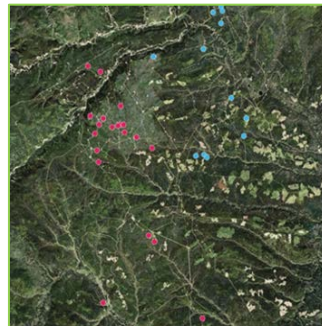

I N V E R T D R I L L C U T T I N G
H A Z A R D O U S W A S T E F A C I L I T Y
C O M P L I A N C E A U D I T R E P O R T
2 0 1 7

Environmental Management Act



August 2017

Executive Summary

The Invert Drill Cutting Hazardous Waste Compliance Audit (the audit) intends to establish a baseline for administrative and environmental requirements for invert waste sites in British Columbia (BC). The audit was conducted between September 2016 and January 2017 to assess the level of administrative compliance among authorizations for the storage and handling of invert drill cuttings resulting from oil and gas exploration activities.

Audit objectives include the following:

1. Determine the level of administrative compliance among authorizations for the storage and handling of invert drill cuttings.
2. Inform industries of the findings in order to bolster compliance with the Hazardous Waste Regulation.
3. Determine the invert treatment status and levels of contamination of the native soil.
4. Identify outstanding requirements for authorized sites that are not ready for closure and delisting as per Hazardous Waste Regulation requirements.

In BC, wastes are prohibited from being introduced into the environment under the *Environmental Management Act* (EMA), except where an introduction of waste is in accordance with a regulation, permit, approval or code of practice under the Act. The proper handling and disposal of hazardous wastes is addressed under the Hazardous Waste Regulation (HWR) within the EMA. Previous to the HWR, the proper handling and disposal of hazardous wastes was addressed under the Special Waste Regulation (SWR).

Historically the upstream oil and gas exploration and associated drilling processes produced invert waste (or invert). Invert waste is defined as drill cuttings that have been brought up from the borehole and are contaminated with diesel fuel and salt constituents. These solutions were historically used in the drilling process in environments where geological profiles were likely to result in problems keeping boreholes open and borehole collapse was likely to occur. Consequently, invert waste, at the time of production, has a waste oil content that exceeds the limit of 3 percent by weight that was previously defined in the historic SWR and is currently defined in section 1 of the HWR. There are currently 113 authorized invert waste sites in BC, of which 25 are cancelled, withdrawn or closed. There are 88 active authorizations to manage under the EMA and the HWR. Most of the invert is located at decommissioned well sites which are considered quasi-historic sites as they aren't receiving new waste. Invert sites are generally considered to have a low potential impact to the environment and human health.

The audit focuses on the two authorization holders who are responsible for the majority of active invert authorizations: Direct Energy Marketing Ltd. doing business as Centrica Energy Canada (Direct Energy) holds 30 active authorizations while Progress Energy Canada Ltd. (Progress Energy) holds 23. A total of 51 of these authorizations were assessed for compliance with the HWR during the audit, making up over 50% of all invert waste sites. This is considered to be a representative sample set of invert waste sites in BC.

Each authorization was assessed for compliance with the following administrative requirements:

1. Submission of a contingency plan for each authorization.
2. Submission of a closure plan for each authorization.
3. Submission of plans and specifications for each authorization.
4. Submission of a registration form (Form 1 of Schedule 5 under the HWR) by the current authorization holder for each authorization.
5. Submission of an annual report summarizing all monitoring activities, pump off activities, and inspections throughout each calendar year.

100% percent of the authorizations inspected as part of this audit were found to be out of compliance due to failing to meet the administrative requirements of their authorizations. The main factor that led to the observed non-compliances was a failure to submit the required reports on time. It is noted that the majority of missed annual reports occurred in years of transition where the operation of a site was transferred to a new authorization holder.

Advisory letters and inspection reports were sent to Direct Energy and Progress Energy informing them of the results and identifying the actions necessary to bring their authorizations back into compliance. In response, Progress Energy submitted the required Form 1 of Schedule 5, for all of the authorizations inspected as part of this audit. However, Progress Energy is still required to submit contingency plans and closure plans. Therefore, Progress Energy is out of compliance until these documents are received and approved by the Ministry of Environment and Climate Change Strategy. Direct Energy submitted the required annual reports, contingency plans and closure plans. These plans were approved by the ministry and Direct Energy is now considered to be in compliance for all of their invert waste authorizations.

Based on these results, audit recommendations include the following:

For the Oil & Gas Industry

1. Ensure authorization requirements are frequently reviewed to ensure that data and reports are submitted on time and that the submissions include the required information and parameters.

For the Ministry of Environment and Climate Change Strategy

2. Clarify the requirements for achieving registrations under the HWR and withhold authorization prior to approval.
3. Follow up with authorization holders regarding annual reporting requirements once the submission is past due, which is January 31 for the majority of invert waste sites.

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Introduction

The Invert Drill Cutting Hazardous Waste Facility Compliance Audit (the audit) intends to establish a baseline for administrative and environmental requirements for invert waste sites in British Columbia (BC). The audit was conducted between September 2016 and January 2017 to assess the level of administrative compliance among authorizations for the storage and handling of invert drill cuttings resulting from oil and gas exploration activities.

In BC, wastes are prohibited from being introduced into the environment under the [Environmental Management Act](#) (EMA), except where an introduction of waste is in accordance with a regulation, permit, approval or code of practice under the Act.

