Summary of Press Conference Comments Made by Makoto Yagi,
FEPC Chairman, on November 20, 2015

Thank you for taking the time to be here. Today, I would like to say a few words on the following two topics: our request to save electricity this winter and the formulation of the Spent Fuel Action Plan.

1. Request for Saving Electricity This Winter

First, I would like to explain our request to save electricity this winter. Following our report on the supply and demand outlook for electricity for this winter during the press conference last month, the government held a conference on October 30 and decided on the supply-demand measures for this winter.

This winter, the areas of nine electric power companies excluding Okinawa will be asked to save electricity at a reasonable level on business days between December 1 and March 31. Further, a bidding system for negawatt trading will be introduced for cold Hokkaido, which is more vulnerable than other areas to generator troubles and disruptions.

We apologize to everyone in the country for asking them to cooperate in saving electricity each summer and winter since the earthquake disaster, and ask for their understanding and cooperation.

We will continue to make utmost efforts on both the supply and demand sides. However, for securing a stable supply of electricity on a sustainable basis, it is essential to restart the nuclear power plants as base load power sources. It is therefore highly significant that Sendai Unit 2 was restarted on November 17 following Unit 1, which was put back in commercial operation on September 10. We will continue to respond sincerely to the safety assessment of other nuclear plants so that they, too, will be restarted as soon as possible.

2. Formulation of Spent Fuel Action Plan

Next, I would like to comment on the formulation of a plan for promoting spent fuel measures. Please look at the handout.

Currently, spent nuclear fuel from nuclear power stations is stored safely and systematically at each nuclear power station until it can be shipped out to the Rokkasho reprocessing plant of Japan

Nuclear Fuel Limited.

In addition to the storage measures already taken by the power companies, their spent fuel policies were combined into the Spent Fuel Action Promotion Plan in response to the government's Action Plan on Measures for the Disposal of Spent Nuclear Fuel released on October 6, and the plan was presented today at the government-operators council for promoting spent fuel measures.

The specific measures studied by each company are summarized on page 7. Through the plan, the power companies aim to secure a collective storage capacity of approximately 6,000 tonnes of uranium by 2030 by taking all possible measures including transporting the spent fuel to on-site and off-site storage facilities.

Further, the concerted efforts of power companies will also be reinforced, as described on pages 3 and 4 of the handout. Specifically, nine power companies and the Japan Atomic Power Company established a liaison council for promoting spent fuel measures, and held its first meeting yesterday.

The efforts will also include studies on technologies for increasing the capacity for storing spent fuel, on improving the activities for winning public understanding, and on facilitating the construction and use of interim and dry storage facilities.

The power companies are determined to steadily implement the newly formulated plan, increase the storage capacity while gaining the understanding of the local communities, and implement necessary measures safely and systematically.

Change in the Planned Timing of Completion of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant

Lastly, I will briefly comment on the change in the planned timing of completion of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant.

On November 16 this week, Japan Nuclear Fuel Limited announced a change in the timing for completing the Rokkasho Reprocessing Plant from March 2016 to the first half of 2018, and the MOX Fuel Fabrication Plant from October 2017 to the first half of 2019. We understand that these changes were made in line with the time required to construct the safety features, which became clearer with the progress in the safety assessment in accordance with the new regulation standards.

We believe that the nuclear fuel cycle is essential for Japan, which has limited energy resources, as a means to use uranium resources effectively. To achieve this, the construction and stable operation of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant are critical.

We expect Japan Nuclear Fuel Limited to continue to fully respond to the safety assessment and to steadily construct the safety features, while making utmost efforts to complete the plants in line with the new schedule.

The current Plu-thermal program is based on the principle of not keeping any plutonium without any purpose of use, and was established for steadily using the plutonium recovered at the Rokkasho Reprocessing Plant, including Japan's plutonium inventory overseas. There is no change in this policy.

Accordingly, our policy to "aim to introduce the program in 16 to 18 reactors nationwide" remains unchanged, but considering the differences among the power companies in the state of progress of the safety assessment for restarting the nuclear power plants, we will reschedule the timing of introduction which is currently set to FY 2015.

The actual plan will be announced before plutonium is recovered from the newly-built Rokkasho Reprocessing Plant, taking into account the prospects of the power companies for restarting their nuclear power plants.

This is all for today. Thank you for your kind attention.

Document

Reinforcement of Measures for Spent Nuclear Fuel Storage
(Spent Fuel Action Plan)

November 20, 2015

Federation of Electric Power Companies

1. Basic Policy

- As defined in the Strategic Energy Plan, Japan has adopted the basic policy of promoting the nuclear fuel cycle to efficiently use the plutonium recovered by reprocessing spent fuel, in order to use natural resources effectively and reduce the volume and toxicity of high level nuclear wastes.

