## **Efforts for advanced maintenance**

## **Securing of safety**

- O Advanced preventive maintenance technologies
- O Support for safe and stable operation
- Nuclear energy security

Safe and stable operation of nuclear power plants

## Improvement of economic efficiency

- Improvement of utilization rate
- Extend cycle operation
- Improvement in power output

## **Reliability enhancement**

- Equipment reliability enhancement
- O Digitization of monitoring and diagnosing
- Improvement of operator's skills

Through revised laws aimed at realizing a decarbonized society, Japan has extended limits on the operating life of nuclear power plants to beyond 60 years, while keeping the basic policy of previous standard of 40 years. In conjunction with this change, nuclear power plants that have been operating for 30 years are required to conduct technical assessments every 10 years thereafter, formulating and gaining approval for long-term facility management plans.

To enable the safe and long-term operation of nuclear power plants under this system, advanced maintenance technologies have been introduced to ensure the high-precision inspection and repair of the equipment. Nuclear reactors and other equipment subjected to high-temperature and high-pressure environments can deteriorate over time, including pipe wear and cracked insulation. IT-based continuous monitoring systems are being developed to ensure those changes over time and other abnormalities can be detected early on during operation.

Robot-based remote operating systems are also being steadily introduced to minimize the radiation exposure of workers. Accurately identifying the state of deterioration and upgrading to systems equipped with newer technologies will make it possible to maintain the overall performance of nuclear power plants.

**Related Link** 

Preventive Maintenance ☐

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