Hazardous wastes are wastes that could harm human health and/or the environment if not properly handled or disposed of (ENV, 2016). Waste that is classified as hazardous waste must be managed according to the rules and standards set out by EMA and the [Hazardous Waste Regulation](#) (HWR) (ENV, 2017). Previous to the HWR, the proper handling and disposal of hazardous wastes was addressed under the Special Waste Regulation (SWR).

Historically, the upstream oil and gas exploration and associated drilling processes produced invert waste (or invert). Invert waste is defined as drill cuttings that have been brought up from the borehole and are contaminated with diesel fuel and salt constituents. A mixture of diesel fuel and salt constituents was historically used in the drilling process in environments where geological profiles were likely to result in problems keeping boreholes open and borehole collapse was likely to occur. Consequently, invert waste, at the time of production, has a waste oil content that exceeds the limit of 3 percent by weight that was previously defined in the historic SWR and is currently defined in Section 1 of the HWR.

Invert waste is generally stored on site in biopiles or windrows. At some sites, the authorization holder has mixed invert waste into natural soils, creating a Land Treatment Area. Land Treatment Areas are designed to encourage greater

PLEASE NOTE:

The term “authorization” refers to invert waste sites that are authorized under the *Environmental Management Act*. This includes Special Waste Regulation and Hazardous Waste Regulation permits and registrations that are associated with invert waste sites.



Figure 1 - Windrow Formation (Lew, 2017)

WHAT IS BIOREMEDIATION?

“Bioremediation uses microorganisms to degrade organic contaminants in soil, groundwater, sludge and solids. The microorganisms break down contaminants by using them as an energy source” (USEPA, 2017).

naturally occurring bioremediation. However, proactive activities encouraging a greater level of bioremediation appear to have ceased at most sites after a few years of becoming an active authorization. Any bioremediation that has occurred since then has been naturally occurring.

At present, the majority (and potentially all) of the invert waste stored on active authorized sites does not exceed the HWR requirements for hydrocarbon or salt constituents. However, any invert waste present is classified as a hazardous waste under the HWR. Over time, contaminants present in invert waste leach into surrounding natural soils. Natural soils contaminated with hydrocarbon or salt constituents are classified as contaminated media and can be managed and treated under the [Contaminated Sites Regulations](#).



Figure 2 - Drilling in Support of Site Investigation (OGC, 2015)

Invert waste is not commonly produced in present day oil and gas drilling activities. Generally, the Ministry of Environment and Climate Change Strategy no longer grants new authorizations for the storage and treatment of invert waste. However, exceptions are made if a new authorization will bring historic invert sites into compliance with current regulatory requirements. Where invert waste is produced, authorization holders are now required to dispose of the waste immediately rather than storing it on site.

There are currently 113 authorized invert waste sites, of which 25 are cancelled, withdrawn or closed. There are 88 active authorizations to manage under the EMA and the HWR. Most of the invert is located at decommissioned well sites which are considered quasi-historic sites as they aren't receiving new waste. Invert sites are generally considered to have a low potential impact to the environment and human health.

Closure of the invert sites requires confirmation that the natural soils on site are remediated to current land use under the Contaminated Sites Regulation. Additionally, invert waste must be disposed of at a licensed facility or remediated to suit the current land use. Achieving closure is therefore an expensive venture, which has led to a preference among many authorization holders to hold off attempting to remediate and seek closure.

Environmental regulations are in place to improve environmental outcomes and increase human health and safety. This audit provides an inventory of authorized invert waste sites in northeast BC. 51 active authorizations were inspected to determine whether authorization holders are in compliance with applicable regulatory requirements. The findings of the inventory and compliance inspections will assist in finalizing a process that streamlines authorization amendments and future site closures, and provide data for the Ministry to determine if environmental hazards exist at invert waste sites .

The invert sites inventory and compliance inspections will serve as the basis for this audit. Specific objectives of the audit include:

1. Determine the level of administrative compliance among authorizations for the storage and handling of invert drill cuttings.
2. Inform industries of the findings in order to bolster compliance with the HWR.
3. Determine the invert treatment status and levels of contamination of the native soil.
4. Identify outstanding requirements for authorized sites that are not ready for closure and delisting as per HWR requirements.

Regulatory Context

The Ministry of Environment and Climate Change Strategy is responsible for the protection, management and conservation of BC's water, land, air and living resources. In order to fulfil its mandate, the ministry establishes and administers a broad suite of regulatory requirements.

Invert waste poses a risk of contaminating natural soil and groundwater with hydrocarbon and salt constituents. Therefore, invert sites are authorized under a variety of instruments under EMA; including:

1. SWR permits.
2. SWR registrations and/or
3. authorizations under the HWR.

Please refer to Table 1 for an overview of the legislation that is relevant to this audit.



Figure 3 - Site Investigation (OGC, 2017)

Table 1 - Regulatory Context

<u>Environmental Management Act</u>	<p>EMA is one of the key ministry statutes governing environmental protection and management in BC.</p> <p>EMA regulates industrial and municipal waste discharges, pollution, air quality, hazardous waste and contaminated site remediation. It provides powers and authorities for ministry staff to verify compliance, to prevent and correct detrimental environmental impacts, and to take enforcement action and respond to environmental emergencies.</p>
<u>Hazardous Waste Regulation</u>	<p>The HWR specifically outlines the registration, minimum siting standards, operational and specific requirements that hazardous waste facilities must adhere to in order to be exempt from EMA.</p> <p>Please refer to <u>Appendix 1</u> for information on the HWR sections assessed during the audits compliance inspections.</p>

Special Waste Regulation – replaced by the HWR

Invert sites were originally authorized approximately 15-20 years ago under the SWR with special waste permits to store and treat invert drill cuttings produced from upstream oil and gas drilling and exploration activities.