- Under this policy, the electric utilities (nine power companies and the Japan Atomic Power Company) are working on the nuclear fuel cycle which involves reprocessing spent fuel at the Rokkasho Reprocessing Plant, and are working to complete the reprocessing plant with safety as the first priority.

- Spent fuel is stored safely and systematically in each nuclear power plant on the premise that it will be transported to the Rokkasho Reprocessing Plant when it becomes ready to receive the spent fuel. The utilities will continue to consider measures to increase the current storage capacity, including the construction and use of both on-site and off-site intermediate and dry storage facilities.

2. Measures Implemented by the Utilities

- In addition to working on completing the Rokkasho Reprocessing Plant, the utilities have been increasing their storage capacity to meet the estimated amount of spent fuel that they generate. These efforts include re-racking their spent fuel storage facilities to increase capacity, and installing on-site dry storage facilities and off-site interim storage facilities. (See Appendix 1.)

- The utilities will continue to take whatever measures are necessary to store the estimated spent fuel volume safely and systematically, taking into account the restart and decommissioning of their nuclear power plants, while gaining the understanding of the local community.

- Under the government's recently released Action Plan on Measures for the Disposal of Spent Nuclear Fuel, the utilities have been asked to draw up a Spent Fuel Action Promotion Plan. The specific spent fuel policies of the utilities are summarized in Appendix 2.

- Each utility is formulating spent fuel measures to ensure that the amount of stored spent fuel does not exceed the controlled capacity considering the amount currently in storage and that which will be generated. The maximum volume of spent fuel is being estimated to ensure that all spent fuel can be accommodated, although it is not clear how much spent fuel will actually be generated due to the current situation of the safety assessments of the nuclear power plants.

- Based on the above, in addition to the amounts sent to the Rokkasho Reprocessing plant, the utilities aim to secure additional capacity of approximately 6,000 tU (4,000 tU by 2020 through currently planned measures and another 2,000 tU by 2030) by taking all possible measures including increasing on-site storage capacities through re-racking and installing dry storage facilities, and constructing interim storage facilities. Further, other specific measures will be added as they are developed.

- The details of these spent fuel measures will be revised as appropriate and necessary based on the progress of restarting the nuclear plants.

3. Joint Efforts by the Utilities

(1) Reinforced Efforts for Promotion

- The utilities are already collaborating on spent fuel measures, such as system development, information sharing and research and development of safe storage technologies.
- Meanwhile, the interim report of the Nuclear Energy Subcommittee of Electricity and Gas Industry Committee, Advisory Committee for Natural Resources and Energy, METI and the recently-released government action plan both called for, in addition to individual efforts made so far, collaborative efforts among the utilities for the construction and use of interim and dry storage facilities, including discussing a wide range of on-site and off-site locations as candidates.
- In response, a liaison council for promoting spent fuel measures consisting of the presidents of nine utilities and the Japan Atomic Power Company was established within the FEPC to reinforce the efforts for increasing the spent fuel storage capacity.

(2) Measures Implemented

○ Under the liaison council for promoting spent fuel measures, the utilities will jointly implement the following measures to increase spent fuel storage capacity.

(i) Study of technologies for increasing spent fuel storage capacity

- Joint R&D
  - ✧ Study on technical issues associated with diversifying storage methods and for storing spent fuel that will be generated in the future

  Examples of research themes
  - ➢ Study on the technical challenges in using concrete casks
  - ➢ Study on the technical challenges in storing high burn-up fuels

(ii) Reinforcing the activities for gaining public understanding of the increase of spent fuel storage capacity

- Public relations activities by FEPC
  - ✧ Increasing public understanding by giving explanations and distributing PR materials and websites to the media

- Public relations activities by the utilities
  - ✧ Increasing public understanding by visiting and explaining the topic to municipalities and regional groups, explaining to the media and utilizing PR materials and websites

(iii) Study for facilitating the construction and use of interim and dry storage facilities

- Sharing information between the utilities on the activities to enhance understanding
  - ✧ Sharing best practices among such activities

- Considering possible collaboration between the interim facilities which will be newly built

Current Status of Spent Fuel Storage Measures Implemented by Respective Power Companies

