

September 24, 2024

Kashiwazaki-Kariwa Nuclear Power Station Unit 7
Restart Preparations Status Report

Nuclear Reform Monitoring Committee

1. Foreword

Over the five days from Monday, May 13~Friday, May 17, 2024, a review team that included a member from the Nuclear Reform Monitoring Committee (hereinafter referred to as, “NRMC”) conducted a review of the restart readiness of the Kashiwazaki-Kariwa Nuclear Power Station (hereinafter referred to as, “KK”) Unit 7.

2. Review summary

During this review, which was commissioned by NRMC Chairman, Dr. Dale Klein, field checks were conducted and station personnel were interviewed in order to check the status of restart readiness for KK Unit 7. The review focused on KK restart safety and activities pertaining to rules/standards, such as the status of operational readiness, emergency response, performance improvement/risk management, safety culture, training, and a myriad of other activities being engaged in preparation for restart. The review team was led by NRMC Member Charles Casto and was comprised of a total of four members including nuclear power experts from overseas.

3. Review results

The review did not identify any nuclear safety concerns or safety issues and found that safety culture is healthy. The review team arrived at the conclusion that Tokyo Electric Power Company Holdings, Inc. (TEPCO) is making sound and adequate preparations for the restart of KK Unit 7.

(Operational readiness preparations)

The field checks found the plant facility (including equipment and materials) maintenance and work site housekeeping to be exemplary. The only exceptions were small problems with taped signs that should be corrected.

Interviews with station personnel and upper management were open and candid,

and the review team found that station personnel have great attitudes and high morale. Site personnel had positive attitudes about the tasks they need to accomplish and engage in those tasks accordingly.

The performance exhibited by KK operators during accident response training (simulator training) has been elevated to a level that should be benchmarked by other Japanese nuclear power operators. However, the crew simulator critique (PSR) was not conducted in compliance with procedures. Operations Division leadership did not intervene during the critique since the discussions were productive, but it would have been better to stop when the process deviated from PSR standards.

Even though approximately 40% of KK operators have no experience with actual plant operation due to long-term plant shutdown, at KK all operators are subject to plant startup/shutdown and accident response training that has been assessed by third-party agencies, such as the Japan Nuclear Safety Institute (JANSI), to be practical and effective. Operators with no experience working at an operational plant have also been dispatched to thermal power stations and PWR plants to gain knowledge and experience about plant procedures at an operating facility.

(Emergency response)

The emergency response training conducted during the review period focused on improving communication with regulatory agencies, and the review team found this to be carried out effectively. Since the Fukushima Daiichi Nuclear Power Station Accident, emergency response training has been carried out 163 times at KK (as of the end of December 2023), and approximately 30,000 individual training sessions have been conducted (as of the end of September 2023).

(Performance improvement/risk management)

Through corrective measures implemented in the wake of the physical protection incidents, KK has constructed mechanisms to make autonomous and continual improvements. Furthermore, by promoting safety awareness, TEPCO encourages lateral performance improvements in order to elevate the, “basic posture of a nuclear operator.”

In regards to risk management, TEPCO has improved methods for organizing information sourced from domestic and overseas academic papers and operating experience (OE), etc. by creating a mechanism that guides reports to the appropriate

hierarchy (from field workers all the way up to the President) in accordance with the content of the information. This reform focuses on gathering risk information to obtain not only serious risk information that pertains to, or exceeds, design standards, but also low-level risk information that can contribute to safety improvements.

(Safety culture)

The review team found no negative issues with the safety culture during field observations or interviews. And, the review team's findings matched the results of past NRMIC investigations (Report on the Results of an Interview-based Investigation Pertaining to Safety Culture, etc. (February 13, 2024)).

(Earthquakes)

The Noto Peninsula Earthquake that occurred on January 1, 2024 had no impact on KK in terms of both facility damage or radiation leakage. Sloshing at the Unit 2, 3, 4, 6, and 7 spent fuel pools did occur, but internal flooding measures, such as fuel pool leak prevention and penetration waterproofing, etc., prevented the overflowing water from escaping the operating floor.

(Various other activities aimed at restart)

At KK, condition reports^{*1} are created for issues pointed out by external parties, such as the Nuclear Safety Advisory Board (NSAB), and countermeasures implemented.

The review team also confirmed that since August 2023, full-scale management observation has been carried out in pairs (one worker with one manager) in order to improve the skill of auxiliary operators.

Furthermore, there are few uncompleted tasks that need to be completed prior to restart and all work required for restart has been planned.

4. A message for leadership

No issues were found that would have a negative impact on the restart of KK Unit 7. Leadership continues to provide guidance that focuses on compliance with rules/standards, and KK is making progress. Going forward, it is important that

¹ Refers to reports on issues that can contribute to improvements, such as signs of risks noticed in the field, best practices, near-misses, and requests and recommendations.

work be stopped, and peer checks and three-way communication^{*2} proactively leveraged if expectations are not being met in order to further utilize the appropriate human performance (human error prevention) tools available for every kind of task.

End of report

² Method of communicating that entails mutual checks of task implementation details in order to confirm mutual understanding.