When the HWR came into effect in 2004, the official requirement was that all SWR permits would be cancelled and then re-registered as HWR registrations within a two year timeframe. This requirement was not consistently communicated and not all of the permits were re-registered as registrations under the HWR.

For the purposes of this audit, SWR permits and registrations will be referred to as HWR authorizations.

Audit Approach

There are currently 113 invert waste sites that are authorized under EMA and the HWR. Of these:

- 25 authorizations have been cancelled, withdrawn or closed.
- 88 authorizations are active.

The audit focuses on two authorization holders who are responsible for 53 of the active authorizations: Direct Energy Marketing Ltd. doing business as Centrica Energy Canada (Direct Energy) holds 30

active authorizations while Progress Energy Canada Ltd. (Progress Energy) holds 23. A total of 51 of these authorizations were assessed for compliance with the HWR during the audit, making up over 50 percent of all invert waste sites.¹ This is considered to be a representative sample set of invert waste sites in BC.

Please refer to [Appendix 2](#) for a list of authorizations included in the audit.

A desktop review was determined to be the most suitable inspection method due to the following information:

- Many requirements are administrative in nature.
- Waste is not being actively treated on invert sites.
- Most of the inverts are located at decommissioned well sites and are considered quasi-historic sites as they are no longer receiving new waste.
- Engineering controls (such as berms and catchment ponds) were removed from invert sites after monitoring and sampling programs were undertaken to prove that the environmental impacts and risks are low.



Figure 4 - Workers with Drill (OGC, 2013)

¹ Two Progress Energy authorizations have pending requests in the ministry application queue. These authorizations were not included in the audit.

Additionally, the audit recorded the current status of the hazardous waste located at invert sites (i.e. whether hazardous waste is still present on site and whether confirmatory sampling has been conducted on formerly underlying natural soils). Where invert waste has been removed and confirmatory sampling conducted, closure/cancellation of the authorization could be achieved providing that natural soils meet the required land use under the Contaminated Sites Regulation.

Compliance Inspections

Compliance Inspections are conducted to verify whether an authorization holder is in compliance with applicable regulatory requirements. The intent of an inspection is to verify compliance with the requirements that have been defined for the specific activity in question (ENV Compliance, 2016).

Desktop reviews were conducted for the 51 active authorizations included in the audit and the results of these provide the basis of the audit. Please refer to Figure 5 for the location of the invert sites included in the audit.

It is important to note that inspections are a “point-in-time” assessment of authorization requirements (ENV, 2016).