○Measures Implemented To Date by Respective Power Companies

Power company	NPP	Measures implemented
Hokkaido E. P. Co.	Tomari	Storage sharing (Units 1 & 2 and Unit 3)
Tohoku E. P. Co.	Onagawa	Storage sharing (Unit 1 and Units 2 & 3)
	Higashidori	–
Tokyo E. P. Co.	Fukushima-Daiichi	Re-racking (Units 1, 2, 3, 4, 5 & 6) Shared spent fuel pool Construction of dry storage facilities (Units 4, 5 & 6)
	Fukushima-Daini	Re-racking (Units 1, 2, 3 & 4) Storage sharing (Units 1, 2, 3 & 4)
	Kashiwazaki-Kariwa	Installation of additional spent fuel racks (Units 1, 3, 4, 6 & 7) Re-racking (Units 2 & 5) Storage sharing (Units 1, 2 & 5 and Units 3, 4, 6 & 7)
Chubu E. P. Co.	Hamaoka	Re-racking (Units 1, 2 & 3) Installation of additional spent fuel racks (Unit 4) Storage sharing (Units 1, 2 & 3 and Unit 4; Units 1, 2, 3 & 4 and Unit 5) Construction of dry storage facilities*[1]
Hokuriku E. P. Co.	Shika	Re-racking (Unit 1)
Kansai E. P. Co.	Mihama	Storage sharing (Unit 1 and Unit 3; Unit 2 and Unit 3) Re-racking (Units 2 & 3)
	Takahama	Storage sharing (Unit 1 and Units 3 & 4; Unit 2 and Units 3 & 4; Unit 3 and Unit 4) Construction of additional spent fuel pool (Units 3 & 4, area B) Re-racking (Units 3 & 4, area A)
	Ohi	Storage sharing (Units 1 & 2 and Unit 3; Units 1 & 2 and Unit 4) Construction of additional spent fuel pool (Units 3 & 4, area B)
Chugoku E. P. Co.	Shimane	Storage sharing (Unit 1 and Unit 2) Installation of additional spent fuel racks, re-racking (Unit 1) Re-racking (Unit 2)
Shikoku E. P. Co.	Ikata	Storage sharing (Units 1 & 2 and Unit 3) Re-racking (Unit 3)
Kyushu E. P. Co.	Genkai	Storage sharing (Units 1 & 2 and Unit 4; Units 1, 2 & 4 and Unit 3*[1]) Re-racking (Unit 3)*[1]
	Sendai	Re-racking (Units 1 & 2)
The Japan Atomic Power Co.	Tsuruga	Installation of additional spent fuel racks (Unit 1) Storage sharing (racks for Unit 1 spent fuels were installed at Unit 2) Re-racking (Units 1 & 2)
	Tokai-Daini	Re-racking Construction of dry storage facilities

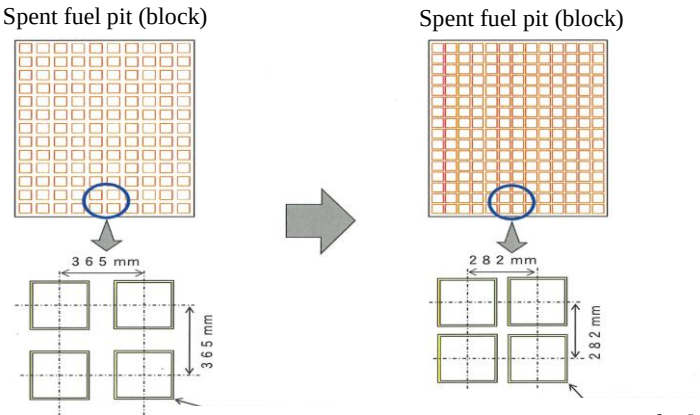
Off-Site Facilities

Power companies	Location	Measures implemented
Tokyo E. P. Co. The Japan Atomic Power Co.	Mutsu city	Construction of dry storage facilities*[1] (Recyclable-Fuel Storage Center)

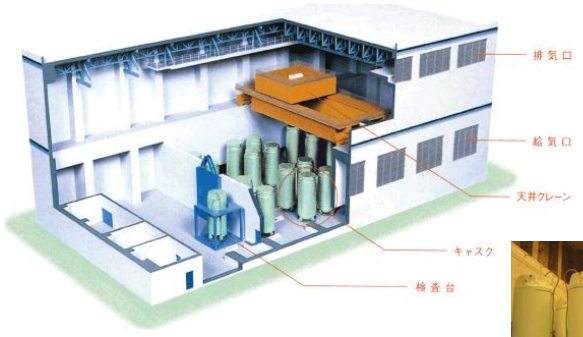
*1: Application for permission for changes in installation (permission for changes in business operation) currently under examination.

