

3.0 REVIEW OF APPROVALS TO OPERATE

3.1 Introduction

This chapter provides a Review of Approvals to Operate as per Specification 3.1 of FFEBC's Terms of Reference, which included the following:

- *Assessment of the Fundy Region Solid Waste Commission's compliance with Approvals to Operate*
- *Assessment of adequacy of the Approvals to Operate in providing protection for domestic wells and streams in "host community" down gradient of landfill.*

3.2 Background

The Fundy Region Solid Waste Commission currently operates the Crane Mountain Sanitary Landfill under Approval to Operate number SL6-R, a copy of which is included in Appendix A. The current Approval is valid from January 1, 2004 through to December 31, 2006. The Approval to Operate is issued to the :

Fundy Region Solid Waste Commission
for the operation of the
Crane Mountain Sanitary Landfill

with the description of the facility as follows:

A Regional Sanitary Landfill (and Construction and Demolition Debris Disposal Site) handling municipal solid waste (MSW) in Saint John and the western portion of Kings and Queens Counties of New Brunswick.

The Approval is issued in accordance with the Clean Air Act, Clean Water Act and the Clean Environment Act.

There have been a series of Approvals to Operate since the construction of the landfill. These are summarized in the following table, with the key changes noted.

Summary of Approvals to Operate

Number	Valid From	Valid To	Notes
SL6-C97	3 June 1997	Dec. 31, 1998	Approval to Construct
SL6-R97	Nov. 10, 1997	Dec. 31, 1998	First Approval to Operate
SL6-R99	Dec. 31, 1998	Dec. 31, 1999	
SL6-R2000	Jan. 1, 2000	Dec. 31, 2001	
SL6-R2002	Jan. 1, 2002	Dec. 31, 2003	
Amendment	Jan. 30, 2002		Construction and Demolition Facility added.
Amendment	Mar. 15, 2002		Revisions to permeate discharge monitoring.
SL6-R1	Jan. 1, 2004	Dec. 31, 2006	

The operations at the landfill will be reviewed relative to the conditions of the Approval. This includes the landfill design, operations and monitoring program.

3.3 Compliance with Approval to Operate

Generalized comments on the compliance of the landfill design and operations are presented in this section, but the detailed assessment of key aspects of the Approval to Operate are addressed throughout the report.

Design of Landfill

Based on the information available for this review, the design of each landfill cell appears to meet the requirements of the Approval. This includes the HDPE and clay liner system, and associated leachate collection components. The leachate collection system is reviewed in further detail in Chapter 5.

Monitoring Program

In general, the detailed monitoring program defined in the Approval appears to have been followed by the FRSWC. Chapter 4 provides a full review of the monitoring program associated with the wells surrounding the landfill. Underdrain monitoring is covered in

Chapter 5, while surface water monitoring is reviewed in Chapter 6. Chapter 11 addresses the domestic well monitoring program.

Reporting

The Approval to Operate defines very specific reporting requirements. These reports and their status relative to the FRSWC are summarized below in relation to the Item number in the Approval.

- Item 32. Every five years review assumptions associated with post-closure costs. Ongoing.
- Item 33. Record monthly Waste Inventory. This is done.
- Item 50. Prior to August 27, 2004, conduct video inspection of the leachate collection piping. See Item 105.
- Item 63. Provide Asbestos Disposal Records for all asbestos. This is done.
- Item 79. Record all monitoring data. This is done.
- Item 91. Prior to August 4, 2006, conduct a Monitoring Program Review by an independent third party. Pending.
- Item 92. Record leachate levels in the sumps on each week day. This is done.
- Item 95. Have a Contingency Plan for leachate disposal. This is done.
- Item 101. Submit a plan for Cell #4 Tier 1 and Tier 2 monitoring wells. In a Gemtec letter dated August 17, 2005 a plan was presented to install one new monitoring well by the Surge Pond. It was proposed that the new well in conjunction with two existing wells downstream of Cell #3 would meet the monitoring requirements for Cell #4. In an email from the NBD OELG dated September 1, 2005, the concept was approved.
- Item 102. Prior to January 31, 2004 submit a Site Map and Report complete with a flowchart for the facility. Landfill site plans exist, but an up-to-date detailed

report outlining the landfills operations and sequence of development appears to be lacking.

- Item 103. Prior to April 30, 2004 submit a Contingency Plan to manage permeate (leachate effluent). This plan, although brief, provided a clear strategy for trucking all leachate to the Lancaster treatment plant.
- Item 104. Prior to April 30, 2004 submit a copy of the Emergency Response Plan. The plan has been in place since 1997, with an update in August 2000.
- Item 105. Prior to August 27, 2004 submit an inspection report of the leachate collection piping. Video inspections were not completed, but alternative methods were employed to test the collection pipes flow capacity. Reports were submitted as required.
- Item 106. Prior to August 27, 2004 submit an interim leachate management plan for handling additional leachate from Cell # 4. The documentation and facilities related to this item included the construction of the Surge Pond and a plan for using it to handle leachate in excess of trucking capacity.
- Item 107. Prior to August 4, 2006 submit a copy of the Monitoring Program Review, as described in Item 91. Pending.
- Item 108. Prior to November 30 of each year submit a Domestic Well Monitoring Program report. This report has been submitted each year to the Department of Health and Wellness. Chapter 11 provides a review related to this item.
- Item 109. Prior to November 30 of each year submit a copy to each homeowner the results of their domestic well monitoring. This is done.
- Item 110. Within 30 days of the end of each Quarter submit a copy of all the monitoring analyses. This report has been submitted each Quarter. The groundwater monitoring program and analyses are reviewed in Chapter 4.
- Item 111. By March 31 of each year submit an annual report with all the monitoring information. This report has been submitted each year. The specific analysis of the data is review in Chapters 4, 5, 6 and 11.



Overall it seems that the FRSWC has met the reporting requirements of the Approval, but as noted in later chapters there are some aspects of the reporting that could be improved.

Construction and Demolition Site

The Construction and Demolition (C&D) disposal site received approval January 2002. An amendment was issued to the existing Approval to Operate for the construction and operation of the site. Some of the key requirements included the following:

- Meet the Guidelines for the Siting and Operation of a Construction and Demolition Site.
- Ensure 1.5 m of overburden (natural or imported) under the C&D site.
- Divert surface water away from the site.
- Provide a minimum of three monitoring wells, with one being up-gradient.
- Clearly defined acceptable and unacceptable materials.
- Monitor all waste disposed of at the site.
- Provide 150 mm of cover on a weekly basis.

These basic requirements appear to be met at the landfill.

Operations

Various aspects of the operation of the landfill are specified in the Approval to Operate. These range from daily cover requirements to litter control and drainage ditch maintenance. Some items are not presently in compliance, and either require an amendment to the Approval, or updates at the landfill. These include the leachate disposal system, with all leachate untreated and trucked to the Lancaster treatment plant. These items are discussed further in Chapter 5. In addition, the lack of an air quality sampling station during construction activities is inconsistent with Item 69 of the Approval.

Besides the items noted, in general it appears that the landfill is operating in compliance with most of the Approval requirements and that the design of the landfill is in compliance with the Approval.

3.4 Adequacy of Approval to Operate

The adequacy of the Approval to Operate relates to the ability of the landfill systems to protect the domestic wells and streams in the “host community” down gradient of the landfill. To fully answer this question, the review of the landfill systems is first required. Therefore, the findings of this study, presented in Chapter 12, will address this issue.