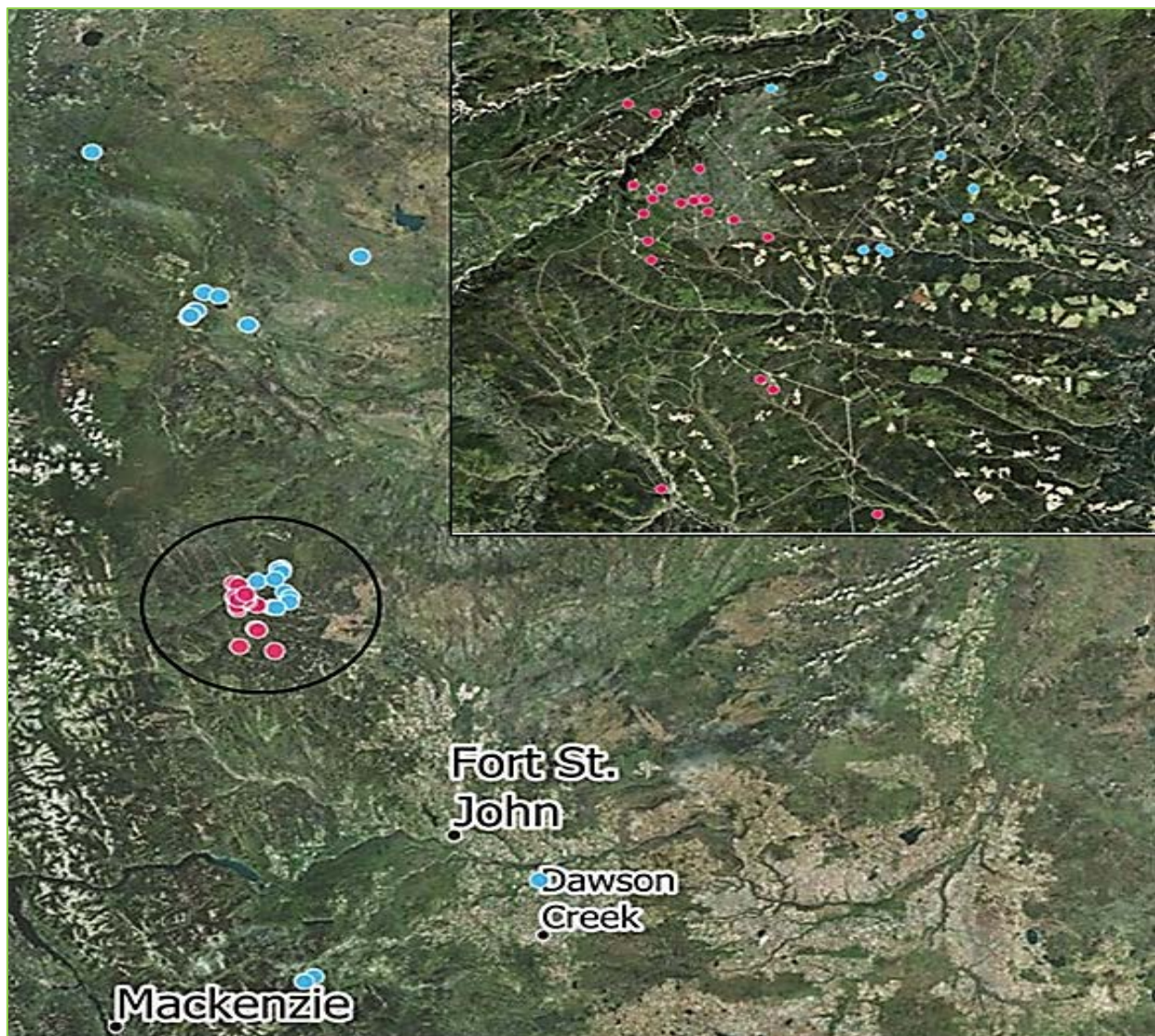


Figure 5 - Geographic Location of the Invert Sites in the Audit

Requirements Assessed

Each authorization was assessed for compliance with the following administrative requirements:

1. Submission of a contingency plan.
2. Submission of a closure plan for each authorization.
3. Submission of plans and specifications.
4. Submission of a registration form (Form 1 of Schedule 5 under the HWR) by the current authorization holder
5. Submission of an annual report summarizing all monitoring activities, pump off activities, and inspections throughout each calendar year.

Waste removal and confirmatory sampling activities were also recorded as part of the administrative inspections. This information was captured to record and facilitate potential future site closures where closure criteria have been met.

Compliance Determinations

Each inspection includes information on the following:

- The authorization requirements that were assessed for compliance.
- Compliance determinations.
- Compliance history.
- Compliance and enforcement responses (if applicable).

A critical component of each inspection is its compliance determination. The four compliance determinations are outlined in Table 2.

WHAT IS A COMPLIANCE DETERMINATION?

A compliance determination indicates whether or not an authorization holder is fulfilling the requirements of their authorization.

Table 2 - Compliance Determinations

Compliance Determinations	
"In"	The authorization holder was determined to be in compliance with the requirements of Sections and/or Subsections of the authorization.
"Out"	The authorization holder did not meet all of the requirements of Sections and/or Subsections of the authorization.
"Not Determined"	The information necessary to determine compliance was missing.
"Not Applicable"	The requirements of Sections and/or Subsections of the authorization were not applicable.

Compliance and Enforcement Response Determinations

After conducting each inspection, the [Compliance and Enforcement Policy and Procedure](#) (C&E Policy and Procedure) and the Compliance Decision Matrix were consulted to determine the appropriate response to any non-compliance(s) identified during the inspections (see [Appendix 3](#) for the Compliance Decision Matrix).

The C&E Policy and Procedure sets out how ministry staff assesses and responds to non-compliance. It provides consistency, clarity and predictability regarding the consequences of non-compliance, and ensures that ministry resources are directed to the highest priorities. There is a variety of compliance and enforcement responses (e.g. notice, advisory, warning, etc.). However, advisories were determined to be the appropriate response to the non-compliance(s) identified during the audit.

WHAT IS AN ADVISORY?

An advisory is often the first enforcement response taken in cases of minor to moderate non-compliance when there is a high likelihood of achieving compliance.

An advisory notifies the authorization holder that they are “Out” of compliance with a specific regulatory requirement and often recommends a course of action that is expected to achieve compliance.

Results of Audit

The results of the 51 inspections are broken down into three subsections:

1. Overall results,
2. Progress Energy [results](#) and
3. Direct Energy [results](#).

Overall Results

Fifty-one authorizations were inspected. 100% of the authorizations were “Out” of compliance with various regulatory requirements.

Advisory letters were issued for 100% of the authorizations. An advisory was determined to be the appropriate response to the non-compliance(s) identified in each inspection because none of the authorizations have an outstanding history of non-compliance and invert sites are a low risk to the environment and human health. Please refer to Table 3 and Figure 7 for an overview of the results.

[Appendix 4](#) provides a more detailed overview of the inspection results.



Figure 6 - Capped Borehole (OGC, 2017)

Table 3 - Overall Audit Results

Assessed During Inspections	Audit Results
Annual reporting	98% of invert sites failed to meet the annual reporting requirement. The majority of missed annual reports occurred in years of transition where the operation of a site was transferred to a new authorization holder. ²
Design specifications	100% submitted design plans and specifications.
Closure plans	98% failed to submit closure plans. ³
Contingency plans	100% failed to submit contingency plans.
Operational plans	98% submitted operational plans.
Submission of HWR registration forms (Form 1 of Schedule 5)	39% submitted a cancellation letter for the SWR, requested re-registration under the HWR and submitted a registration form (Schedule 5, Form 1).

