

Manual 001: Facility and Well Site Inspections

September 15, 2010

Effective June 17, 2013, the Energy Resources Conservation Board (ERCB) has been succeeded by the Alberta Energy Regulator (AER).

As part of this succession, the title pages of all existing ERCB directives now carry the new AER logo. However, no other changes have been made to the directives, and they continue to have references to the ERCB. As new editions of the directives are issued, these references will be changed.

Some phone numbers in the directives may no longer be valid. Contact AER Inquiries at 1-855-297-8311 or inquiries@aer.ca.

Manual 001

September 15, 2010

Facility and Well Site Inspections

The Energy Resources Conservation Board (ERCB/Board) has approved this manual on September 15, 2010.

<original signed by>

Dwayne Waisman
 Executive Manager
 Field Surveillance and Operations Branch

Contents

Introduction	3
Inspector Safety and Conduct	3
Industry Compliance.....	4
How to Use This Manual	4
A Gas Facilities	5
1 Equipment	5
1.1 Gas Measurement	5
1.2 Hydrocarbon Liquids Measurement	6
1.3 Water/Other Measurement	7
1.4 Spacing	7
1.5 Flaring, Incinerating, and Venting.....	8
1.6 Signs and Security	10
1.7 Emergency Controls and Relief Systems	10
1.8 Storage.....	11
2 Public Safety	12
2.1 ERPs	12
3 Environment	14
3.1 Emissions.....	14
3.2 Waste Management	15
3.3 Spills.....	16
3.4 Surface Water	16
4 Liability Management	16
4.1 Abandonment	16
99 Other.....	16
B Oil Facilities.....	17
1 Equipment	17
1.1 Gas Measurement.....	17

1.2	Hydrocarbon Liquids Measurement	18
1.3	Water/Other Measurement	19
1.4	Spacing	19
1.5	Flaring, Incinerating, and Venting.....	20
1.6	Signs and Security	22
1.7	Emergency Controls and Relief Systems	22
1.8	Storage.....	23
2	Public Safety	24
2.1	ERPs	24
3	Environment	26
3.1	Emissions.....	26
3.2	Waste Management	27
3.3	Spills.....	28
3.4	Surface Water	28
4	Liability Management	28
4.1	Abandonment	28
99	Other.....	28
C	Waste Facilities.....	29
1	Equipment	29
1.2	Hydrocarbon Liquids Measurement	29
1.3	Water/Other Measurement	29
1.4	Spacing	30
1.5	Flaring, Incinerating, and Venting.....	31
1.6	Signs and Security	32
1.7	Emergency Controls and Relief Systems	32
1.8	Storage.....	32
2	Public Safety	34
2.1	ERPs	34
3	Environment	34
3.1	Emissions.....	34
3.2	Waste Management	35
3.3	Spills.....	35
3.4	Surface Water	36
5	Waste Facilities Specific	36
5.1	General	36
5.2	Waste Storage Facility/Transfer Station.....	36
5.3	Landfill.....	36
5.4	Biodegradation	37
99	Other.....	37
D	Well Site Inspections	38
1	Equipment	38
1.1	Gas Measurement	38
1.2	Hydrocarbon Liquids Measurement	39
1.3	Water/Other Measurement	40
1.4	Spacing	40
1.5	Flaring, Incinerating, and Venting.....	41
1.6	Signs and Security	43
1.7	Emergency Controls and Relief Systems	43
1.8	Storage.....	44
2	Public Safety	46
2.1	ERPs	46

3	Environment	47
3.1	Emissions.....	47
3.2	Waste Management	48
3.3	Spills.....	49
3.4	Surface Water	49
4	Liability Management	49
4.1	Suspension.....	49
4.2	Abandonment	50
5	Well Site Inspections Specific.....	51
5.1	Injection/Disposal Wells	51
5.2	SCVF/GM	51
5.3	Isolation Packer	51
5.4	Casing Failure.....	52
99	Other.....	52
Appendix 1	References and Contacts.....	53
Appendix 2	Acronyms.....	55

Introduction

Manual 001: Facility and Well Site Inspections is a resource document for ERCB personnel. Its purpose is to ensure that oil and gas production and processing facilities, injection and disposal facilities, custom treating plants, waste management facilities, and well sites are inspected in a consistent manner throughout Alberta.

This manual is designed to highlight the most prevalent noncompliances encountered during routine surveillance and provide references to the ERCB requirements for the identified deficiencies. Industry may also use this manual to become familiar with ERCB inspections and as a guide for their own compliance management systems.

Manual 001 is a consolidation of the 2005 editions of *Directive 063: Requirements and Procedures for Oilfield Waste Management Facilities* and *Directive 064: Requirements and Procedures for Facilities*, which have been rescinded. New and updated regulatory requirements since 2005 have been incorporated into this document.

The ERCB is committed to continuous improvement. Accordingly, the Field Surveillance and Operations Branch (FSOB) will update this manual as needed to ensure that it continues to reflect the current regulatory requirements.

Inspector Safety and Conduct

Safety is of paramount concern to the ERCB. Field Operations staff will conduct their work in accordance with *Internal Guide 8: Occupational Health and Safety Program Manual* and the FSOB *Safe Work Practices and Procedures Manual*. Field Operations staff are to be aware of industry safety requirements and any unsafe operating conditions and practices should be pointed out to the licensee. If necessary, the inspector should also advise Alberta Workplace Health and Safety.

Field Centre inspectors represent the ERCB and must display a positive and cooperative attitude and maintain fairness to all stakeholders.

At their discretion, inspectors may notify company personnel prior to conducting an inspection and, where appropriate, should follow company policies that require company notification prior to lease entry.

Inspectors may request the facility operator's presence during an inspection and/or have a brief discussion with the licensee's on-site personnel. This is an opportunity to establish and enhance relations, exchange information about the site and its operations, educate industry on ERCB requirements and processes, and ensure remedial or follow-up work is conducted.

Inspectors should have a copy of this manual and relevant ERCB regulatory documents on hand when conducting an inspection.

A Field Inspection Summary card should, where possible, be left on site upon completion of the inspection. Unless requested, it is not necessary to leave a card if inspection results have been reviewed with a licensee representative.

Industry Compliance

Inspectors monitor industry for compliance with ERCB rules, regulations, and conditions of approval. Inspectors use education, prevention, and enforcement activities when dealing with industry compliance issues.

