November 26, 2015

The Kansai Electric Power Co., Inc.

Application for Permission to Extend the Operating Period and Application for Approval of Construction Plans of Unit 3 at Mihama Nuclear Power Station

The Kansai Electric Power Co., Inc. (Code: 9503)
6-16 Nakanoshima 3-chome, Kita-ku, Osaka
(URL http://www.kepco.co.jp)
Company Representative: Makoto Yagi, President and Director
Contact: Yoshikazu Matsuda, General Manager, Office of Accounting and Finance
Tel: +81-6-6441-8821

Today, we submitted to the Nuclear Regulation Authority (NRA) an application for permission to extend the operating period and application for approval of construction plans of Unit 3 at Mihama Nuclear Power Station.

It is specified by the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors[*1] that the operating period of a nuclear power station shall be 40 years from the date of commencement of operation. Upon expiration, however, it may be extended for a further 20 years as an upper limit subject to permission of the NRA which may be granted only once.

Since it is required that the application for permission to extend the operating period shall be accompanied by the results of a Special Inspection, we have been conducting the Special Inspection of the object equipment such as reactor pressure vessels and containment vessels of Unit 3 at Mihama Nuclear Power Station since May 16, 2015. As a result, we verified that the integrity of such equipment.

We conducted an evaluation of aging management technology including the results of the Special Inspection and formulated a long-term maintenance management policy. As a result, we verified that a 60-year operating period should be credible without any problem. Such being the circumstance, today we submitted to NRA an application to prolong the operating period of Unit 3 at Mihama Nuclear Power Station up to 60 years and also submitted an application for approval to changes in technical specs of nuclear reactor facility on the assumption of extended operation beyond the specified operation period of 40 years.

We submitted an application for change in reactor installation permit of Unit 3 at Mihama Nuclear Power Station on March 17, 2015. Then, out of the component documents required for application for approval of construction plans, we put together the basic design policy, important item table showing equipment specification and so on, and attached materials and drawings such as analysis curves used for aseismic safety evaluation based on the standard seismic motion with a maximum acceleration of 993 gal, and submitted them to the NRA.

We will continue to make our best efforts to improve safety and reliability of nuclear power stations and utilize nuclear power generation as an important power source with understanding of the local community and all those concerned.

*1 Item 3-32 of Article 43 of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Operating Period, etc.)

The period during which a licensee of power reactor operation may operate a power reactor that he/she has installed shall be forty years from the day on which construction work for installing said power reactor has passed the pre-operation test for the first time.

(2) The period set forth in the preceding paragraph may be extended only once upon the expiration thereof by obtaining the approval of the Nuclear Regulation Authority.

(3) The period to be extended pursuant to the provision of the preceding paragraph shall not exceed the period specified by Cabinet Order as not exceeding 20 years.

(4) Any licensee of power reactor operation who intends to obtain the approval set forth in paragraph (2) shall make an application for the approval to the Nuclear Regulation Authority, pursuant to the provisions of the Ordinance of the NRA.

(5) The Nuclear Regulation Authority may grant the approval set forth in the preceding paragraph, only in the case that it finds, in light of the status of deterioration of the reactor and any other equipment as a result of their long-term operation, that the power reactor for which the application for the approval set forth in said paragraph is made conforms with the standards specified by the Ordinance of the NRA as the standards for ensuring safety during the period to be extended pursuant to the provision of paragraph (2).

Attachment 1: Results of Special Inspection of Unit 3 Mihama Power Station

Attachment 2: Outline of Evaluation of Aging Management Technology for Unit 3 Mihama Nuclear Power Station

Attachment 3: Evaluation Results of Aging Management Technology of Unit 3 Mihama Power Station

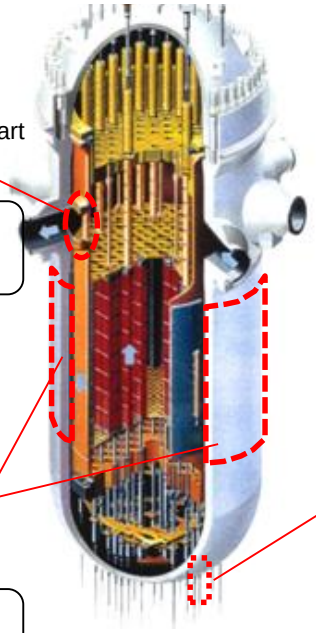
Attachment 4: Outline of Application for Approval of Construction Plans of Unit 3 at Mihama Nuclear Power Station

Results of Special Inspection of Unit 3 of the Mihama Power Station

Attachment 1

Inspection of Reactor Pressure Vessel

Nondestructive tests and visual inspections made on the core region of the reactor pressure vessel, etc. confirmed that no abnormalities such as defects exist.

