

Site (Structure) : ChalkRiver

Country: CANADA

Reporting Year: 2010

Full Name: Chalk River Disposal Facility

Description: Near surface disposal – in the Canadian Joint Convention report declared as storage with surveillance facility, not disposal.

Bedrock at the CRL site is a complex of Precambrian granitic gneiss. The bedrock, which is much faulted and fractured, is overlain with compacted sandy glacial till, large volumes of sand, some gravel, clayey silts and recent organic bog deposits. The sandy zone, in which the waste management facilities/areas (WMA) are located, has a high hydraulic conductivity and is free draining. The Ottawa River is the major drainage feature in the area. The CRL site covers an area of 37 km², comprising four research reactors and numerous other research and development facilities, and the WMA, consisting of six large storage/disposal facilities.

Official Website:

License Holder(s): Atomic Energy of Canada Limited (AECL)

Comment # 26991: Institutional Framework

Atomic Energy of Canada Limited is the main organization responsible for R&D in radioactive waste management in Canada. Nuclear Waste Management Organization is the implementing organization for the management of high level waste and spent fuel in Canada. The waste generators, i.e. Ontario Power Generation, Hydro Quebec and New Brunswick Power, are responsible for the management and disposal of low and intermediate level waste from NPPs in Canada. The CNSC (Canadian Nuclear Safety Commission) is the responsible organization for all regulatory and licensing matters relating to radioactive waste management in Canada.

Waste management facilities that are located at this site:

Facility:	WMA D
Description:	Buildings and luggers
Detailed Facility Description:	<p>The facility consists of (a) trenches excavated in sand, (b) seepage pits, (c) concrete monoliths, (d) asphalt-lined trenches, (e) concrete bunkers, and (f) tile holes. The barriers are made up of concrete and asphalt.</p> <p>All facilities are located in dune sand and are at least 1 m above groundwater. The layout of the Waste Management Area (WMA) and of the whole CRL site is such that wide buffer zones are provided between the WMA and the laboratory workers or general public.</p>
Waste Packages:	<p>Various containers are used for packaging of waste in the WMA facilities, including metal drums and cans, plastic-wrapped bales, metal and wooden boxes, etc. Some liquid wastes are immobilized in cement. Specific details are not available.</p> <p>The types of waste managed at the WMA at CRL are very diverse in nature. The overall waste inventory consists of 80% low level waste, 15% intermediate level waste and 5% high level waste. The wastes arise from a variety of sources, which include research laboratories, hospitals, universities, radioisotope production, fuel fabrication, etc. The low level waste is generally contaminated trash, containing less than 4 GBq/m³ of fission and activation products. The intermediate level waste consists of spent ion exchange resins, spent sealed sources, incinerator ash, baled waste, etc, having more than 4 GBq/m³ of fission and activation products.</p> <p>The facility capacity is estimated to be 98,900 m³, and is effectively full to capacity as of 2001.</p>

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Facility Operation:	The site has been in operation since 1946. Recently, it has undergone a corrective action consisting of installation of surface caps above some of the older trenches and retrieval for processing and/or repackaging. Emplacement into disposal units started in 1946 and continued until 1979. The facility is now considered closed.
Financing:	Waste producers pay for waste management including disposal through provisioning in their accounts. Provisions are made in line with Canadian accounting standards.

Storage part of facility**WMA D**

The following shows storage status for waste classes and SRS.

Waste Class	Actual	Planned
HLW	No	No
ILW	No	No
LLW	Yes	No

List SRS?	No
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
Luggers	various	0	No	No	No	No
MarineCont	various	0	No	No	No	No