How to Use This Manual

This manual is divided into the following compliance categories: Gas Facilities, Oil Facilities, Waste Facilities, and Well Site Inspections. Each section contains a listing of inspection items encountered during routine field inspections for the compliance category and is structured as follows:

Manual #	Risk rating	Description
1.1.5.5	High Risk	No gas delivery point (sales) measurement. [OGCR 7.004, 14.040 ; Directive 017 (1.7.2(i)), (4.1), (9.3), (Appendix 3)]

- The **Manual #** is the number used by the Field Inspection System (FIS) and the Digital Data Submission (DDS) system to identify inspection items in the database. (This number does not refer to sections in ERCB directives or regulations.)
- The **Risk rating** is the predetermined risk rating associated with the noncompliance based on health and safety, environmental impact, conservation, and stakeholder confidence in the regulatory process.
- The **Description** is the noncompliance statement with hyperlinked references to the opening page of relevant regulatory documents.

When referring to noncompliances contained in this inspection manual, cite the **Manual #** and compliance category.

A Gas Facilities

1 Equipment

1.1 Gas Measurement

Manual #	Risk Rating	Description
1.1.5.5	High Risk	No gas delivery point (sales) measurement. [OGCR 7.004 , 14.040; Directive 017 (1.7.2(i)), (4.1), (9.3), (Appendix 3)]
1.1.5.10	High Risk	Produced gas (plant inlet, total battery/group gas) not metered. [OGCR 7.004 , 14.040; Directive 017 (1.7.1(i)), (1.7.2(iii)), (4.1), (4.2.1 - 4.2.4), (5.5), (7.1.1), (12.3.2)]
1.1.5.15	High Risk	Flared/vented gas not measured. [OGCR 14.040 ; Directive 017 (4.1), (4.3.5.1), (4.3.5.2), (4.3.5.3); Directive 060 (10.1), (10.2)]
1.1.5.20	Low Risk	Fuel gas not measured. [Directive 017 (4.1), (4.2.2), (4.3.5.2), (4.3.5.3)]
1.1.5.22	High Risk	Acid gas not metered. [OGCR 14.200 ; Directive 017 (4.2.4), (11.1), (11.4.4.1), (11.4.4.3); Directive 060 (10.1(1)(b))]
1.1.5.23	High Risk	Acid gas stream does not have continuous temperature measurement. [Directive 017 (4.3.1), (11.2); Directive 060 (10.1)]
1.1.5.24	High Risk	Dilution gas volumes not metered. [Directive 017 (4.3.5.2); Directive 060 (10.1(1)(c))]
1.1.5.25	Low Risk	Design, installation, and operation of measurement system is not in accordance with requirements. [OGCR 14.070 , 14.080; Directive 017 (4.3.1), (4.3.4), (4.3.5)]
1.1.5.28	Low Risk	Gas well effluent measurement test taps installed upstream of the well effluent meter. [Directive 004 (4.2); Directive 017 (7.4)]
1.1.5.30	Low Risk	Meter not calibrated/proved since installation, following repairs, or calibration/proving expired. [OGCR 14.040 ; Directive 017 (2.5.1), (2.5.2.1)]
1.1.5.35	Low Risk	Calibration procedures not in accordance with requirements. [Directive 017 (2.5)]
1.1.5.40	Low Risk	Gas meter internal components are unsatisfactory. [OGCR 14.070 ; Directive 017 (2.5.2), (4.3.1)]
1.1.5.45	Low Risk	Gas meter internal components not checked in accordance with requirements. [Directive 017 (2.5.2), (2.5.2.1)]
1.1.5.50	Low Risk	Flowing gas temperature not determined in accordance with the requirements. [OGCR 14.060 (2), 14.080; Directive 017 (4.3.1)]
1.1.5.55	Low Risk	Sensing lines between orifice meter and recording device not designed in accordance with requirements. [OGCR 14.060 ; Directive 017 (4.3.4.1), (4.3.4.1(a))]
1.1.5.60	Low Risk	Chart recorder not suitably winterized to prevent sensing lines and other piping from freezing and disrupting measurement. [Directive 017 (4.3.4.1)]
1.1.5.65	Low Risk	Improper chart drive speed/inappropriate use of multiday charts. [OGCR 14.070 (1), (2); Directive 017 (4.3.1), (5.4.1), (6.5), (7.3.1), (7.4.1)]

Manual #	Risk Rating	Description
1.1.5.68	Low Risk	Wells within Gas Proration Battery not tested at required frequency. [<i>Directive 017</i> (7.2.3), Table 7.1, (7.3.1), (7.4.1)]
1.1.10.5	Low Risk	No estimation of produced gas. [<i>OGCR</i> 7.004, 14.040; <i>Directive 017</i> (4.3.5)]
1.1.10.10	High Risk	Gas production not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4); <i>Directive 017</i> (13.2.2)]
1.1.10.15	Low Risk	Gas production determined using measurement by difference practices that are not in accordance with requirements. [<i>Directive 017</i> (5.5)]
1.1.10.20	High Risk	Flared/vented gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4(6)); <i>Directive 017</i> (4.3.3.1(5), (6)), (11.4.4.1), (11.4.4.3); <i>Directive 060</i> (10(1))]
1.1.10.25	Low Risk	Fuel gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4(6)); <i>Directive 017</i> (4.3.3.1(8), (10))]
1.1.10.28	Low Risk	Acid gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4(1)); <i>Directive 017</i> (4.3.3.1(5)), (11.4.4.1 - 11.4.4.3)]
1.1.10.30	Low Risk	Measurement not in accordance with approval. [<i>Directive 017</i> (5), (5.1), (5.2); see specific approval]
1.1.10.35	Low Risk	Meter calibration/proving tag or detailed report does not meet requirements. [<i>Directive 017</i> (2.3(Exceptions 1)), (2.5.2), (2.5.2.1(2), (3), (4), (8)), (2.5.3), (2.5.4)]
1.1.10.40	Low Risk	Incorrect or insufficient information recorded on chart. [<i>OGCR</i> 14.070(4); <i>Directive 017</i> (4.3.3.1(2)), (4.3.4.2)]

