Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

Strainer Test Facilities

CNL's Strainer Test Facilities (STF) are located at its Chalk River Laboratories. The STF consists of two rigs, a multi-loop reduced-scale rig and a medium-scale rig, both of which were designed with specific features to simulate containment conditions following a post Loss-Of-Coolant-Accident (LOCA) in a nuclear power plant. These special features include temperature control, pH adjustment, data logging, flow control and chemical addition.

The STF has the latest control and monitoring technology for strainer chemical effects investigation including near-field flow simulation, debris preparation and flexibility with different test module accommodation. The two rigs have been used to measure debris bed pressure drop, across a strainer surface simulating post-LOCA sump environments. The STF are used to investigate the performance of different types of strainer designs and configurations for research and development as well as for commercial projects.

The Strainer Test Facilities are supported by a principal mechanical engineer who provides technical advice for test planning and reporting, as well as a principal chemical engineer who provides expertise related to chemical effects test methodology. The STF also includes a senior scientist, testing engineers, and a senior technologist each, each of whom have more than five years experience in strainer testing.

Currently, the Strainer Test Facilities are used to provide services to commercial customers, and are supported by the full spectrum of services available at CNL, including design and engineering, and advanced surface and material science.

CNL would like to develop partnerships within the Canadian and international nuclear industry as well as with universities for the development of the next generation of reactor strainers.