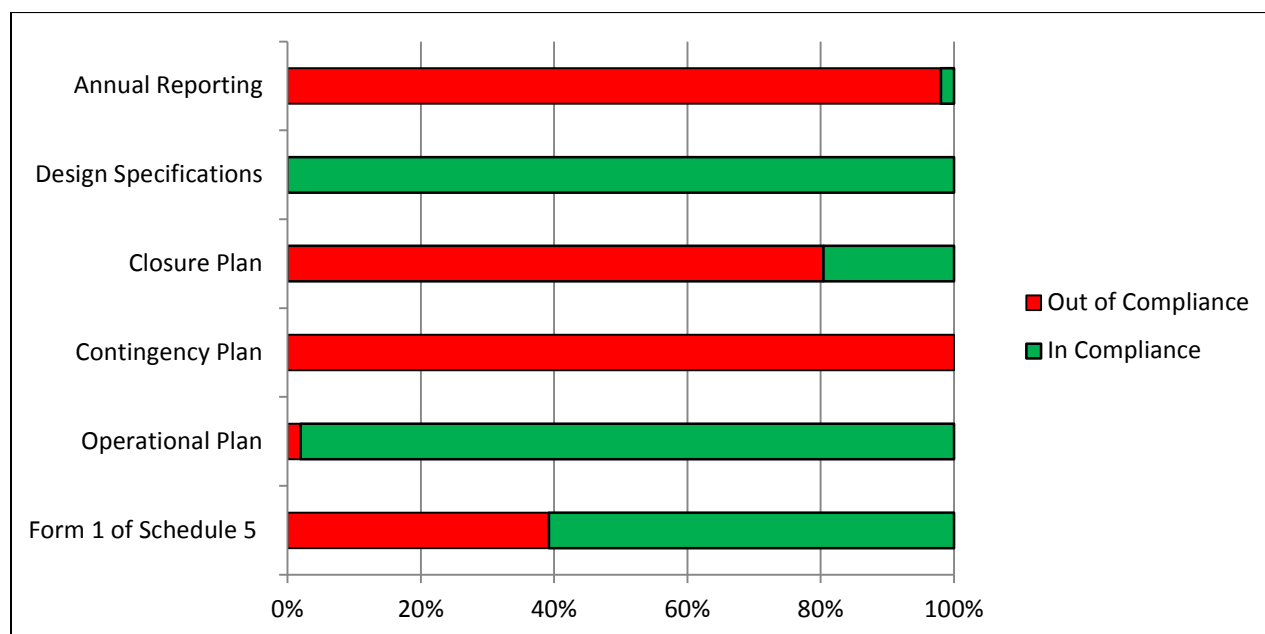


Figure 7 - Overall Audit Results

² While missing annual report submissions were classified as “Out” of compliance, it was determined that the authorization holder currently managing the site is not considered to be “Out” of compliance for annual report submissions prior to taking responsibility for managing the authorization. As a result, all invert authorizations assessed in this audit are considered to be in compliance for the annual reporting requirement.

³ Closure plans were required prior to awarding the initial SWR permits for these sites.

Progress Energy Results

Twenty-one Progress Energy authorizations were inspected. All authorizations were “Out” of compliance with various regulatory requirements. The results are summarized in Table 4 and Figure 8.

Table 4 - Audit Results for Progress Energy Authorizations

Assessed During Inspections	Audit Results
Annual reporting	All of the 21 authorizations failed to meet annual reporting requirements.
Design specifications	Submitted for all 21 authorizations.
Closure plans	Not submitted for any of the 21 authorizations.
Contingency plans	Not submitted for any of the 21 authorizations.
Operational plans	Submitted for all 21 authorizations.
Submission of HWR registration forms (Form 1 of Schedule 5)	One of 21 authorizations submitted a cancellation letter for the SWR, requested re-registration under the HWR and submitted a registration form (Schedule 5, Form 1).
Status of invert waste on site	Waste continues to be stored in biopiles or windrows at all 21 authorization sites. The invert waste on site is currently free draining as berms or catchment pools were historically removed with ministry approval.

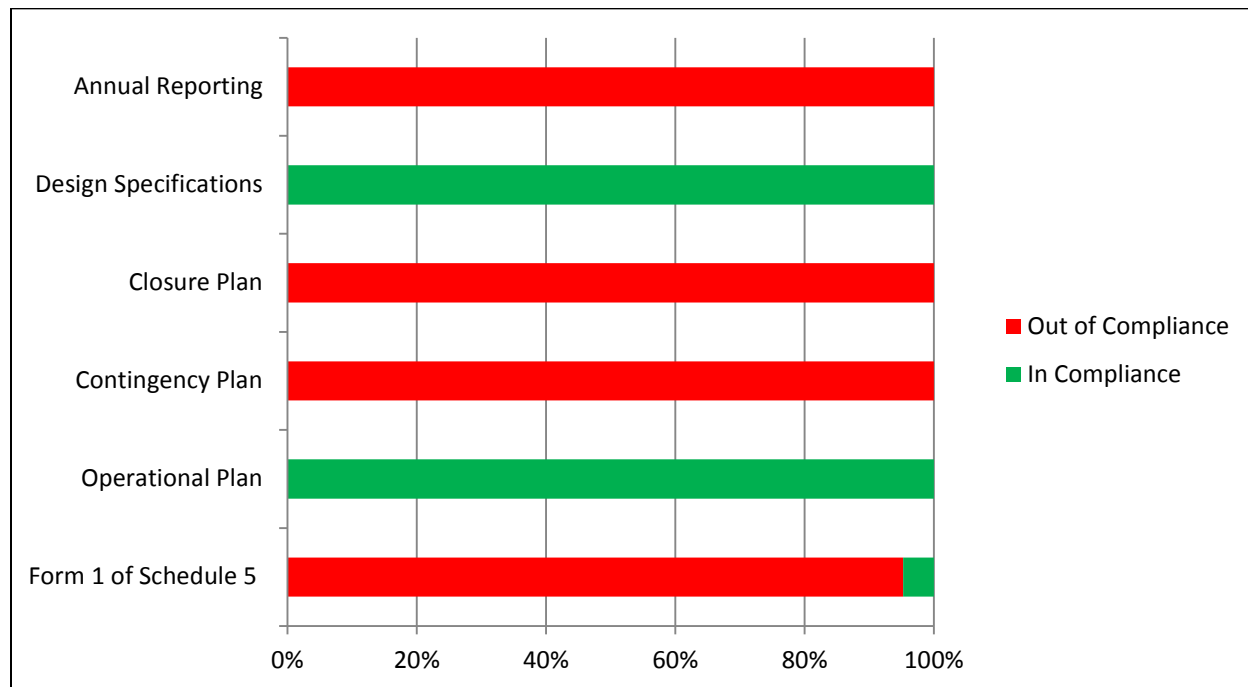


Figure 8 - Overall Results for Progress Energy Authorizations

Direct Energy Results

Thirty Direct Energy authorizations were inspected. All authorizations were “Out” of compliance with various regulatory requirements. The results are summarized in Table 5 and Figure 9.

