

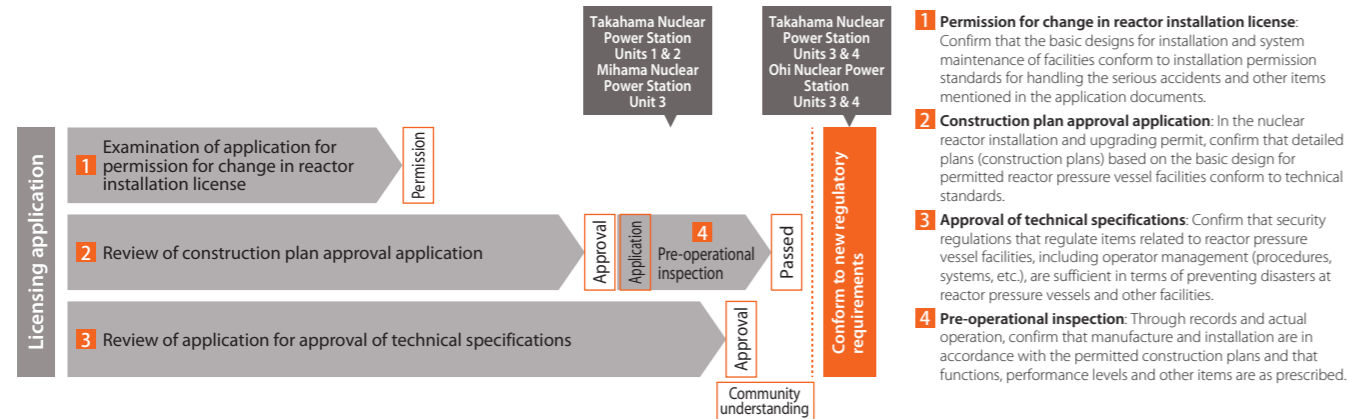
Toward the restart of nuclear power plant operation

Since the accident at Tokyo Electric Power's Fukushima Daiichi Nuclear Power Station, in addition to emergency safety measures, our company has been thoroughly strengthening countermeasures for earthquakes, tsunamis and other natural disasters along with measures to prevent damage to reactor pressure vessels. Applications for the nuclear power plants that have implemented these measures are being made to the Nuclear Regulation Authority for examination of their compliance with the new regulatory requirements. All of our plans have received construction plan approvals. As we gain understanding from the people in the communities where these nuclear power plants are located, we will continue to strive with all our abilities to resume the operation of those that have been confirmed to be safe and to maintain their safe and stable operation after that.

