廃 ア・汚染 水 が 第 事 美 の 全 体 像

The Overview of Project of Decommissioning and Contaminated Water Management

1 (株) 三菱総合研究所 (廃炉·汚染水対策事業事務局) ¹ Mitsubishi Research Institute, Inc. (Management Office for the Project of Decommissioning and Contaminated Water Management) 松本昌昭1、近藤直樹1、芦田高規1、河合理城1 Masaaki Matsumoto¹, Naoki Kondo¹, Takaki Ashida¹, Masaki Kawai¹

1. Purpose

To ensure safe and steady decommissioning at Fukushima Daiichi NPS, it is important for us to gather domestic and overseas wisdom for its research and development. Therefore, METI has set up the foundation in the FY2013 for carrying out the "Project of Decommissioning and Contaminated Water Management" which supports the R&D with a high level of technology.

The aim of this project is to consistently work on "Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi NPS" and measures for decommissioning and contaminated water at Fukushima Daiichi NPS.

2. Project Overview

We are committing to R&D not only for developing technology to retrieve fuel debris but also for improving the working environment including the internal investigation of Primary Containment Vessel (PCV)/Reactor Pressure Vessel (RPV), repairing and water stoppage of PCV and criticality management. In addition to the retrieval of fuel debris, the long-term integrity evaluation of fuel assemblies retrieved from spent fuel pool, the processing and disposal technologies of solid waste and measures for contaminated water have been studied and developed.

By the past R&D, a variety of technologies has advanced so that the reactor core status has gradually been revealed and useful information for studying the policies of fuel debris retrieval was gathered. The project results are released on our website.

URL: http://dccc-program.jp/





Demonstration Project for Technologies for Capturing Radioactive Substances from Soil: JGC Corporation, ATOX, AREVA NC, ANADEC Conduct verification tests of technology for capturing radioactive strontium from soil. **Demonstration Project of Technologies for the Decontamination of** Contaminated Water Tanks: IHI, Obayashi Corporation, Kobe Steel Conduct verification tests of decontamination technology for inside of bolted tanks. Demonstration Project for Unmanned Boring Technologies: Obayashi Corporation

Conduct verification tests of unmanned boring technologies in high-dose areas. **Demonstration Project for Verification Tests of Tritium Separation** Technologies: Kurion, RosRAO, Sasakura Engineering, Hokkaido University, Toshiba, Sou Innovation, NEXTIDE

Conduct verification tests of separation technologies for tritium which cannot be easily processed with existing cleanup systems.

Processing and Disposal of Solid Waste

Research and Development of Processing and Disposal of Solid Waste: IRID

Grasp properties of waste, and study the processing technology, the disposal concept and the safety assessment method.

Containing, Transportation and Storage of Fuel Debris

ODevelopment of Technologies for Containing, Transportation and Storage of Fuel Debris: IRID

Develop a storage canister which meet the conditions of fuel debris, and structure containing, transportation and storage systems for multiple retrieval methods of fuel debris.

Project of Upgrading Approach and System for Retrieval of Fuel Debris and Internal Structures: IRID

Retrieval of Fuel

Debris

Develop the technology needed for ensuring the confinement function, capturing and removing dust and monitoring of a nuclides, etc.

Advancement of Fundamental Technologies for Retrieval of Fuel Debris and Internal Structures: IRID, COMEX, Hamamatsu Photonics, Taisei Corporation, ANADEC, Createc, IHI, Cavendish Nuclear, ONET, $Q \cdot I$, Fujikura, RANDEC

Develop the elemental technology for cutting, dust collection and recovery of fuel debris, visual technologies, etc. and evaluate the technology establishment.

*Subsidized entities who participated in past projects related to Decommissioning and

Investigation of the reactor core status



Ensuring of Safety

Obvelopment of Corrosion Inhibition Technology for RPV and PCV: IRID

Confirm the applicability of corrosion inhibition measures to a full-scale machine for inhibiting corrosion of structure materials of RPV/PCV for a long time and maintaining the integrity.

Observe log ment and Management of Evaluation Method of Seismic Performance/Impact of RPV and PCV: IRID

Clarify the damage to important machines inside RPV/PCV and the pervasive effect by massive earthquake and examine measures for preventing and controlling the effect. **Operation** Operation Control Technologies of Fuel Debris: IRID Study the criticality management approach for every working process of more than one method and confirm the elemental technology is established.

Repairing Leaks from PCV

Operation Operation **Development of Repair and Water Stoppage Technologies for** Leakage Sections in PCV: IRID

Build a confinement function inside PCV and develop the repairing technology of leakage sections to keep it stable and determine if the technology is applicable to the full-scale machine.

OFull-scale Test for Repairing Leaks from PCV and Water Stoppage of PCV: IRID, JAEA

Use a mockup facility to conduct the full-scale test of repairing and water stoppage technologies and confirm that the technologies are established.

3. Role of Management Office

Since the start of the subsidized project, Mitsubishi Research Institute, Inc. has been serving as the Management Office with specialist of nuclear energy, project management, etc. We are practicing consistent project management which includes the solicitation of domestic and overseas research and development, the evaluation of proposal/presentation and the adoption, the work related to the subsidy grant, the management of project's progress, (management of monthly process, the on-site survey, hosting of progress/final report meetings), scrutiny of the subsidy spending (intermediate/final inspection of the subsidy amount), making payment, etc.



E-mail: hairo-contact@mri.co.jp

Management Office for the Project of