

Topics Fukushima

September 1, 2020

No.100



Our continuous efforts in these ten years will become a base towards “Restoration of Fukushima” and “Decommissioning”.

◆ On the occasion of the commemorable “Topics Fukushima No. 100”

Just after the accident of the Fukushima Daiichi Nuclear Power Station (hereafter referred to “1F”) of Tokyo Electric Power Company Holdings Inc. caused by the Great East Japan Earthquake on March 11, 2011, the Japan Atomic Energy Agency (hereafter referred to “JAEA”) has made various efforts such as environmental radiation monitoring, decontamination activities, and supports to the government and local governments.

In April 2014, the Sector of Fukushima Research and Development was established in JAEA. In this Sector, research and development towards the decommissioning of 1F and efforts related to environmental restoration are being conducted. On the occasion of the commemorable 10 years after the accident and just No. 100 issue of the Topics Fukushima, we interviewed Mr. Noda, Director General of Sector of Fukushima Research and Development about the past and future efforts of JAEA.

◆ March 2021 will be the 10th year since the 1F accident caused by the Great East Japan Earthquake. How do you think about your efforts in these 10 years?

Noda:

JAEA is assigned to one of the designated public institutions at the time of disaster based on Laws such as the Basic Act on Disaster Management. Therefore, JAEA sent the staff to Fukushima just after the accident, and started to various activities such as the demonstration of decontamination technology, environmental radiation measurements, and explanation to residents. Since the 1F accident was really unprecedented one in the world, the correspondence to the accident was our first experience. Therefore, we started the activities such as the development of new radiation measurement methods, in the fumbling state.

Through these efforts, I think we have produced many important research results. For example, the radiation monitoring data and the results of research and development that have been continuously

obtained were utilized in the cancelation of evacuation areas and preparation of the specific reconstruction bases.

As to the 1F decommissioning, many research and development projects have started in collaboration with the related organizations, based on the mid-to-long term roadmap formulated by the government. Since JAEA is the only one comprehensive research and development institute for nuclear energy, we actively participate in these projects. In particular, JAEA has lots of technological experience in properties grasp of nuclear fuel debris, elucidation of situation inside the reactors, disposal of radioactive waste and remote measurement technology. Therefore, JAEA has been playing a central role in these fields. I believe that accompanied by these activities, the concrete research results have come out.

In FY2014, JAEA established the Sector of Fukushima Research and Development that integrates the research and development related to Fukushima. The Sector has been preparing research bases such as “Naraha Center for Remote Control Technology Development” in Naraha Town, “Collaborative Laboratories for Advanced Decommissioning Science” in Tomioka Town, and “Okuma Analysis and Research Center” at the adjacent site of 1F in Okuma Town. The JAEA’s activities on 1F decommissioning and environmental restoration as a research organization have been highly evaluated not only in Japan but also all over the world. I believe that we will be able to contribute not only to the decommissioning but also to the restoration of Fukushima.



◆ Now research and development related to Fukushima is being attracting much attention in Japan. How do you think about the relation with foreign countries and the role of JAEA?

Noda:

Just after the 1F accident, western countries have supported Japan in many fields. Therefore, we have corresponded to the 1F accident, while incorporating oversea technology. Now, many projects are being promoted in collaboration with foreign countries and international nuclear energy organizations.

As to the 1F decommissioning, the Tokyo Electric Power Compony Holdings Inc. basically plays a central role. But JAEA also positively participates in the research and technological development related to the decommissioning. Furthermore, we intend to play a role in connecting domestic and oversea research organizations, and promote the research and development while playing a hub-like

role.

- ◆ In April 2020, there were major reorganization. For example, Collaborative Laboratories for Advanced Decommissioning Science and Fukushima Environmental Safety Center were integrated, and Okuma Analysis and Research Center and Safety Administration Department were newly organized. Based on these organizational revisions, how will you promote the research and development from now?

Noda:

There are two important points in this reorganization. The first is to promote research of decommissioning and environmental restoration together in order to strengthen the research and development. The second is to strengthen the organization and safety administration system, in preparation for the operation of the Laboratory No. 1, Okuma Analysis and Research Center that will play a role in analyzing solid waste from 1F.

Before this reorganization, the Collaborative Laboratories for Advanced Decommissioning Science had conducted research and development on decommissioning, while the Fukushima Environmental Safety Center had promoted those on environmental restoration such as radiation monitoring and environmental dynamics. However, there had been many research contents that are similar in the two sections, such as analysis of radioactive materials and development of radiation measurement technology. By the unification of research and development through the reorganization this time, I expect that we will be able to use the results of technological development in a wider range, and effectively utilize the human resources and equipment that support the research activities.