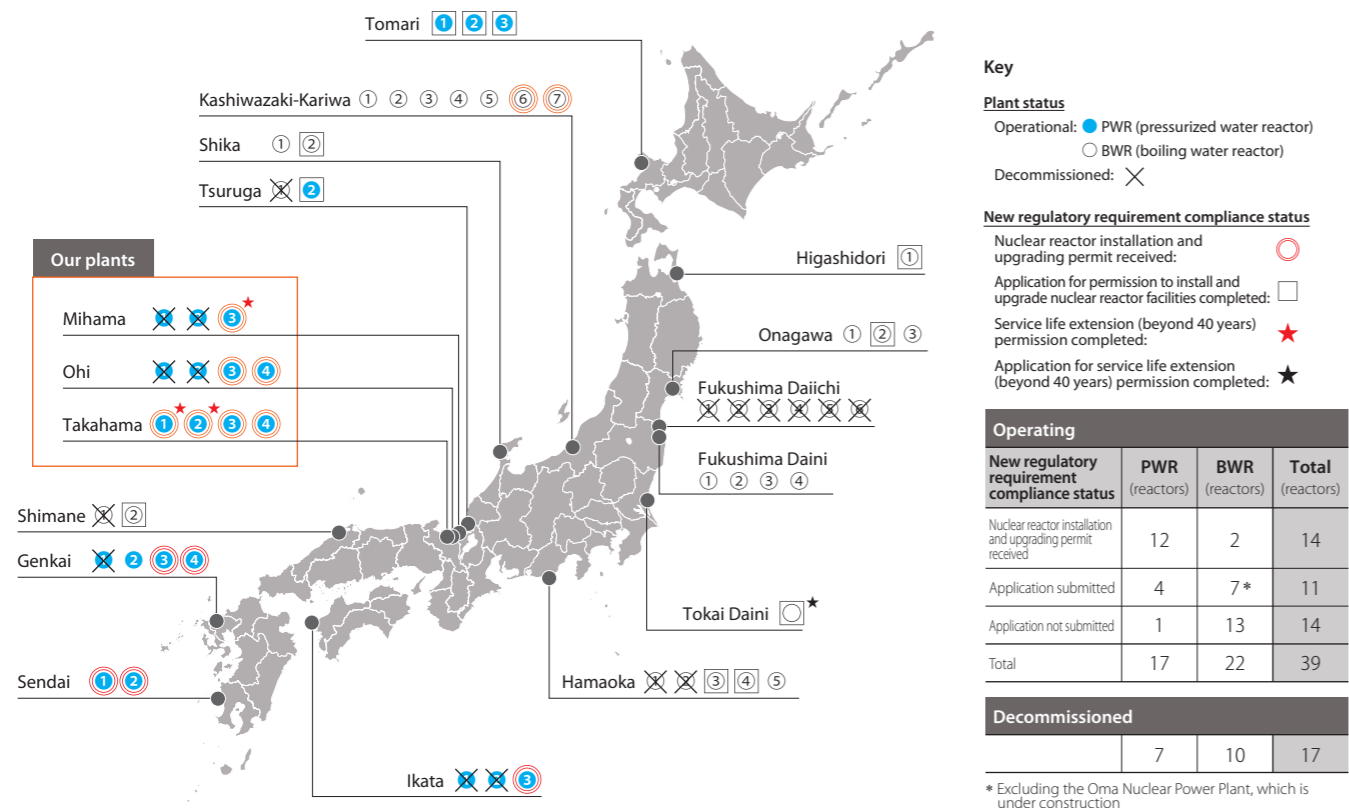
New regulatory requirement compliance status of our plants

In 2017, we received from the Nuclear Regulation Authority the "permission for change in reactor installation license," "construction plan approval" and "approval of technical specifications" necessary to resume operation of Ohi Power Station Units 3 and 4. After passing pre-operational inspections, we restarted operation of Unit 3 in March and Unit 4 in May 2018. Throughout Japan, 14 plants have received permission for change in reactor installation license. Of these, 7 plants belong to our company, and 4 have resumed operation. Our other plants have completed procedures for construction plan approval.

Status of new regulatory requirement conformity examinations for our plants (as of May 31, 2018)



Status of nuclear power plants and new regulatory requirements throughout Japan (as of May 31, 2018)



Ohi Nuclear Power Station Units 3 and 4 resume operation and Takahama Nuclear Power Station Units 3 and 4 continue safe and stable operation

Ohi Nuclear Power Station Unit 3 resumed operation in March 2018 about four and a half years after it was stopped due to periodic inspection in September 2013. Unit 4 followed Unit 3, resuming operation in May. Moreover, Takahama Nuclear Power Station Units 3 and 4, which resumed operation in 2017, are continuing to operate safely and stably. We will continue to carefully work on the operation and maintenance of the plants putting top priority at the safety.



Connecting Ohi Power Station Unit 3 to the transmission network



Ohi Nuclear Power Station Units 3 & 4

Response to the non-conforming products of Kobe Steel, Ltd., its group companies and a subsidiary of Mitsubishi Materials Corporation

The fact has been made public that Kobe Steel, Ltd., its group companies and a subsidiary of Mitsubishi Materials Corporation undertook alteration of data in inspection certifications and other manipulation. We confirmed that there were no impacts on the safety of our nuclear power plants. For example, we confirmed that no unsuitable products had been delivered for important parts for safety such as reactor vessels and pressurizers and other equipment subject to new regulatory requirements at Ohi Power Station Units 3 and 4 and Takahama Power Station Units 3 and 4. We also undertook on-site inspections of related business places, checked inspection processes and confirmed inspection certifications and other documents by comparing them with original data.

