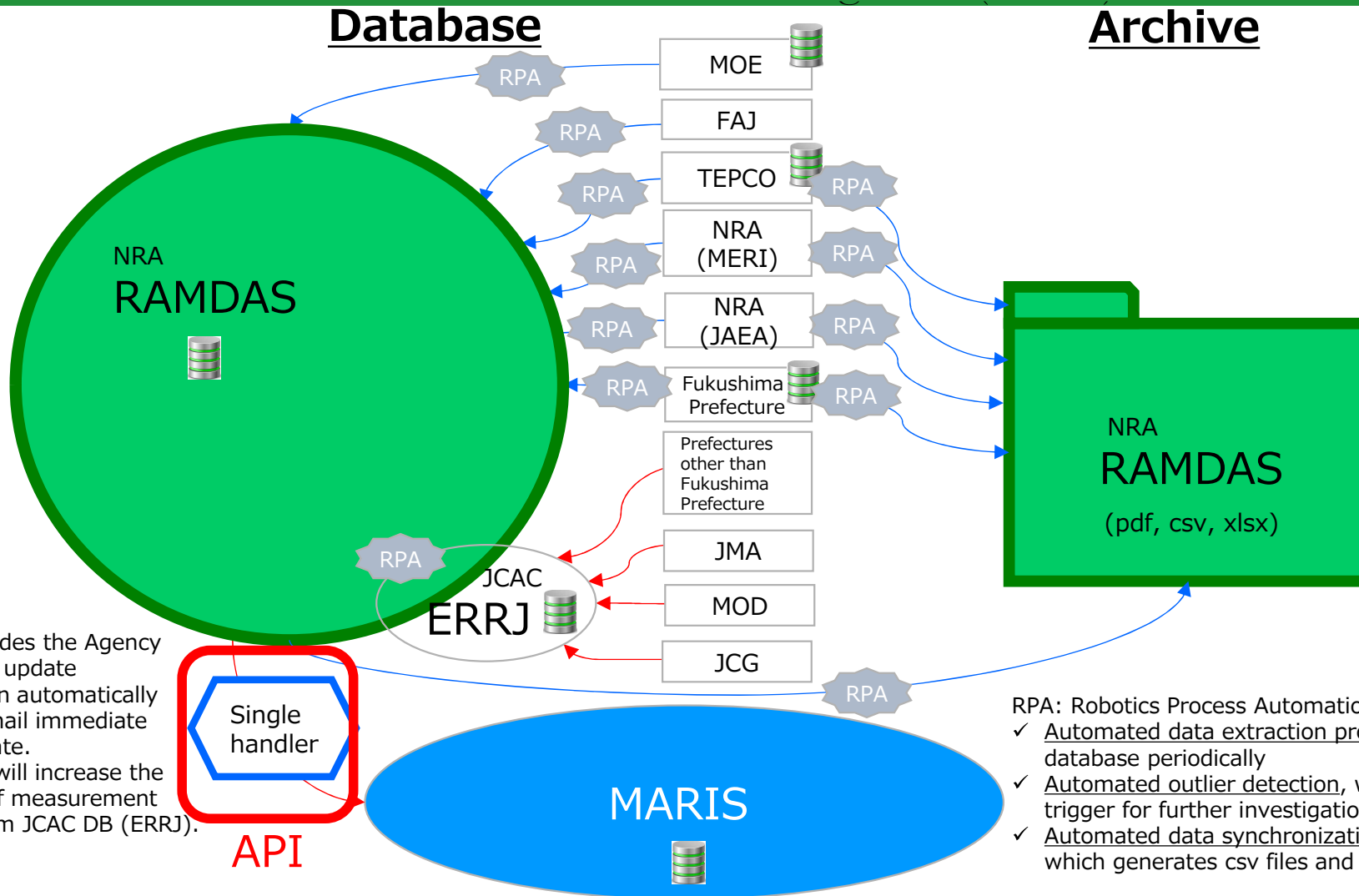
Near Future
As of 1st April 2027



Database

→ Pushing Data

← Pulling Data



RPA: Robotics Process Automation

- ✓ Automated data extraction process, which feeds data to database periodically
- ✓ Automated outlier detection, which gives alert to NRA as a trigger for further investigation
- ✓ Automated data synchronization between DB and Archive, which generates csv files and sends them to archive