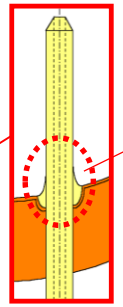


Primary coolant nozzle corner part
(eddy current test)

Period during which items of on-site data were collected:
July 4 through July 13

Core region:
Base metal and welded part
(ultrasonic test)

Period during which items of on-site data were collected:
June 16 through June 30



Welded part and inner surface

In-core instrumentation cylinder
(eddy current test, visual inspection)

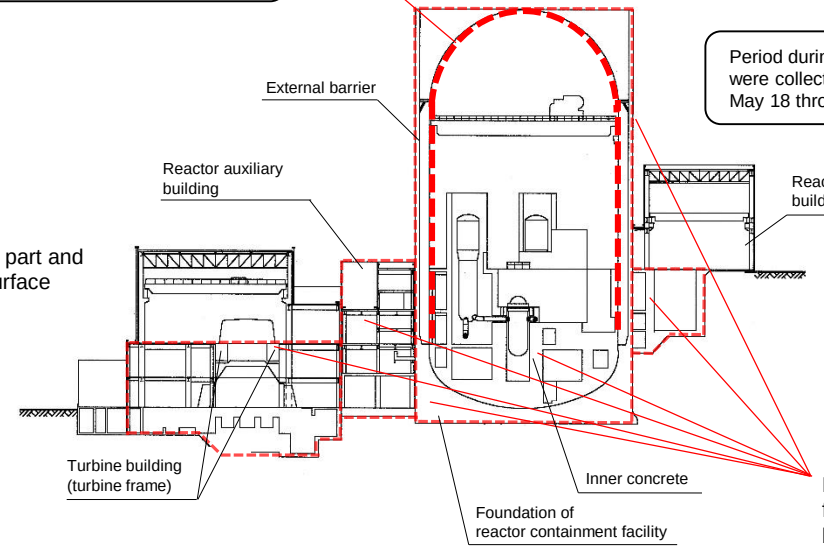
Period during which items of on-site data were collected:
July 23 through July 30

Inspection of Containment Vessel

Visual inspections on the inner and outer surfaces of steel plates of the containment vessel confirmed no abnormalities in the coatings.

Containment vessel steel plate
(visual inspection)

Period during which items of on-site data were collected:
May 16 through August 11



Period during which items of on-site data were collected:
May 18 through August 3

Reactor containment facility, reactor auxiliary building, etc.
(Core sample test)

Inspection of Concrete Structures

Inspections of core samples of concrete taken from the reactor containment facilities and the like confirmed the absence of abnormalities in strength and shielding effects.

Inspection period*: May 16, 2015 through November 26, 2015
Inspection results: No abnormalities observed

・Period during which items of on-site data were collected:
May 16, 2015 through November 26, 2015

Outline of Evaluation of Aging Management Technology for Unit 3 at Mihama Nuclear Power Station

Attachment 2

1. Evaluation of Aging Management Technology

It is specified by the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors that aging deterioration of equipment, structures, etc. with safety functions in nuclear facilities shall be technically evaluated, and a policy of long-term maintenance that should be conducted for an extended period (20 years after the expected 40-year service life of the plant) shall be formulated based on the results of this evaluation.

2. Evaluation of Aging Management Technology based on the Results of the Special Inspection of Unit 3, Mihama (Evaluation of Deterioration)*1

Based on the results of the Special Inspection of Unit 3 at the Mihama Nuclear Power Station, and past operating experiences, latest findings, etc., it was evaluated whether aging events such as corrosion, fatigue damage and thinning had occurred in equipment, structures, etc. with safety functions in Unit 3, Mihama*2, and whether such events would occur in future operation.
In addition, an evaluation was conducted to confirm whether the integrity of equipment and structures that may experience an aging event could be ensured by current maintenance activities 60 years after the startup of the Units, assuming the state of deterioration at that time.

[Result of Evaluation of Aging Management Technology]
It was confirmed that the integrity of equipment and structures of the whole plant would be ensured over the long term by continuing the current maintenance activities for equipment, structures, etc. with safety functions, and by taking additional maintenance action with some of the equipment and structures.

