



PROJECT PROFILE

RWOS X-RAY ENCLOSURE AND DOOR DESIGN

CLIENT CHALLENGE

The Bruce Nuclear Generating Station required assistance with the development of its Radioactive Waste Operation Site (RWOS). Prior to joining Palladium Product Development and Design several current Palladium personnel were retained as outsourced engineering support for the CANDU nuclear reactor operations in tooling, casks and handling equipment for the transportation and storage of irradiated materials. This outsourced engineering team was asked to work on the development of a loaded Dry Storage Container inspection station in the RWOS facility.

PROJECT HIGHLIGHTS

The RWOS facility was designed to provide safe processing, handling, storage, and monitoring of approximately 2,000-80-tonne Dry Storage Containers (DSC) for used fuel and an inspection station was required to ensure the weld quality of the steel jackets enclosing of the Dry Storage Containers (DSC).

A feasibility study was completed by the outsourced team to determine the design options of the inspection station and shielding doors, with the integration of instrumentation for the x-ray inspection of the DSC welds. Of particular concern were the shielding doors, which were required the following shielding and mechanical features:

- Maintenance free and to be used 4 times a week
- 3 ½" thick steel, 7 feet wide and 18 feet tall doors, weighing over 11 tons each
- Sliding man door 5' x 7' x 4" approx. 3 tons weight.
- Doors were supported on rail type wheels and are independently driven by a traction drive mounted on the edge of each door.

NUCLEAR ENGINEERING

Palladium Product Development & Design continues to provide ongoing engineering services to the Nuclear industry and several of the same personnel are active with continued upgrades and product improvement programs. Working with reactor core technologies and fuel handling and transportation systems are design and engineering competencies provided by Palladium today.

