Assessment of Structural Integrity of the Pool Door for Research Reactor

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The principal function of the pool door, which is located between the reactor pool and the service pool, is to separate the reactor pool from the service pool for the maintenance and the removal of the equipment either in the reactor pool or in the service pool. Therefore, the pool door should maintain its strength and stiffness against the external loads and it prevents the leakage of pool water when it is installed in the pool gate. The structural integrity and leak-tightness are critical design requirements. In this study, various loads are considered such as dead load, fluid static load and fluid dynamic load due to seismic event (SSE) to verify the structural integrity of the pool door.