Further strengthening of ongoing voluntary efforts to enhance nuclear safety

Reflecting on the lessons from the disaster at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power in June 2014, we organized our voluntary efforts for improving safety as a road map. Since then, we have publicly reported the status of our progress semiannually. In the future, we will go beyond regulatory frameworks as we continue as a unified company to advance independent and sustained efforts for improving the safety of nuclear power generation.

Examples of voluntary efforts to improve safety



We developed an attachment to utilize alternative mobile low-pressure water pumps of other power companies. Pumps with different specifications from other companies can now be used at our company.



We hold Risk Review Meetings in which we discuss construction risks and consider countermeasures at the construction planning stage, reflecting on the crane collapse accident that occurred at Takahama Power Station Unit 2 and other incidents.

Preparing for operation beyond 40 years

In the Long-term Energy Supply and Demand Outlook established by the government in July 2015, nuclear power was specified to have a fixed ratio of 20–22% of the total power supply composition by fiscal 2030.

If all the existing nuclear power plants cease operation after 40 years of active use, nuclear power generation will only be about 15% of the total amount of power generation in fiscal 2030. In order to assure that nuclear power fulfills its role as 20–22% of the total energy composition in fiscal 2030, at our company, we believe that it is necessary to operate our nuclear power plants beyond 40 years with the assurance of safety as a major prerequisite.

Toward resuming the operation of Takahama Nuclear Power Station Units 1 and 2 and Mihama Nuclear Power Station Unit 3

Our company has always maintained the durability of our nuclear power plant facilities by continuously implementing maintenance and management, including regular inspections and planned equipment replacements.

At the time of applications for operation period extension beyond 40 years in accordance with the law for Takahama Power Station Units 1 and 2 and Mihama Power Station Unit 3, special inspections were carried out for reactor vessels and other equipment. In addition, technical evaluations of degradation from age were carried out, confirming that the durability of important facilities for safety could be assured even for an operating period of 60 years. After examinations of these results, we received operating period extension approvals from the Nuclear Regulation Authority for Takahama Power Station Units 1 and 2 in June and for Mihama Power Station Unit 3 in November 2016. As we now prepare for operation beyond 40 years, we are steadily advancing safety measure construction projects.

Special inspections

For reactor vessels, containment vessels and concrete structures, which are difficult to replace, in addition to ordinary maintenance, we conducted inspections to determine states of degradation in detail (special inspections) and confirmed that there were no abnormalities.

Reactor vessel

We confirmed that there were no cracks, breaks or other defects through careful visual inspections and tests using ultrasonic waves and electric currents.

Containment vessel

We checked the state of the external coating with careful visual inspection and confirmed that there were no instances of coating detachment, corrosion or other defects or abnormalities.

Concrete structures

In order to check changes to material states and strengths, particularly for places exposed to extreme temperatures and other severe environmental factors from containment vessels and similar facilities, we removed concrete samples from each unit and confirmed that they had no problems.

Construction safety improvement measures (example)

At Takahama Nuclear Power Station Units 1 and 2, we installed dome-shaped reinforced-concrete upper shields on the containment vessels in order to reduce radiation from the reactor containment vessels and reduce radiation exposure during outside work should a severe accident occur.



Takahama Nuclear Power Station Units 1 and 2 containment vessel upper shield installation work

Promoting efforts for understanding related to operation beyond 40 years

We are undertaking face-to-face communication, including power plants tours and explanations in various locations to deepen public understanding about the operation of our plants beyond 40 years. We will continue to promote active communication with members of society, starting with those who live near our facilities.



Undertaking face-to-face efforts (explanation meeting)

Reliable decommissioning processes

In April 2017, we received permissions from the Nuclear Regulation Authority for our decommissioning plans and accompanying changes to technical specifications for Mihama Nuclear Power Station Units 1 and 2. We also determined in December 2017 that Ohi Nuclear Power Station Units 1 and 2 will be decommissioned. As a result, we have now confirmed operation plans for all 11 of our plants. With safety as our top priority, we will continue working toward the decommissioning of Mihama Nuclear Power Station Units 1 and 2 and Ohi Nuclear Power Station Units 1 and 2.