1.2 Hydrocarbon Liquids Measurement

Manual #	Risk rating	Description
1.2.5.3	Low Risk	No hydrocarbon liquid measurement at plant inlet or group measurement point. [<i>Directive 017</i> (4.2.2), (4.2.4), (7.1.1), (7.3), (7.4), (13.2.1)]
1.2.5.5	High Risk	No hydrocarbon liquid delivery point measurement. [<i>Directive 017</i> (1.7.2(ii)), (9.3), (10.1), (10.2), (10.3), (13.2.1), Appendix 3]
1.2.5.10	Low Risk	Metering system not designed, installed, or operated as required. [<i>OGCR</i> 14.180(2); <i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (6.3.1), (13.2.1)]
1.2.5.15	Low Risk	Meter installed downstream of snap-acting dump valve. [<i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (2.9), (13.2.1)]
1.2.5.20	Low Risk	Measurement device not calibrated/proved since installation, following repairs, or calibration/proving expired. [<i>OGCR</i> 14.090(2)(a), (2)(b), 14.110(1), (3), 14.120(1), (4); <i>Directive 017</i> (2.6), (2.8.1), (2.8.2), (2.9), (2.12), (2.13), (2.14), (13.2.1)]
1.2.5.25	Low Risk	Prover tap size or location not in accordance with requirements. [<i>Directive 017</i> (2.6(2)), (13.2.1)]
1.2.5.30	Low Risk	Procedures for the proving/calibration of measurement device/system are not in accordance with requirements. [<i>Directive 017</i> (2.6), (2.7), (2.8), (2.9), (2.11), (2.12), (2.13), (13.2.1)]

Manual #	Risk rating	Description
1.2.5.35	Low Risk	Tank gauging procedures not in accordance with requirements. [<i>Directive 017</i> (6.3.1.2), (6.3.1.2(b) - (d)), (13.2.1)]
1.2.10.5	High Risk	Hydrocarbon liquid production not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4); <i>Directive 017</i> (13.2.2)]
1.2.10.10	Low Risk	Measurement device calibration/proving tag or detailed report does not meet requirements. [<i>OGCR</i> 14.090(2)(c), 14.110(5), 14.120(5); <i>Directive 017</i> (2.6(10), (11), (Exceptions 1 - 3)), (2.7.1(2)), (2.12), (2.13.2), (2.14), (13.2.1)]

1.3 Water/Other Measurement

Manual #	Risk rating	Description
1.3.5.3	Low Risk	No water measurement at plant inlet or group measurement point. [<i>Directive 017</i> (4.2.2), (4.2.4), (7.1.1), (7.3), (7.4)]
1.3.5.5	Low Risk	No water production measurement. [<i>OGCR</i> 14.140 - 14.170; <i>Directive 004</i> ; <i>Directive 017</i> (6.1), (6.2.2.1), (7.1.1), (7.2.1), (7.3), (7.3.1), (7.3.3), (7.4), (7.4.1), (7.4.3)]
1.3.5.10	Low Risk	No measurement of injected/disposed water or other substance(s). [<i>OGCR</i> 14.200; <i>Directive 017</i> (1.7.3(ii), (iv))]
1.3.5.15	Low Risk	Meter or product analyzer not installed in accordance with the requirements. [<i>OGCR</i> 14.180(3); <i>Directive 017</i> (2.6), (6.4.2)]
1.3.5.20	Low Risk	Water meter not proved since installation, following repairs, or meter proving has expired. [<i>OGCR</i> 14.140(3); <i>Directive 017</i> (2.6), (2.10)]
1.3.5.25	Low Risk	Product analyzer calibration expired. [<i>Directive 017</i> (2.11)]
1.3.5.28	Low Risk	Sulphur measurement device/procedure does not exist or does not meet requirements. [<i>Directive 017</i> (2.14), (6.3.1.1), (11.1), (11.3.1), (11.3.2), (11.3.2.1)]
1.3.10.5	Low Risk	Water production not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4)]
1.3.10.10	Low Risk	Injection or disposition of water/other substance not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4)]
1.3.10.15	Low Risk	Measurement device calibration/proving tag/detailed report not attached or does not meet requirements. [<i>OGCR</i> 14.140(3)(c); <i>Directive 017</i> (2.6(10), (11), (Exceptions 1)), (2.10)]
1.3.10.20	Low Risk	Product analyzer tag/detailed report does not meet requirements. [<i>Directive 017</i> (2.11)]

1.4 Spacing

Manual #	Risk rating	Description
1.4.5.5	High Risk	Flare stack or incinerator less than 100 metres from an occupied residence. [<i>OGCR</i> 8.080(3); <i>Directive 060</i> (7.8(2)(b))]

Manual #	Risk rating	Description
1.4.5.10	High Risk	Flare pit, flare stack, or incinerator less than 25 metres from oil or gas processing equipment. [<i>OGCR</i> 8.080(5); <i>Directive 060</i> (7.8(1)(c))]
1.4.5.15	Low Risk	Flare pit, flare stack, or incinerator less than 50 metres from a well or oil storage tank. [<i>OGCR</i> 8.080(5); <i>Directive 060</i> (7.8(1)(a), (b))]
1.4.5.20	Low Risk	Flare pit, flare stack, or incinerator less than 100 metres from a surface improvement, except surveyed roadway or road allowance. [<i>OGCR</i> 1.020(2)(28), 8.080(3); <i>Directive 056</i> Appendix 3; <i>Directive 060</i> (7.8(2)(a))]
1.4.5.25	Low Risk	Flare or incinerator less than 40 metres to a public roadway. [<i>OGCR</i> 8.080(3); <i>Directive 056</i> Appendix 3; <i>Directive 060</i> (7.8(2)(a)), footnote 15]
1.4.5.30	High Risk	Flame type equipment placed or operated within 25 metres of a process vessel without adequate flame arrester. [<i>OGCR</i> 8.090(5), (8)]
1.4.5.35	High Risk	Flame type equipment within 25 metres of a well, oil storage tank, or other source of ignitable vapour. [<i>OGCR</i> 8.090(4); <i>Interim Directive (ID) 91-03</i> (3.3 (3))]
1.4.5.40	High Risk	Ventilation requirements not met for flame type equipment within the same building as a process vessel or source of ignitable vapour. [<i>OGCR</i> 8.090(6)]
1.4.5.45	Low Risk	Fire within 50 metres of a well, oil storage tank, or other source of ignitable vapour (25 metres for heavy oil/crude bitumen production). [<i>OGCR</i> 8.090(2); <i>Interim Directive (ID) 91-03</i> (3.3)]
1.4.5.50	High Risk	Smoking within 25 metres of a well, separator, oil storage tank, or other source of ignitable vapour. [<i>OGCR</i> 8.120(1)]
1.4.5.55	Low Risk	Outer perimeter of tank dike to surface improvement (other than public roadway) less than 60 metres. [<i>OGCR</i> 8.030(4)]
1.4.5.60	Low Risk	Oil storage tank(s) to well less than 50 metres (25 metres for heavy oil/crude bitumen production). [<i>OGCR</i> 8.090(3); <i>Directive 055</i> (3.7); <i>Interim Directive (ID) 91-03</i> (3.3 (2))]
1.4.5.65	Low Risk	Internal combustion engine exhaust within 25 metres of a well, process vessel, oil storage tank, or source of ignitable vapours, not constructed to prevent flame emergence. [<i>OGCR</i> 8.090(9)(a)]
1.4.5.70	Low Risk	End of exhaust pipe from internal combustion engine is located within 6 metres of the well and/or is not directed away from the well (1 metre for heavy oil production). [<i>OGCR</i> 8.090(9)(b); <i>Interim Directive (ID) 91-03</i> (3.3(4)(a))]