Table 5 – Audit Results for Direct Energy Authorizations

Requirements Assessed	Audit Results
Annual reporting.	One authorization met its annual reporting requirements. ⁴
Design specifications.	Submitted for all 30 authorizations.
Closure plans.	Submitted for 10 authorizations.
Contingency plans.	Not submitted for any of the 30 authorizations.
Operational plans.	Submitted for 29 authorizations.
Submission of HWR registration forms (Form 1 of Schedule 5).	All 30 authorizations submitted a cancellation letter for the SWR, requested re-registration under the HWR and submitted a registration form (Schedule 5, Form 1).
Status of invert waste on site.	<p>Waste continues to be stored in biopiles or windrows at seven of the 30 authorization sites. Waste on the remaining 23 invert waste sites has been removed to licensed or approved facilities.</p> <p>Of the 23 sites in which waste was removed, confirmatory sampling has confirmed that formerly underlying natural soils are do not meet the applicable Contaminated Site Regulation land use guidelines for 15 sites. These results have been summarized in annual reports and no remediation report has been submitted to facilitate closure of these invert sites.</p> <p>All sites are currently free draining as berms or catchment pools were historically removed with ministry approval.</p>

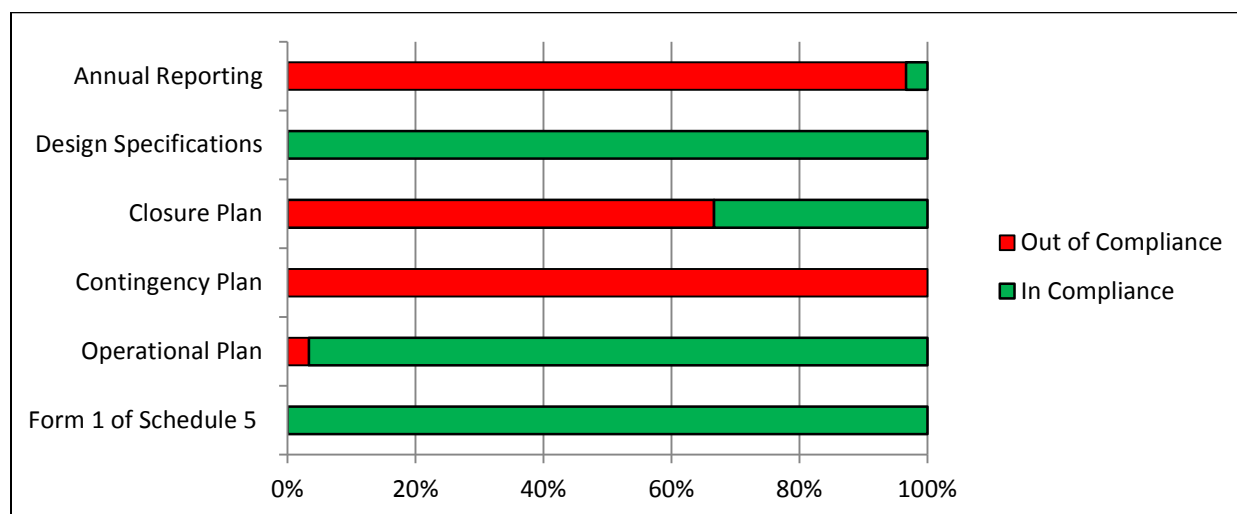


Figure 9 - Audit Results for Direct Energy Authorizations

⁴ Direct Energy was not responsible for annual reporting requirements prior to completion of the official transfer of the site on September 26, 2013.

Conclusion and Recommendations

One hundred percent of the authorizations inspected as part of this audit were found to be out of compliance due to failing to meet one or more of the administrative requirements of their authorizations under the HWR. The main factor that led to the observed non-compliances was a failure to submit the required reports. It is noted that the majority of missed annual reports occurred in years of transition where the operation of a site was transferred to a new authorization holder.

Advisory letters and inspection reports were sent to Direct Energy and Progress Energy informing them of the results and identifying the actions necessary to bring their authorizations back into compliance. In response, Progress Energy submitted the required Form 1 of Schedule 5, for all of the authorizations inspected as part of this audit. However, Progress Energy is still required to submit contingency plans and closure plans. Therefore, Progress Energy is “Out” of compliance until these documents are received and approved by the Ministry of Environment and Climate Change Strategy. Direct Energy submitted the required annual reports, contingency plans and closure plans. These plans were approved by the ministry and Direct Energy is now considered to be “In” compliance for all of their invert waste authorizations.

Based on these results, audit recommendations include the following:

For the Oil & Gas Industry

1. Ensure authorization requirements are frequently reviewed to ensure that data and reports are submitted on time and that the submissions include the required information and parameters.

For the Ministry of Environment and Climate Change Strategy

2. Clarify the requirements for achieving registrations under the HWR and withhold authorization prior to approval; and
3. Follow up with authorization holders regarding annual reporting requirements once the submission is past due, which is January 31 for the majority of invert waste sites.