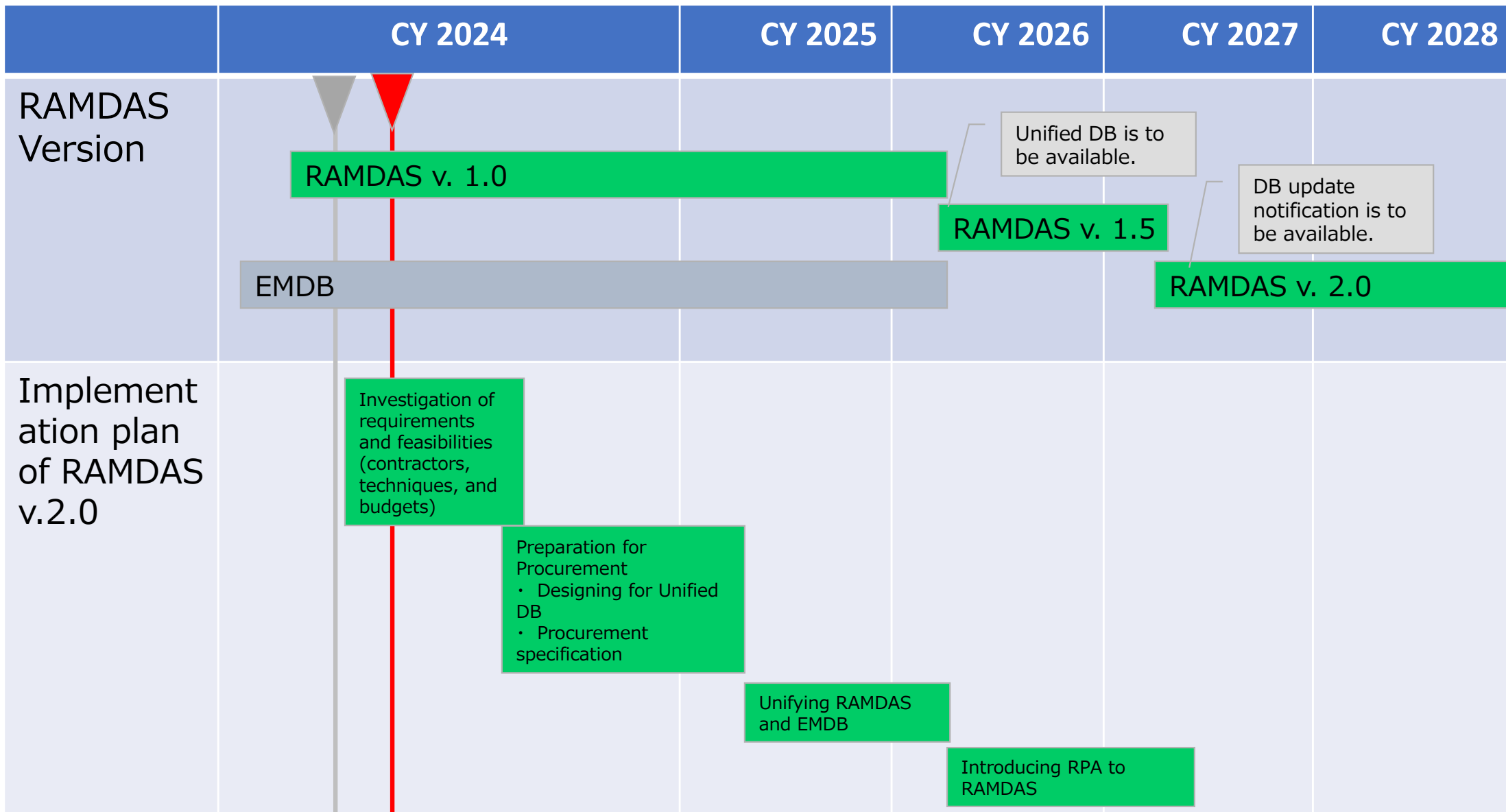
- ✓ NRA provides the Agency with a DB update notification automatically through email immediately after update.
- ✓ RAMDAS will increase the number of measurement points from JCAC DB (ERRJ).

API

- We can provide data in CSV files, but there may be another effective way of providing data. The idea is to create an **Application Programming Interface (API)** for the database and have the IAEA make API calls. In that case, there is no need to save the data in a file on RAMDAS data server. The IAEA can retrieve the data by calling the API whenever the IAEA needs it.
- If we provide a CSV file, we need to adjust the freshness of the data and create the CSV file in batches, and the data will inevitably be outdated. For this reason, we say that we can also provide the database as is.

Project Schedule

Table 4



NRA would like to help reduce the effort and burden of consolidating worldwide marine monitoring data through our initiatives.

Fourth Review Mission to Japan after the Start of ALPS Treated Water (26th-30th May, 2025)					
Date	Time			Location	Activities (GOJ Proposal)
May 26 (Mon)	10:00	~	12:30	?	TF internal meeting
	13:30	~	14:00	MOFA (Tokyo)	Opening Remarks
	14:00	~	17:00	MOFA (Tokyo)	Off site Monitoring, MEM (NRA(MD)/MOE/FP/TEPCO) - Results of 5th Task Force Meeting on MEM (MOE or NRA) - Integration of Information system, FUA update (NRA) - FAJ on MEM *1 - FP on MEM *1 - TEPCO's sea area monitoring and its results (TEPCO) - Responses to the findings of previous review mission (TEPCO)