○Measures Implemented (Examples)

Reinforcement of spent fuel pool capacity (re-racking)

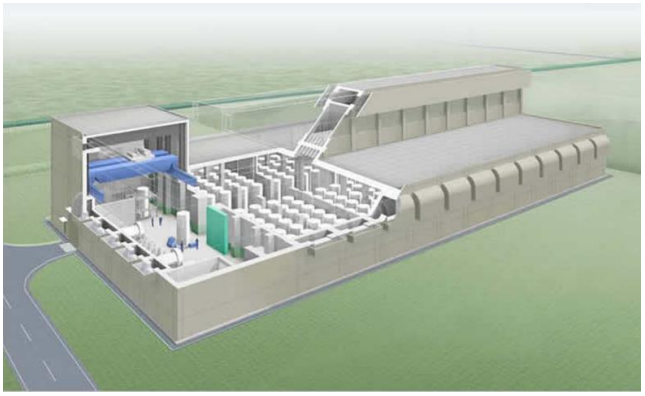


On-site dry storage facilities (example at Tokai-Daini NPP)



Storage mode: dry storage
Storage capacity: approx. 250 tU
Inauguration of facilities: 2001
Dimensions of installation: 54m x 26m x 21m (height)

Off-site dry storage facilities (example at Recyclable-Fuel Storage Center)



Storage mode: dry storage
Storage capacity: 5,000 tU (final capacity)
(1st building with 3,000 tU)
Storage period: 50 years for each installation
Approx. dimensions of installation: 130m x 60m x 30m (height)

Electric Power Companies' Policies for Spent Fuel

In accordance with the national policy, the electric utilities are working on the nuclear fuel cycle, in which spent fuels will be reprocessed at the Rokkasho Reprocessing Plant. Accordingly, all spent fuels, which will ultimately be sent to the Rokkasho Reprocessing Plant, have been put in storage for the time being at nuclear power plant sites, etc. in a safe and systematic manner.

As in the past, the electric power companies will continue making utmost efforts to complete the Rokkasho Reprocessing Plant and proceed with their policies for spent fuel as listed in the following table.

Power company	NPP	Current policies for spent fuel	Future policies for spent fuel
Hokkaido E. P. Co.	Tomari	Utilize current storage facilities.	While reviewing the spent fuel storage status, examine other modes of storage including dry storage facilities.
Tohoku E. P. Co.	Onagawa	Utilize current storage facilities.	Examine other modes of storage including on-site / off-site dry storage facilities.
	Higashidori		
Tokyo E. P. Co.	Fukushima-Daiichi	Transfer of spent fuels to temporary dry cask storage facilities is being planned.	Transfer of spent fuels to temporary dry cask storage facilities is being planned. (This plan is a part of the general decommissioning schedule for Fukushima-Daiichi.)
	Fukushima-Daini	Store spent fuels in existing storage facilities.	Store spent fuels in existing storage facilities. (Future storage measures will be examined in the future.)
	Kashiwazaki-Kariwa	Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned. (The Center is under construction; capacity of 3,000 tU; scheduled to start operation in FY2016.)	Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned.
Chubu E. P. Co.	Hamaoka	Transfer of spent fuels to dry storage facilities is being planned. (Application is being filed; additional capacity of 400 tU; scheduled to start operation in FY2018.)	Continue with the current measures. Meanwhile, while reviewing the spent fuel storage status, examine other modes of storage including on-site / off-site dry storage facilities (including construction of additional dry storage facilities).
Hokuriku E. P. Co.	Shika	Utilize current storage facilities.	Examine other modes of storage including on-site / off-site dry storage facilities.
Kansai E. P. Co.	Mihama	As to interim storage outside Fukui Prefecture, continue with PR activities, feasibility studies, etc., decide the site by around 2020, and aim to start operation of facilities for about 2,000 tU by around 2030. ●By around 2020, make final decision on the site. ●By around 2030, start operation (of facilities for about 2,000 tU). In light of the importance of handling spent fuel, efforts will be made swiftly and precisely, and schedules will be accelerated wherever possible.	In addition to continuing with the current measures, review their progress and the estimates of spent fuel generation. Then, along with the nation's strategic energy plans and action plans, review and examine every possibility including cooperation / collaboration among business operators.
	Takahama		
	Ohi		
Chugoku E. P. Co.	Shimane	Utilize current storage facilities.	While reviewing spent fuel storage status, examine other modes of storage including on-site / off-site dry storage facilities.
Shikoku E. P. Co.	Ikata	Utilize current storage facilities.	Consider transferring spent fuels to on-site / off-site storage facilities. Technical studies and examinations on dry cask storage are being conducted.
Kyushu E. P. Co.	Genkai	Augmentation of storage capacity (by re-racking) of the spent fuel storage facilities is being planned. (Application filed for Unit 3 for additional 480 tU.)	Consider transferring spent fuels to on-site / off-site storage facilities. As part of this plan, on-site dry storage facilities are being studied, along with safety enhancement measures.
	Sendai	Utilize current storage facilities.	
The Japan Atomic Power Co.	Tsuruga	Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned. (Currently under construction; 3,000 tU; scheduled to start operation in FY2016.)	Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned.
	Tokai-Daini	Utilize existing on-site dry storage facilities (additional 70 tU). Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned. (Currently under construction; 3,000 tU; scheduled to start operation in FY2016.)	Transfer of spent fuels to the Recyclable Fuel Storage Center is being planned.

