Establishment of the External Event Review Team (EERT) and External Events Safety Re-assessment Project as a quick response to the Fukushima accident.

Koeberg reacted quickly to INPO and WANO event reports in March-April 2011 and carried out required verifications and walkdowns.

• Focused self-assessment of SAMG was completed in August 2011. It defines the areas for improvement, including corrective actions and recommendations.

• Extended review of the emergency operating procedures and SAMGs to assess the functionality of beyond design basis line-ups has been done by August 2011. Significance of the line-up reporting is in defining issues and actions concerning modifications.

• The project plan for External Events Safety Re-assessment defines a comprehensive work program to respond to internal stress tests by November 2011. Then the work of EERT will continue to the implementation of identified plant modifications in the coming years.
The station has planned and implemented backup cooling connections as a post-Fukushima action. The operation crews routinely carry out exercises to execute preventive accident management measures with these backups. The station started planning and implementing of further preventive AM measures both for ensuring reactor core cooling and spent fuel cooling as an operating experience action after the December 2006 tsunami had partially flooded a PHWR station on the east coast of India. These actions were further accelerated after the Fukushima disaster in 2011.

Hook-up hose connection points have been prepared for backup injection into steam generators, primary circuit, end shields, calandria components and spent fuel pools with portable diesel fire pumps available at the station. The suction can be taken from available water sources at the station such as the emergency makeup ponds (capacity sufficient for seven days).

Additional measures include load shedding during station blackout by switching off unnecessary loads and maintaining reserves of available water resources that are seismically qualified to 0.1g.

Training of operation personnel to carry out the implemented preventive management actions is an important element for successful execution. Exercises with mock-ups involving shift personnel are carried out, and they include:

• exercise to provide hoses and portable pump for injecting water for cooling the planned objects through hook-up connections;
• exercise to transfer diesel oil to day tanks of the stationary fire pumps from underground storage tanks with hand barrel pumps;
• exercise to monitor crucial parameters with a portable self-powered measuring instrument during an emergency. The exercised parameters indicate the status of reactor shutdown, core cooling and containment integrity as well as spent fuel storage bay level.

The exercise will be carried out during biannual shutdown of the unit. These exercises have helped the station to identify areas for improvement to further enhance the effectiveness of preventive accident management as well as providing operation personnel real-time experience in handling beyond design basis events. The exercises are monitored by two persons from the operations management.