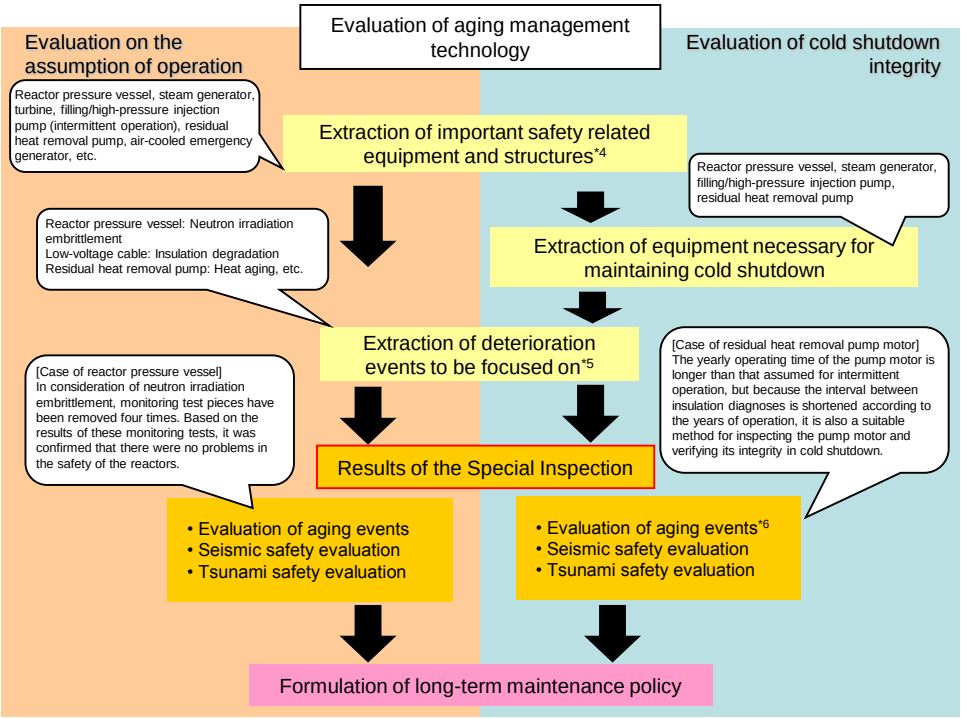
3. Long-term Maintenance Policy (Maintenance Policy)*1

Maintenance measures that were extracted and should be added as a result of the evaluation of aging management technology are summarized below as a long-term maintenance policy that should be implemented for 20 years beyond the 40-year expected service-life of the plant.

Implementation timing*3	Content
Mid- and long-term	5th investigation of the reactor pressure vessel using a monitoring test piece

*1 Documents attached with the application for permission to extend the operating period
*2 Subject to this review are approximately 3,400 pieces of equipment, such as important safety related equipment and structures (pumps, vessels, pipes, valve, buildings, flood protection works, etc.) and permanently-installed equipment for responding to major accidents (air-cooled emergency generators, passive autocatalytic recombiners, etc.)
*3 For Mihama Unit 3, “mid- and long-term” mean 10 years from December 1, 2016.

4. Flow of Evaluation of Aging Management Technology



*4 Class 1 and 2 equipment and structures as defined in the “Regulatory Guide for Reviewing Classification of Importance of Safety Functions for Light Water Nuclear Power Reactor Facilities” (important safety related equipment and structures), and permanently-installed equipment for responding to major accidents were extracted as subjects to this review.
*5 Combinations of aging events and areas were extracted based on the Appendix of the Atomic Energy Society of Japan’s “Code on Implementation and Review of Nuclear Power Plant Aging Management Programs.”
*6 In the evaluation of cold shutdown integrity, events with more severely advanced deterioration than in normal operation were extracted.

5. Application for Permission to Extend the Operating Period

An application for permission to extend the operating period was submitted to the NRA, accompanied by the Report on Results of Special Inspection, the Evaluation Report on State of Deterioration (evaluation of aging management technology) and the Policy on Maintenance Management (long-term maintenance policy).

Evaluation Results of Aging Management Technology of Unit 3 at Mihama Nuclear Power Station

Attachment 3

Evaluation of Aging Management Technology: Fitness-for-service assessment in connection with aging events such as fatigue and neutron irradiation embrittlement, and adequacy confirmation of current maintenance practices for important safety-related equipment and structures* of nuclear reactor facilities subject to 60-year service

* Important safety-related equipment and structures of nuclear reactor facilities subject to 60-year service (approximately 3,400)