Power Company	NPP	As of end of Sept. 2015				Estimates*[1]		
		1 core (tU)	1 refueling's worth (tU)	Control capacity *2 (tU)	Spent fuel stock (tU)	Control capacity (A) *2 (tU)	Spent fuel stock (B) (tU)	Percent. of spent fuel stock [(B)/(A)] x 100 (%)
Hokkaido E. P. Co.	Tomari	170	50	1,020	400	1,020	600	59
Tohoku E. P. Co.	Onagawa	260	60	790	420	790	660	84
	Higashidori	130	30	440	100	440	220	50
Tokyo E. P. Co.	Fukushima-Daiichi	580	140	2,260	2,130	2,260	2,130	94
	Fukushima-Daini	520	120	1,360	1,120	1,360	*3 1,120	82
	Kashiwazaki-Kariwa	960	230	2,910	2,370	*4 2,920	*5 2,920	*5 100
Chubu E. P. Co.	Hamaoka	410	100	*6 1,300	1,130	*7 1,700	1,530	90
Hokuriku E. P. Co.	Shika	210	50	690	150	690	350	51
Kansai E. P. Co.	Mihama	70	20	760	470	760	550	72
	Takahama	290	100	1,730	1,160	1,730	1,560	90
	Ohi	360	110	2,020	1,420	2,020	1,860	92
Chugoku E. P. Co.	Shimane	100	20	680	460	680	540	79
Shikoku E. P. Co.	Ikata	170	50	950	610	950	810	85
Kyushu E. P. Co.	Genkai	230	80	1,130	900	*8 1,600	1,220	*8 76
	Sendai	140	50	1,290	890	1,290	1,090	84
The Japan Atomic Power Co.	Tsuruga	90	30	920	630	920	750	82
	Tokai-Daini	130	30	440	370	*9 510	490	96
Total		4,820	1,270	20,670	14,730	21,630	18,400	

*1: These estimates of spent fuel stock are calculated under the following conditions and do not assume any specific plant restart schedules.
- ○ For a given NPP, all units are taken into consideration except for Fukushima-Daiichi, Hamaoka Units 1 & 2, Mihama Units 1 & 2, Shimane Unit 1, Genkai Unit 1, and Tsuruga Unit 1, whose decommissioning has already been decided.
- ○ Estimated stocks are obtained as the sum of the stock as of the end of September 2015 and four-cycles' worth (four refuelings' worth) of spent fuels. (Simple generated amount taken into account)
- ○ It is assumed that one cycle consists of 13 months of operation and 3 months of periodic inspection. (Accordingly, four cycles are equivalent to about five years.)

*2: Basically, the control capacity is the storage capacity minus [1 core + 1 refueling's worth]. As for NPPs which have ceased operation, the control capacity is taken to be equal to the storage capacity.
*3: For Fukushima-Daini NPP, it is assumed that no new spent fuels will be produced.
*4: For Kashiwazaki-Kariwa Unit 5, although work to reinforce the storage capacity (by re-racking) of the spent fuel storage facilities has not been conducted yet, an estimated control capacity following the completion of the work is listed.
*5: For Kashiwazaki-Kariwa NPP, the control capacity will be reached in approximately 2.5 cycles (approx. 3 years). (No assumptions are made as to when it will resume operation.)
*6: Since Hamaoka Units 1 & 2 are in the process of decommissioning, they are excluded from the calculation of the spent fuel pool's control capacity.
*7: For Hamaoka Unit 4, an application for permission to construct dry storage facilities is being filed, and the estimated control capacity following the completion of such facilities is listed.
*8: For Genkai Unit 3, an application for permission to augment (by re-racking) the storage capacity of the spent fuel storage facilities is being filed, and the estimated control capacity following the completion of such facilities is listed.
*9: For Tokai Daini NPP, a control capacity is obtained assuming there will be 24 dry storage casks (the existing casks plus seven more).

Note: Totals may not exactly match the sum of individual numbers due to rounding.