1.5 Flaring, Incinerating, and Venting

Manual #	Risk rating	Description
1.5.5.5	High Risk	No flare or incinerator stack where one is required. [<i>OGCR</i> 7.060(1) - (3), 7.070(1), (3), (5), (6); <i>Directive 060</i> (8.1(5)(b)); <i>Interim Directive (ID) 91-03</i> (3.2(3))]

Manual #	Risk rating	Description
1.5.5.10	High Risk	Operating procedures and/or automatic shutdowns not in place where needed to control sour/acid gas flaring events. [<i>Directive 060</i> (7.5(3))]
1.5.5.15	Low Risk	Stack height or design does not meet requirements. [<i>OGCR</i> 7.060(4)(a), (7), 7.070(5), (6); <i>Directive 060</i> (7.4); <i>Interim Directive (ID) 91-03</i> (3.2(3))]
1.5.5.20	High Risk	Pilot/ignition device(s) not available/operable where required. [<i>OGCR</i> 7.060(4)(c), (10), 7.070(1), 7.070(5); <i>Directive 060</i> (7.3), (7.3.1(1)), Appendix 13]
1.5.5.25	High Risk	Insufficient heating value available to flare. [<i>Directive 060</i> (7.1.1(1))]
1.5.5.30	Low Risk	No wind guard on gas sour/acid flare when exit velocity is not sufficient. [<i>OGCR</i> 7.060(4)(b), 7.070(5)]
1.5.5.35	High Risk	No flame arrester, equivalent safety device, or appropriate engineering and operating practices to prevent backflash where required. [<i>OGCR</i> 8.090(7); <i>Directive 060</i> (7.7(1) - (3)), (8.1(9))]
1.5.5.40	High Risk	No knockout drum or flare separator where required. [<i>OGCR</i> 7.060(4)(d), 7.070(5); <i>Directive 060</i> (7.6(2)), (7.6.1), (8.1(5)(b))]
1.5.5.45	High Risk	Knockout drum or flare separator controls, equipment or design, does not meet requirements. [<i>Directive 060</i> (7.6)]
1.5.5.50	High Risk	Exposed flame from an incinerator. [<i>Directive 060</i> (7.1.2(1)(a))]
1.5.5.55	High Risk	Insufficient exit temperature, no automatic temperature shutdown, or no process temperature control and recording where required for incinerators. [<i>Directive 060</i> (7.1.2(1) - (3))]
1.5.5.60	High Risk	Gas is being vented, not burned, where it could support stable combustion. [<i>OGCR</i> 8.080(1); <i>Directive 060</i> (8.1(2),(5))]
1.5.5.65	High Risk	Venting practices not conducted in accordance with the requirements. [<i>OGCR</i> 8.080(1); <i>Directive 060</i> (8.1(4) - (7))]
1.5.5.70	High Risk	Flare pit containing produced fluids. [<i>OGCR</i> 8.080(4); <i>Directive 060</i> (7.11(1)); <i>Informational Letter (IL) 96-04</i>]
1.5.5.75	High Risk	Flare pit used at facility/well site constructed after July 1, 1996. [<i>OGCR</i> 8.080(2); <i>Directive 060</i> (7.11); <i>Informational Letter (IL) 96-04</i>]
1.5.5.80	Low Risk	Inadequate construction, design, equipment, and/or use of a flare pit at a facility/well site. [<i>OGCR</i> 8.080(3), (4); <i>Directive 060</i> (7.11); <i>Informational Letter (IL) 96-04</i> ; <i>Informational Letter (IL) 94-06</i>]
1.5.5.82	High Risk	Exceeding the annual flare volume limits at a gas plant. [<i>Directive 060</i> (5.2(1) - (3))]
1.5.5.83	High Risk	Exceeding the major flaring events criteria for gas plants (6-in-6). [<i>Directive 060</i> (5.3(2))]
1.5.10.5	High Risk	Failure to conduct dispersion modelling for flaring or incinerating gas with greater than 10 mol/kmol H ₂ S or 1 tonne per day of sulphur. [<i>Directive 060</i> (3.6(1), (2)), (7.12(1), (2))]