Decision to decommission Ohi Nuclear Power Station Units 1 and 2

We determined in December 2017 that Ohi Nuclear Power Station Units 1 and 2 would be decommissioned and on March 1 2018, we officially terminated their operation. Ohi Nuclear Power Station Units 1 and 2 are the only reactors that use ice condenser containment vessels in Japan. Due to the special characteristics of this design, we understood that implementation of safety measures to comply with new regulatory requirements would result in numerous constraints related to periodic inspections, and equipment inspections and maintenance during operation, for example. We undertook technical examinations of resolution measures, but issues related to work safety and quality assurance remained. Believing that safety is the highest priority, we decided to decommission these units.



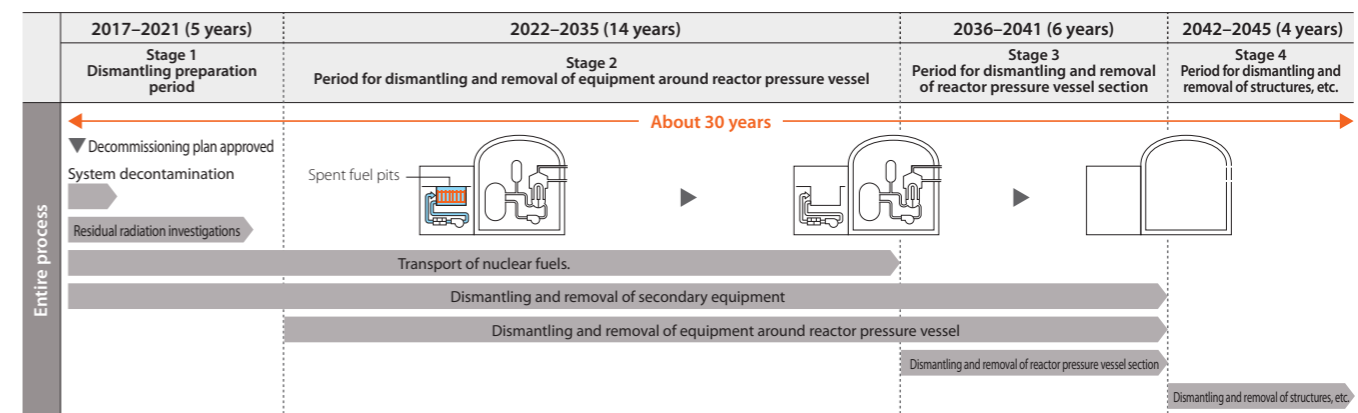
Ohi Nuclear Power Station Units 1 & 2

With safety as our top priority, we will continue steadily advancing the decommissioning of Ohi Nuclear Power Station Units 1 and 2.

Status of Mihama Nuclear Power Station Units 1 and 2 decommissioning

We are advancing decommissioning plans for Mihama Nuclear Power Station Units 1 and 2, which covers about 30 years in total, in four main stages. In the first stage, as preparation work for future full-scale dismantling in the controlled area, after decontamination of primary main systems, we are inspecting remaining radiation in the facilities. In the second stage, we will begin disassembly of reactor auxiliary buildings. Moreover, we will transport the spent fuels. In the third stage, we will dismantle the reactor vessel and other equipment with relatively high levels of radiation inside the containment vessel. In the fourth and final stage, after confirming that no contamination remains within the facilities, we will disassemble the structures and complete decommissioning.

Entire process for decommissioning Mihama Nuclear Power Station Units 1 and 2



Completion of Mihama Nuclear Power Station Units 1 and 2 system decontamination work

System decontamination work is the removal of radioactive materials to reduce exposure to workers during future dismantling. The decontaminated systems have coolant water that contains radioactive materials flowing through them during ordinary operation and include reactor pressure vessel cooling systems, excess heat removal systems and chemical volume control systems.

The Mihama Nuclear Power Station Units 1 and 2 system decontamination work was the first large-scale chemical decontamination in Japan as for the main systems of the pressurized water reactors. It was completed safely and without trouble as a result of diligent execution, including careful preparation and leak risk countermeasures before operating the existing facilities that had been stopped for a long time.