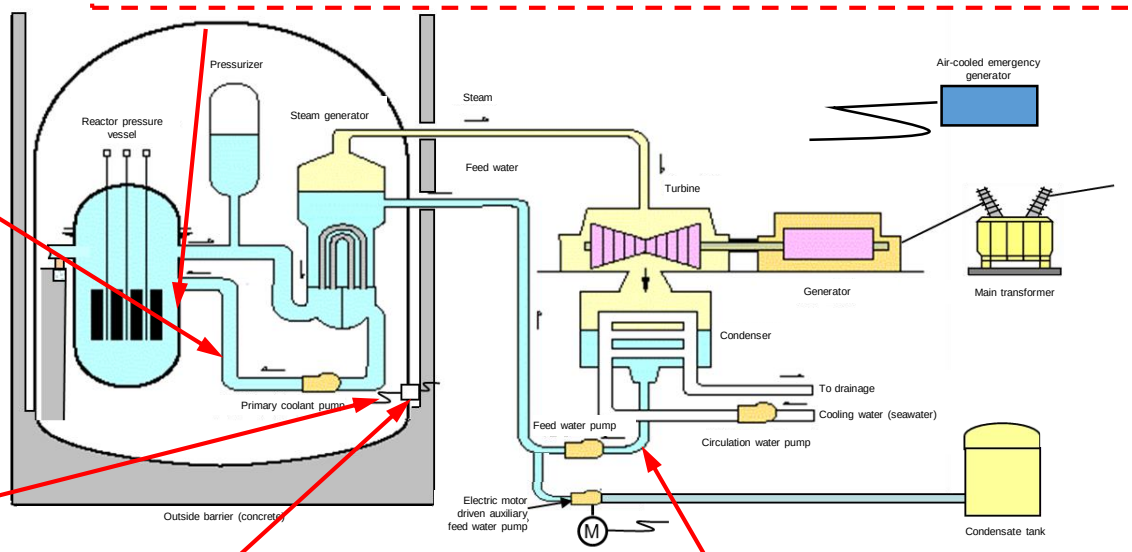
Results of Technical Assessment (Examples) and Policy on Maintenance Management

Results of evaluation of aging management technology in black

Policy on long-term maintenance management indicated in blue

[Embrittlement of Reactor Pressure Vessel due to Neutron Radiation]
Investigations using a monitoring test piece (prediction of degradation) were conducted four times and confirmed that neutron irradiation embrittlement poses no problems to structural integrity and that the current maintenance practices are adequate.
⇒ 5th investigation of reactor pressure vessel using the monitoring test piece

[Low-cycle Fatigue of Piping]
No potential damage was observed.
The adequacy of current maintenance practices has been confirmed.
⇒ Evaluation based on past operating records will be continued.



[Insulation Degradation of Cable]
No insulation problems were observed in normal operation or accident-simulating tests.
⇒ Maintenance activities such as the measurement of insulation resistance will be continued.

[Electrical Penetration*]
Periodic measurement of insulation resistance and other measurements and tests on similar equipment have confirmed long-term integrity.
⇒ Current maintenance activities will be continued.
* Electrical penetrations refer to penetrations in the containment vessel provided for cables that transmit and receive signals, and the like.

[Secondary System Carbon Steel Piping]
It has been confirmed that the current practices for managing pipe wall thinning (measurement and evaluation of wall thickness and replacement of piping) are adequate. Seismic safety based on wall thinning has been confirmed .
⇒ The same practices for managing wall thinning will be continued..

Outline of Application for Approval of Construction Plans of Unit 3 at Mihama Nuclear Power Station

Attachment 4

[What's the application for approval of construction plans?]

This is a procedure based on the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Article 43 of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors). It is applied for the NRA to examine that the technological standard is satisfied by the nuclear reactor facility designed in detail based on the basic design of nuclear reactor facilities specified in the application for permission for nuclear reactor's installation change.

<Background of application for approval of construction plans of Unit 3 at Mihama Nuclear Power Station>

1) March 17, 2015: Change in reactor installation permit was applied for.
2) **November 26, 2015: Approval of construction plans was applied for.**

<Outline of Application for Approval of Construction Plans of Unit 3 at Mihama Nuclear Power Station>

	Component documents	Description	No. of applicable facilities	Major facilities applied for
Application of this time	• Basic design policy • Important item table • Attached materials • Attached drawings	• Draw up the basic design policy of the facilities. • Create an important item table showing the name, type, capacity, dimensions, and so on of each facility. • Create materials such as analysis curves used for the aseismic safety evaluation based on the basic seismic motion with a maximum acceleration of 993 gal. • Create detailed drawings of each facility	Approximately 380 facilities	1) Nuclear reactor cooling system facility • Permanent alternative low-pressure injection pump • Mobile alternative low-pressure injection pump • Nuclear reactor bottom cavity injection pump 2) Measurement control system facility • Nuclear reactor bottom cavity water-level gauge 3) Nuclear reactor storage facility • Hydrogen recombination device of static catalyst type 4) Emergency power supply facility • Air-cooled emergency power generator • Power supply car 5) Emergency response office
Application of the next time and after	• Basic design policy • Important item table • Attached materials (including some evaluation of earthquake resistance and strength) • Attached drawings	• Strength of each facility is to be evaluated. • Aseismic safety of each facility is to be evaluated as reflecting each facility's standard seismic motion with a maximum acceleration of 993 gal.		