Solution for new construction plant provided by dedicated IMI CCI nuclear team

The challenge

In a nuclear plant, opening the relief path of the Nuclear Steam Supply System (NSSS) of a pressurised water reactor should be performed quickly enough to avoid the opening of the main steam safety valves. Therefore, to relieve pressure from the steam generator, a short opening time of a maximum of 1.8 seconds in transient conditions was specified. Since safety related air is not available in the area of the EPR steam dump system, then pneumatic actuated valves could not be used and motor-operated valves would be too slow. For this UK based project, only the IMI CCI solution with a system medium actuated valve could meet the specification.

The solution

The dedicated IMI CCI nuclear team offered the most appropriate solution available, a pilot-operated, system medium actuated valve type SE. The SE valve type was chosen due to its simple and compact design, providing high reliability through the limited number of active components. The solenoid pilot valves, used for this application, are a bespoke, unique and reliable IMI CCI design with more than 40 years operating experience in nuclear power plants all over the world. IMI CCI has a long-standing successful relationship with the parent company, and our established solution was the logical choice. IMI CCI has main steam relief isolation valves on various new generation III reactors around the world.