Manual #	Risk rating	Description
1.5.10.10	High Risk	Decision tree or economic evaluation not completed or results not implemented for new, existing, and temporary flares, incinerators, and vents as required. [<i>Directive 060</i> (2.3, Figure 2), (2.4(1)(a)(i)(ii)), (2.5(1)(a)), (2.8(1)), (3.1(1), (2), Figure 3), (4.1(5), Figure 5), (5.1, Figure 6), (6.1, Figure 7), (7.11(4)), (8.1(1)), (9.1)]
1.5.10.15	Low Risk	Failure to keep flaring, incinerating, and venting logs as required. [<i>Directive 060</i> (5.3 (3)), (5.5(4)), (10.4(1)(b) - (e), (2))]
1.5.10.20	High Risk	Flaring or incinerating sour gas containing more than 50 mol/kmol H ₂ S without a permit where required. [<i>Directive 060</i> (3.3.1(1)), (3.3.2(2) - (4))]
1.5.10.25	High Risk	Failure to comply with any condition of flaring permit or approval (temporary permits, volume allowance threshold exceedance permits, and blanket permits). [<i>Directive 060</i> (3.3(1))]
1.5.10.30	High Risk	Failure to comply with conditions for flaring or incinerating small volumes of sour gas containing more than 50 mol/kmol H ₂ S when a permit is not required. [<i>Directive 060</i> (3.3.2(2) - (4))]
1.5.10.35	Low Risk	Failure to notify the appropriate ERCB Field Centre of flaring, incinerating, or venting events as required. [<i>OGCR</i> 7.060(9.5)(a); <i>Directive 060</i> (2.9(6)), (2.11.1(3)), (3.9), (4.2), (5.4), (6.4(1) - (3)), Table 1, Table 2]
1.5.10.40	High Risk	No resident notification and/or consultation. [<i>OGCR</i> 7.060(9.5)(b), (c); <i>Directive 060</i> (2.5(1)(c)(i), (6)(c), (6)(d)), (2.9(3), (5), (6)), (2.11.1(3)), (3.9(1), (4) - (7)), (4.2(1)), (5.4(1)), (6.4(1)), Table 1, Table 2]
1.5.10.45	Low Risk	Public information packages or resident notification information do not meet the requirements. [<i>Directive 060</i> (2.9.1), (3.9(4), (5))]

1.6 Signs and Security

Manual #	Risk rating	Description
1.6.5.5	Low Risk	Conspicuous identification sign not posted at the primary entrance to the well or facility. [<i>OGCR</i> 6.020(3), (6); <i>Directive 055</i> (3.8)]
1.6.5.10	Low Risk	Improper identification sign. [<i>OGCR</i> 6.020(3), (5); <i>Directive 055</i> (3.8)]
1.6.5.15	Low Risk	No or improper warning symbol posted adjacent to all entrances to the developed area of wells and facilities. [<i>OGCR</i> 6.020(8) - (13), Schedule 12]
1.6.5.20	Low Risk	No or inadequate fence or alternative security measures where required. [<i>OGCR</i> 8.170, 8.171; <i>Directive 057</i>]

1.7 Emergency Controls and Relief Systems

Manual #	Risk rating	Description
1.7.5.3	High Risk	Sour pressure relief valves in gas facility > 10 mol/kmol H ₂ S not tied into flare system. [<i>OGCR</i> 7.060(1), (3)]
1.7.5.5	Low Risk	Operating gas catalytic heater with inoperable safety shut off. [<i>OGCR</i> 8.090(8); <i>Alberta Regulation 62/2003 Occupational Health and Safety Regulation</i> Part 1, 12(1)]

1.8 Storage

Manual #	Risk rating	Description
1.8.5.5	High Risk	Contaminated materials or materials possessing the potential to leach stored directly on the ground. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.10	Low Risk	Aboveground storage tank(s) not constructed or operated appropriately. [OGCR 8.030(1) ; Directive 055 (5.1) , (5.3)]
1.8.5.15	High Risk	No secondary containment as required. [OGCR 8.030(2) ; Directive 055 (5.1) , (5.3.2), (6.1), (8.2), Appendix 2(1), (2.2.1)]
1.8.5.20	Low Risk	No secondary containment (containers and indoor tanks). [OGCR 8.030(2) ; Directive 055 (5.3.2.3) , (7)]
1.8.5.25	Low Risk	Secondary containment not designed, constructed, sized, and maintained as required. [OGCR 8.030(2) ; Directive 055 (5.3) , (5.3.2.1), (5.3.2.1(a)), (5.3.2.1(b)), (5.3.3), (6.1), (7), Appendix 2(1), (2.2.1)]
1.8.5.30	Low Risk	No system to monitor the interstitial space. [OGCR 8.030(2) ; Directive 055 (5.3.3) , (6.2), Appendix 2]
1.8.5.35	Low Risk	Required measures not incorporated to prevent overfilling of tanks. [OGCR 8.030(1) ; Directive 055 (5.3.1) , (5.3.3), (6.1)]
1.8.5.40	Low Risk	Spill control device(s) not used around hose connections at fluid transfer points. [OGCR 8.030(1) ; Directive 055 (5.3.1) , (5.3.3), (6.1)]
1.8.5.45	High Risk	Temporary single-walled aboveground tank not diked where required. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.50	High Risk	No leak detection and secondary containment where required (single-walled underground storage tank retrofitted between January 1, 1996, and January 1, 2002). [OGCR 8.030(2) ; Directive 055 Appendix 2 , Appendix 2(2.2.1)]
1.8.5.53	Low Risk	Open-top, nonmetallic aboveground storage tank(s) not constructed or operated appropriately. [OGCR 8.030(1) ; Directive 055 (5.2)]
1.8.5.55	Low Risk	Aboveground/underground tank(s) out of service do not meet the requirements. [OGCR 8.030(2) ; Directive 055 (12)]
1.8.5.60	Low Risk	Oilfield wastes/empty barrels stored more than one year. [OGCR 8.030(1) ; Directive 055 (3.3)]
1.8.5.65	High Risk	Bulk pad not constructed of compacted clay, synthetic liner, concrete, or asphalt. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.70	High Risk	Bulk pad storage area does not incorporate a slope directed to a catchment device. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.75	High Risk	Bulk pad storage area does not incorporate a continuous curb with a minimum height of 15 cm on at least three sides. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.80	High Risk	Bulk pad does not incorporate a leachate collection or leak detection system where required. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.85	High Risk	Stockpiled materials are exceeding capacity of the bulk pad. [OGCR 8.030(1) ; Directive 055 (9)]

Manual #	Risk rating	Description
1.8.10.5	Low Risk	Automatic shutdown system/interstitial space not checked on a monthly basis. [OGCR 8.030(2); <i>Directive 055</i> (5.3.3), (6.2), (10)]
1.8.10.10	High Risk	Single-walled underground storage tank not tested within past three years (tank installed prior to January 1, 1996). [OGCR 8.030(2); <i>Directive 055</i> Appendix 2(2.2.2)]
1.8.10.15	High Risk	Underground storage tank installed after 1996 not tested for integrity as a complete system (including associated piping) prior to placing in service. [OGCR 8.030(2); <i>Directive 055</i> (6.1), (10)]
1.8.10.20	Low Risk	Aboveground storage tank not tested within past five years (pre-1996 site where current secondary containment requirements are not met). [OGCR 8.030(2); <i>Directive 055</i> Appendix 2(2), (2.1.2)]
1.8.10.25	Low Risk	Records of leak detection monitoring results not available or not retained for at least five years. [OGCR 8.030(2); <i>Directive 055</i> (10), Table 2]
1.8.10.30	Low Risk	Records of tank/piping inspection and corrosion monitoring programs not available or retained for at least five years. [<i>Directive 055</i> (10)]
1.8.10.33	Low Risk	Open-top, nonmetallic aboveground storage tank(s) not verified for integrity within past five years. [OGCR 8.030(2); <i>Directive 055</i> (5.2)]