- ◆ By this reorganization, are you intend to strengthen the lateral relation?

Noda:

That's exactly right. In order to promote research effectively, the strengthen of the lateral relation is essential. Of course, we will continue to promote the conventional research activities along with the plan.

- ◆ How is the present status for the construction of Okuma Analysis and Research Center?

Noda:

The construction of the Laboratory No. 1 for the analysis of radioactive waste from 1F is progressing on schedule. It will be almost completed by the end of FY2020. Full-scale operation is scheduled to start from FY2021.

- ◆ From now, I think the main activities will become research/development inside the 1F and works/activities related to the inside of 1F. How do you think about that?

Noda:

The 1F decommissioning itself will be promoted by the Tokyo Electric Power Company Holdings Inc. But as shown in the mid-to-long term roadmap, debris retrieval is scheduled in 2021. Therefore, we will start to access the high radiation area in the reactor buildings and begin the demolition works. In addition, JAEA has lots of experience in the analysis of nuclear debris and high-level wastes. In this sense, I think that the expectations to JAEA will become larger in the future. In order to correspond to these expectations, I think it is necessary for JAEA to work on the task as a whole, including the Sector of Fukushima Research and Development.

Furthermore, JAEA has wide range of technology related to nuclear energy from basic science to practical application. We hope that our technology will contribute to the decommissioning task. Let me introduce some examples of our efforts. With Tokyo Electric Power Company Holdings Inc., JAEA has held meetings on technological opinion exchange and promoted collaborative research on technological subjects and human resource exchanges. Through these efforts according to various levels, we have deepened the mutual relationship. Also, JAEA plays a bridging role in promoting decommissioning task utilizing our whole knowledge and technology. Through such activities, we hope to contribute to the progress in decommissioning.

◆ The decommissioning of 1F may take many years. I think that the development of human resources who will lead the future is necessary. How do you think about that?

Noda:

First, JAEA has been promoting the development of human resources that will lead the decommissioning tasks in the future, under the agreement of cooperation with Fukushima University and National Institute of Technology, Fukushima College in Fukushima Prefecture. We plan to continue these activities in the future. Also, JAEA has been promoting human resources by utilizing summer schools and Fukushima's original full-year internship system for students in universities and colleges of technology.

Furthermore, as to the human resource development, some governmental projects are in progress. For example, there is a "Program for Strengthening Human Resource Development" under the project "Center of World Intelligence Project for Nuclear Science/Technology and Human Resource Development". Through these projects, we will contribute to develop human resources for university students and young people in not only Japan but all over the world. Human resource development is difficult task, so it cannot be realized in a short time. But we will steadily continue this task.

◆ What was the consciousness of students who participated in summer schools and internships?

Noda:

I think the consciousness and technical levels of students for decommissioning are of course high,

because it is a big project. Also, I feel that their consciousness and levels for related technologies such as development of robots are high. As to the development of robots, remote-control technology is indispensable, because we cannot directly look at the robots at the real site. Therefore, high-level technique and imagination are required. Young students will lead the development of high-performance robots in the future, so I think it is good experience for students to know the latest technology.

◆ Finally, please tell us your future plans.

Noda:

March 2021 will be just 10 years after the Great East Japan Earthquake and the 1F accident. Just after the accident, JAEA was in confused situation. But the organization and system have been gradually improved up to the present. The evacuation zones were widely spread just after the accident. But the evacuation order of some difficult-to-return zones has been gradually cancelled. Nevertheless, I think that the restoration of Fukushima is now still under way. For the restoration of Fukushima, I feel once again that we must make efforts on medium-to-long term tasks.



As to the situation of 1F, the environmental improvement has progressed, so it is now in considerably stable condition. From now, more difficult tasks such as retrieval of debris are scheduled. So, the role of JAEA will be more and more important.

JAEA will continue to work with tireless efforts as one team, so that our activities will lead to the restoration of Fukushima.

TOPICS Fukushima No. 100

Fukushima Administrative Department Sector of Fukushima Research and Development

Japan Atomic Energy Agency (JAEA)

Address: 8F Taira Central Building, 7-1 Aza-Omachi, Taira, Iwaki-shi, Fukushima 970-8026, Japan

Phone: +81-246-35-7650 Fax: +81-246-24-4031

Website: <https://fukushima.jaea.go.jp/en/>