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Appendix 1 – Key Legislation

Appendix 1 – Key Legislation

In British Columbia, wastes are prohibited from being introduced into the environment under the [Environmental Management Act](#) (EMA), except where an introduction of waste is in accordance with a regulation, permit, approval or code of practice under the Act. The proper handling and disposal of hazardous wastes is addressed under the [Hazardous Waste Regulations](#) (HWR) within the EMA. Please see below for the HWR requirements that were assessed during the audit.

Hazardous Waste Regulation (HWR)

Section 4 – Plans

4(1) Before beginning the construction or installation of a hazardous waste facility, the owner must obtain approval of any of the following that apply:

- (a) plans and specifications of new works;
- (c) a new operational plan;

4(2) An operational plan under subsection (1) (c) must specify all of the following:

- (a) which hazardous wastes will be stored, treated, recycled or disposed of at the facility;
 - (a.1) the maximum quantity of each hazardous waste specified under paragraph (a) that the owner estimates will be stored at the facility at any time;
 - (a.2) the facility's maximum daily capacity for treating, recycling or disposing of each hazardous waste specified under paragraph (a);
- (b) details of the monitoring that will be carried out, including its content and frequency;
- (c) details of the reporting that will be provided to a director, including its content and frequency;
- (d) details of auditing activities.

4(3) An owner who obtains the approval required under subsection (1) must carry out the construction, installation and operation of the hazardous waste facility in accordance with the approved plans.

Section 11 – Contingency Plan

11 The owner of a hazardous waste facility must

- (a) prepare and maintain in up-to-date readiness a contingency plan, approved by a director, which documents procedures to be followed during emergencies, including
 - (i) shut down procedures,
 - (ii) communication networks to be used, and
 - (iii) notification procedures for
 - (A) police departments in the vicinity,
 - (B) fire departments in the vicinity,
 - (C) emergency response teams,
 - (D) ambulance and medical services,
 - (E) contractors carrying on business in the vicinity,
 - (F) schools, hospitals and residents,
 - (G) federal, Provincial and municipal governments,

- (iv) evacuation procedures for facility staff,
- (v) abatement measures,
- (vi) inventories of spill response and cleanup equipment available
 - (A) at the facility,
 - (B) from contractors carrying on business in the vicinity,
 - (C) from agencies operating in the vicinity, and
 - (D) from regional suppliers,

Section 14 – Closure

14(1) The owner of a hazardous waste facility must not operate the facility unless that owner has prepared a written closure plan and has received approval of the plan

....

Section 43 – Registration of hazardous waste

- 43(1)** A person who,
- (a) within a 30 day period, produces, or
 - (b) at any time, stores at an onsite facility

A quantity of a category of hazardous waste greater than the quantity set out in Column II of Schedule 6 opposite that category must register the hazardous waste and apply for a generator registration number by completing Form 1 of Schedule 5 and submitting it to the director.....

43(5) Subsections (1) and (2) do not apply in relation to hazardous waste that is recycled at an onsite facility if the hazardous waste is stored at the onsite facility in compliance with this regulation.

Appendix 2 – List of Authorizations Included in the Audit

Appendix 2 – List of Authorizations Included in the Audit

Please refer to Table 6 for the 51 authorizations that were inspected as part of the audit.

Note: Direct Energy Marketing Ltd. doing business as Centrica Energy Canada (Direct Energy) authorizations are in blue while Progress Energy Canada Ltd. (Progress Energy) authorizations are white.

Table 6 – Authorizations Inspected

RS-14982	RS-15014	RS-17191	RS-16074
RS-15763	RS-15765	RS-17192	RS-16664
RS-15992	RS-15993	RS-17187	RS-16672
RS-16661	RS-16674	RS-17186	RS-16932
RS-16716	RS-16718	RS-16717	RS-15358
RS-17184	RS-17185	RS-17182	RS-17193
RS-17188	RS-17190	RS-17519	RS-16236
RS-17195	RS-17237	RS-16676	RS-16666
RS-15691	RS-15152	RS-17008	RS-17282
RS-15990	RS-15766	RS-17194	RS-17010
RS-16163	RS-16162	RS-16290	RS-16662
RS-16680	RS-16679	RS-16667	RS-16671
RS-16948	RS-16719	RS-16709	

Appendix 3 – Non-Compliance Decision Matrix

Appendix 3 – Non-Compliance Decision Matrix

The Non-Compliance Decision Matrix is a risk-based guidance tool for assessing the variability and severity of factors influencing the selection of compliance tools (Figure 10). These factors include:

- escalating levels of environmental, human health or safety impacts (Figure 11); and
- diminishing likelihood of achieving compliance (Figure 12).

The Non-Compliance Decision Matrix helps to ensure a consistent and principled approach to assessing and responding to regulatory non-compliance; it is to be used with discretion by ministry staff when considering the context and specifics of individual cases of non-compliance.

		ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
DIMINISHING LIKELIHOOD OF COMPLIANCE (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)	CATEGORY A (HIGH)	ADVISORY	ADVISORY - WARNING	WARNING - ORDER - ADMIN SANCTION - AP	ORDER - ADMIN SANCTION - AP - INVESTIGATION	INVESTIGATION <div>Note: An investigation is always necessary prior to issuance of a ticket, recommendation of formal charges or use of restorative justice therefore these tools are not shown on the matrix. Depending on the outcome, an investigation could also culminate in the issuance of a warning, administrative sanction or penalty, or an order.</div>
	CATEGORY B	ADVISORY - WARNING	WARNING - AP	INVESTIGATION		
	CATEGORY C	WARNING - AP	WARNING - ORDER			
	CATEGORY D	WARNING - ORDER - ADMIN SANCTION - AP	ADMIN SANCTION - AP - INVESTIGATION			
	CATEGORY E (LOW)	ORDER - ADMIN SANCTION - AP - INVESTIGATION				

Figure 10 - Non-Compliance Decision Matrix

LEVEL 1
<ul style="list-style-type: none"> • Non-compliance that does not result or is unlikely to result in any environmental, human health or safety impact; or • Minor administrative non-compliance.
LEVEL 2
<ul style="list-style-type: none"> • Non-compliance resulting in a minor, temporary impact to the environment or minor, temporary threat to human health or safety; or • Significant administrative non-compliance.
LEVEL 3
<ul style="list-style-type: none"> • Non-compliance resulting in a moderate, temporary impact to the environment or moderate, temporary threat to human health or safety.
LEVEL 4
<ul style="list-style-type: none"> • Non-compliance resulting in a significant impact to the environment or significant threat to human health or safety (may be temporary or permanent).
LEVEL 5
<ul style="list-style-type: none"> • Known or likely human health impact that is severe in effect, i.e. resulting in hospitalization and/or long term human health consequences.

Figure 11 - Levels of Escalating Environmental, Human Health or Safety Impacts (Actual or Potential)

<p>CATEGORY A - Indications of future and ongoing compliance are very high</p> <ul style="list-style-type: none"> • No previous occurrences of non-compliance; • Good demonstrated awareness of and/or capacity to meet regulatory requirement; and/or • Offender has a reasonable and cooperative attitude.
<p>CATEGORY B - Indications of future and ongoing compliance are uncertain</p> <ul style="list-style-type: none"> • Few previous occurrences of non-compliance; and/or • Questionable awareness of and/or capacity to meet regulatory requirement.
<p>CATEGORY C - Indications of future and ongoing compliance are unlikely</p> <ul style="list-style-type: none"> • Numerous previous occurrences of non-compliance; and/or • Little or no awareness of and/or capacity to meet regulatory requirement.
<p>CATEGORY D - No indication of future and ongoing compliance</p> <ul style="list-style-type: none"> • Wilful violation of ministry regulatory requirement; and/or • Little or no demonstrated willingness or capacity to meet regulatory requirement.
<p>CATEGORY E - No indication of future and ongoing compliance</p> <ul style="list-style-type: none"> • Hindering or obstructing a ministry official; • Refusing to furnish required information; and/or • Intentionally including false or misleading information in any required document.

Figure 12 - Categories of Likelihood of Compliance (Compliance History/Willingness and Capacity to Comply)

Appendix 4 – Summary of Audit Inspection Results

Appendix 4 – Summary of Audit Inspection Results

The audit focused on the two authorization holders who are responsible for the majority of active invert authorizations: Direct Energy Marketing Ltd. doing business as Centrica Energy Canada (Direct Energy) holds 30 active authorizations while Progress Energy Canada Ltd. (Progress Energy) holds 23. A total of 51 of these authorizations were assessed for compliance with applicable regulatory requirements during the audit, making up over 50% of all invert waste sites. Please refer to Table 7 for a summary of the inspection results.

Table 7 - Summary of Audit Inspection Results

File #	Current Proponent	Annual Reports Submitted by Year	Change of Name Documentation	Schedule 5 - Form 1	Operational Plan	Contingency Plan	Closure Plan
14982	Direct Energy	2009, 13-15	Submitted	Submitted	Submitted	Not Submitted	Submitted
15014	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
15152	Direct Energy	2004-09, 11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
15358	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
15691	Direct Energy	2004-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
15763	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
15765	Direct Energy	2004-06, 07-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
15766	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
15990	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
15992	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
15993	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
16074	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16162	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
16163	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
16236	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16290	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16661	Direct Energy	2004-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16662	Progress Energy	2006-09, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted

File #	Current Proponent	Annual Reports Submitted by Year	Change of Name Documentation	Schedule 5 - Form 1	Operational Plan	Contingency Plan	Closure Plan
16664	Progress Energy	2004-11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16666	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16667	Progress Energy	2004-09, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16671	Progress Energy	2007-09, 11, 14, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16672	Progress Energy	2004, 06-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16674	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16676	Progress Energy	2004-09, 11, 12, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16679	Direct Energy	2004-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16680	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16709	Progress Energy	2004-09, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16716	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Not Submitted	Not Submitted	Not Submitted
16717	Progress Energy	2004-09, 11, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16718	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16719	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
16932	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
16948	Direct Energy	2004-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17008	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17010	Progress Energy	2004-09, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17182	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17184	Direct Energy	2004-09, 11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17185	Direct Energy	2004-10, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17186	Direct Energy	2004, 06-09, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
17187	Direct Energy	2004-06, 08-09, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
17188	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted

File #	Current Proponent	Annual Reports Submitted by Year	Change of Name Documentation	Schedule 5 - Form 1	Operational Plan	Contingency Plan	Closure Plan
17190	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17191	Direct Energy	2007-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17192	Direct Energy	2009, 11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Submitted
17193	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17194	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17195	Direct Energy	2004-13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17237	Direct Energy	2004-11, 13, 15	Submitted	Submitted	Submitted	Not Submitted	Not Submitted
17282	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted
17519	Progress Energy	2004-09, 11, 14, 15	Submitted	Not Submitted	Submitted	Not Submitted	Not Submitted