2 Public Safety

2.1 ERPs

Manual #	Risk rating	Description
2.1.3.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1); <i>Directive 071 (2005 edition)</i> (1.4.1)]
2.1.3.10	High Risk	No approved site-specific ERP where required. (ERPs in existence prior to April 8, 2008). [<i>Directive 071 (2005 edition)</i> (4.2.1), Table 4, (4.2.2), (4.2.2.1); <i>Bulletin 2008-15</i> (2.2)]
2.1.3.13	High Risk	ERP manual not updated yearly, exercises not conducted, or details not documented (ERPs in existence prior to April 8, 2008). [<i>Directive 071 (2005 edition)</i> (4.2.2), (4.14); <i>Bulletin 2008-15</i> (2.2)]
2.1.3.15	Low Risk	Operator not communicating with residents in the emergency planning zone (ERPs in existence prior to April 8, 2008). [<i>Directive 071 (2005 edition)</i> (2.2.1); <i>Bulletin 2008-15</i> (2.2)]
2.1.3.20	High Risk	Copy of ERP not readily available (ERPs in existence prior to April 8, 2008). [<i>Directive 071 (2005 edition)</i> (4.2.2); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1); <i>Directive 071</i> (2.1(1))]
2.1.5.10	High Risk	Failure to have an ERP approved prior to commencement of operations. [<i>Directive 071</i> (7.1(2)), (8.1(2)), (9.1(2)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.13	High Risk	Failure to have an up-to-date copy of the ERP at a response location(s) in area of operations. [<i>Directive 071</i> (11.1(1)), (14.1(1)); <i>Bulletin 2008-15</i> (2.2)]

Manual #	Risk rating	Description
2.1.5.15	High Risk	Failure to ensure that on-site supervisory personnel are aware of the size of the EPZ. [<i>Directive 071</i> (12.1(1)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.18	High Risk	Failure to test the sour operation, HVP pipeline, or cavern storage facility ERP through tabletop and major exercises. [<i>Directive 071</i> (14.10(28)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.20	Low Risk	Failure to develop a public information package and/or to provide all required persons with a copy. [<i>Directive 071</i> (4.3.1(12)), Table 3; <i>Bulletin 2008-15</i> (2.2)]
2.1.5.25	High Risk	Failure to ensure that a call to the licensee 24-hour emergency telephone number initiates immediate action. [<i>Directive 071</i> (2.1(3))]
2.1.5.30	High Risk	Failure to ensure that the licensee 24-hour emergency telephone number is posted by way of a conspicuous sign erected at the entrance to all licensee well and facility operations. [<i>Directive 071</i> (2.1(4))]
2.1.5.35	High Risk	Failure to ensure that the equipment identified in the ERP is available and located where specified in the ERP for any operation. [<i>Directive 071</i> (14.4(16)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.40	High Risk	Failure to ensure that company equipment is operational and the appropriate documentation is available to verify testing and calibration requirements. [<i>Directive 071</i> (14.4(17)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.3	High Risk	Failure to demonstrate that the plan management system ensures that the ERPs are up-to-date as changes are identified. [<i>Directive 071</i> (14.6(22)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.5	High Risk	Failure to provide a copy of the public information package to all identified residences in the EPZ every two years and/or conduct a public awareness program with members of the public through personal consultative process. [<i>Directive 071</i> (14.6(23)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.10	Low Risk	Failure to carry out public and local authority notification and consultation. [<i>Directive 071</i> (13.1(1)), Table 8; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.13	High Risk	Failure to distribute changes in information that are instrumental to implementing the ERP to all required plan holders. [<i>Directive 071</i> (14.6(24)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.15	Low Risk	Failure to distribute copies of the sour operations, HVP pipeline, cavern storage facility, sour well site specific drilling and/or completion ERP, or approved supplement to government departments and agencies within 10 business days after approval, unless the government agency requests otherwise in writing. [<i>Directive 071</i> (5.7(15)), (7.3.3(11)), (9.3.2(7)), Appendix 5; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.18	Low Risk	Failure to notify the ERCB Field Centre about a major exercise and/or invite the local authority, Alberta Health Services, or any other government agency to participate or observe. [<i>Directive 071</i> (14.10(29)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.20	Low Risk	Failure to provide a copy of the public information package to the local ERCB Field Centre. [<i>Directive 071</i> (4.3.1(13)); <i>Bulletin 2008-15</i> (2.2)]

Manual #	Risk rating	Description
2.1.10.25	High Risk	Failure to immediately contact the ERCB after activating internal response resources to confirm the level of emergency and convey the specifics of the incident. [<i>Directive 071</i> (11.1.1(4)), (14.2(4)); <i>Bulletin 2008-15</i> (2.2)]

3 Environment

3.1 Emissions

Manual #	Risk rating	Description
3.1.5.5	High Risk	H ₂ S emissions at any facility that receives gas containing more than 10 mol/kmol of H ₂ S. [<i>OGCR</i> 7.070(1), (3), 9.040(c), 9.050(5); <i>Directive 060</i> (7.1), (8.2); <i>Interim Directive (ID) 91-03</i> (3.2(3))]
3.1.5.10	High Risk	Exceeding Alberta Ambient Air Quality Objectives. [<i>Directive 060</i> (3.3.2(2)(c)), (3.6(6)), (7.12(1)), Appendix 8(5)(b)]
3.1.5.15	High Risk	Sour fluids transported via a non-pressurized tank truck or truck without suitable and functional emissions controls. [<i>Directive 060</i> (8.7(2))]
3.1.5.17	High Risk	Emissions monitoring at a gas plant not in accordance with requirements. [<i>OGCR</i> 9.050(1), (2); <i>Directive 017</i> (11.4.4.1)]
3.1.5.18	Low Risk	Odour emissions other than H ₂ S at a gas plant. [<i>OGCR</i> 9.040, 9.050(6)(b), (c); <i>Directive 060</i> (8.2(3)), (8.5)]
3.1.5.20	High Risk	Failure to meet the permissible sound level at the nearest or most impacted dwelling. [<i>Directive 038</i> (2.1(3)), (2.2(9)), (3.1(3)), (4.4(22)), (5.1(1)), Appendix 1]
3.1.5.25	Low Risk	Routine combustion of gases results in continuous or repeat black smoke emissions. [<i>OGCR</i> 7.040(1), 9.050(6)(d); <i>Directive 060</i> (7.1(2)), (7.2(1)(a))]
3.1.5.30	High Risk	Individual dehydrator(s) or site dehydrator benzene emissions over the limits. [<i>Directive 039</i> (2); <i>Directive 060</i> (8.3(1), (3))]
3.1.5.35	High Risk	Failure of the operator to develop and implement a fugitive emissions program to detect and repair leaks. [<i>Directive 060</i> (8.7(1)); <i>Bulletin 2009-44</i> ; CAPP <i>Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities</i>]
3.1.10.5	Low Risk	Noise complaint response/procedures not conducted in accordance with requirements. [<i>Directive 038</i> (4)]
3.1.10.10	Low Risk	Failure to notify resident(s) within 750 metres of a dehydrator (for new, relocated, or existing glycol dehydrators). [<i>Directive 039</i> (1); CAPP <i>BMP Control of Benzene Emissions from Glycol Dehydrators</i> (Executive Summary, Chapter 11)]
3.1.10.15	Low Risk	Dehydrator Engineering and Operations Sheet (DEOS) not done, incomplete/inaccurate, and/or not posted. [<i>Directive 039</i> (3); <i>Directive 060</i> (8.3(2)(b))]

Manual #	Risk rating	Description
3.1.10.20	Low Risk	Failure to correctly complete the Decision Tree Analysis (for new or relocated glycol dehydrators as of January 1, 2007). [<i>Directive 039</i> (1); <i>Directive 060</i> (8.3(2)(a)); CAPP <i>BMP Control of Benzene Emissions from Glycol Dehydrators</i> (Executive Summary, Appendix A)]
3.1.10.25	Low Risk	Failure of the fugitive emissions program to meet the CAPP best management practice. [<i>Directive 060</i> (8.7(1)(a)); CAPP <i>Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities</i>]

3.2 Waste Management

Manual #	Risk rating	Description
3.2.5.5	Low Risk	Facility not maintained in a clean condition. [<i>OGCR</i> 8.150(4)]
3.2.5.10	High Risk	Waste sent to facility not authorized to accept it. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (2.1(1))]
3.2.5.15	High Risk	Oilfield wastes are mixed/diluted to avoid regulatory requirements. [<i>Directive 058</i> (5.5); <i>Interim Directive (ID) 99-04</i> (2)]
3.2.5.20	High Risk	Conditions not met for on-site land treatment. [<i>Directive 058</i> (16.2(1) - (3)); <i>Informational Letter (IL) 98-02</i> (4.2)]
3.2.5.25	High Risk	Oilfield waste was not treated according to one-time, on-site biopile/biocell treatment requirements. [<i>Directive 058</i> (16.3(1), (4)(c))]
3.2.5.30	High Risk	One-time, on-site biopile or biocell containment device or leachate collection system is not appropriately designed or operated. [<i>Directive 055</i> (8.1); <i>Directive 058</i> (11.6), (16.3)]
3.2.5.35	High Risk	Small batch feed incinerator or mobile thermal treatment facility not operating according to requirements. [<i>Directive 058</i> (11.6), (17.4), (17.5); <i>Interim Directive (ID) 2000-03</i> (3.1(a), (b))]
3.2.5.40	High Risk	Conditions not met for spreading of oily by-products to roads. [<i>Directive 058</i> (29.3), (29.8); <i>Informational Letter (IL) 99-02</i>]
3.2.5.45	High Risk	Banned oilfield wastes injected into pipeline system. [<i>Directive 058</i> (6), (6.1)]
3.2.10.5	High Risk	Oilfield waste generator not tracking oilfield waste from cradle to grave. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (7.1), (9.1), (9.2)]
3.2.10.10	Low Risk	Waste tracking system data or manifest copies and supporting documentation not retained for two years. [<i>Directive 058</i> (8.9), (9.2)]
3.2.10.15	Low Risk	ERCB manifests not completed or completed improperly for DOWs transported on public roads. [<i>Directive 058</i> (7.1), (8); <i>Interim Directive (ID) 2000-03</i> (3.4)]
3.2.10.20	Low Risk	Discrepancy on the waste manifest is not reconciled. [<i>Directive 058</i> (8.8)]
3.2.10.25	Low Risk	Biopile or biocell records not kept for two years. [<i>Directive 058</i> (16.3(5)), (11.8)]
3.2.10.30	Low Risk	Small batch feed incinerator or mobile thermal treatment facility does not notify ERCB as required. [<i>Directive 058</i> (17.4), (17.5(3))]

3.3 Spills

Manual #	Risk rating	Description
3.3.5.5	High Risk	Facility closer than 100 metres to the normal high water mark of a body of water or permanent stream without appropriate protective measures. [OGCR 8.060]
3.3.5.10	High Risk	Spill or release not contained/cleaned up. [OGCR 8.050(1), 8.051(b)]
3.3.10.5	High Risk	No notification of a reportable spill or release to ERCB. [OGCR 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]
3.3.10.10	Low Risk	Late notification of a reportable spill or release to ERCB. [OGCR 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]

3.4 Surface Water

Manual #	Risk rating	Description
3.4.5.5	High Risk	Release criteria of collected surface water not met prior to release to adjacent lands. [OGCR 9.050(8)(b); <i>Directive 055</i> (11)]

4 Liability Management

4.1 Abandonment

Manual #	Risk rating	Description
4.2.10.5	Low Risk	No notification of facility abandonment. [<i>Directive 006</i> Appendix 3(1), (2)]

99 Other

Manual #	Risk rating	Description
99.5.5	Low Risk	Noncompliant with other low risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]
99.10.10	High Risk	Noncompliant with other high risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]

B Oil Facilities

1 Equipment

1.1 Gas Measurement

Manual #	Risk rating	Description
1.1.5.5	High Risk	No gas delivery point (sales) measurement. [OGCR 7.004 , 14.040; Directive 017 (1.7.2(i)), (4.1), (9.3), Appendix 3]
1.1.5.10	High Risk	Produced gas (plant inlet, total battery/group gas) not metered. [OGCR 7.004 , 14.040; Directive 017 (1.7.1(i)), (1.7.2(iii)), (4.1), (4.2.1 - 4.2.4), (5.5), (7.1.1), (12.3.2)]
1.1.5.15	High Risk	Flared/vented gas not measured. [OGCR 14.040 ; Directive 017 (4.1), (4.3.5.1), (4.3.5.2), (4.3.5.3), (12.3.2); Directive 060 (10.1), (10.2)]
1.1.5.20	Low Risk	Fuel gas not measured. [Directive 017 (4.1), (4.2.2), (4.3.5.2), (4.3.5.3), (12.3.2)]
1.1.5.25	Low Risk	Design, installation, and operation of measurement system is not in accordance with requirements. [OGCR 14.070 , 14.080; Directive 017 (4.3.1), (4.3.4), (4.3.5)]
1.1.5.30	Low Risk	Meter not calibrated/proved since installation, following repairs, or calibration/proving expired. [OGCR 14.040 ; Directive 017 (2.5.1), (2.5.2.1)]
1.1.5.35	Low Risk	Calibration procedures not in accordance with requirements. [Directive 017 (2.5)]
1.1.5.40	Low Risk	Gas meter internal components are unsatisfactory. [OGCR 14.070 ; Directive 017 (2.5.2), (4.3.1)]
1.1.5.45	Low Risk	Gas meter internal components not checked in accordance with requirements. [Directive 017 (2.5.2), (2.5.2.1)]
1.1.5.50	Low Risk	Flowing gas temperature not determined in accordance with the requirements. [OGCR 14.060 (2), 14.080; Directive 017 (4.3.1)]
1.1.5.55	Low Risk	Sensing lines between orifice meter and recording device not designed in accordance with requirements. [OGCR 14.060 ; Directive 017 (4.3.4.1), (4.3.4.1(a))]
1.1.5.60	Low Risk	Chart recorder not suitably winterized to prevent sensing lines and other piping from freezing and disrupting measurement. [Directive 017 (4.3.4.1)]
1.1.5.65	Low Risk	Improper chart drive speed/inappropriate use of multiday charts. [OGCR 14.070 (1), (2); Directive 017 (4.3.1), (5.4.1), (6.5), (7.3.1), (7.4.1)]
1.1.10.5	Low Risk	No estimation of produced gas. [OGCR 7.004 , 14.040; Directive 017 (4.3.5)]
1.1.10.10	High Risk	Gas production not reported to the Petroleum Registry. [OGCR 12.030 (1); Directive 007 (3.4)]

Manual #	Risk rating	Description
1.1.10.15	Low Risk	Gas production determined using measurement by difference practices that are not in accordance with requirements. [<i>Directive 017</i> (5.5)]
1.1.10.20	High Risk	Flared/vented gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4(6)); <i>Directive 017</i> (4.3.3.1(5), (6)); <i>Directive 060</i> (10(1))]
1.1.10.25	Low Risk	Fuel gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4(6)); <i>Directive 017</i> (4.3.3.1(8), (10))]
1.1.10.30	Low Risk	Measurement not in accordance with approval. [<i>Directive 017</i> (5), (5.1), (5.2); see specific approval]
1.1.10.35	Low Risk	Meter calibration/proving tag or detailed report does not meet requirements. [<i>Directive 017</i> (2.3(Exceptions 1)), (2.5.2), (2.5.2.1(2), (3), (4), (8)), (2.5.3), (2.5.4)]
1.1.10.40	Low Risk	Incorrect or insufficient information recorded on chart. [<i>OGCR</i> 14.070(4); <i>Directive 017</i> (4.3.3.1(2)), (4.3.4.2)]

1.2 Hydrocarbon Liquids Measurement

Manual #	Risk rating	Description
1.2.5.5	High Risk	No hydrocarbon liquid delivery point measurement. [<i>Directive 017</i> (1.7.2(ii)), (9.3), (10.1), (10.2), (10.3), (13.2.1), Appendix 3]
1.2.5.10	Low Risk	Metering system not designed, installed, or operated as required. [<i>OGCR</i> 14.180(2); <i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (6.3.1), (12.2), (12.3), (12.3.4), (13.2.1)]
1.2.5.15	Low Risk	Meter installed downstream of snap-acting dump valve. [<i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (2.9), (12.2), (13.2.1)]
1.2.5.20	Low Risk	Measurement device not calibrated/proved since installation, following repairs, or calibration/proving expired. [<i>OGCR</i> 14.090(2)(a), (b), 14.110(1), (3), 14.120(1), (4); <i>Directive 017</i> (2.6), (2.8.1), (2.8.2), (2.9), (2.12), (2.13), (2.14), (12.2), (13.2.1)]
1.2.5.25	Low Risk	Prover tap size or location not in accordance with requirements. [<i>Directive 017</i> (2.6(2)), (12.2), (13.2.1)]
1.2.5.30	Low Risk	Procedures for the proving/calibration of measurement device/system are not in accordance with requirements. [<i>Directive 017</i> (2.6), (2.7), (2.8), (2.9), (2.11), (2.12), (2.13), (12.2), (13.2.1)]
1.2.5.35	Low Risk	Tank gauging procedures not in accordance with requirements. [<i>Directive 017</i> (6.3.1.2), (6.3.1.2(b) - (d)), (12.2), (12.3), (12.3.4), (13.2.1)]
1.2.5.38	Low Risk	No test oil measurement. [<i>OGCR</i> 7.020; <i>Directive 017</i> (6.5), (12.3)]
1.2.5.43	Low Risk	Wells within an oil proration battery not tested at required frequency. [<i>OGCR</i> 7.030; <i>Directive 017</i> (6.4.4), Table 6.2, (12.2.6), (12.3.4)]
1.2.10.5	High Risk	Hydrocarbon liquid production not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.4)]

Manual #	Risk rating	Description
1.2.10.10	Low Risk	Measurement device calibration/proving tag or detailed report does not meet requirements. [OGCR 14.090(2)(c), 14.110(5), 14.120(5); Directive 017 (2.6(10), (11), (Exceptions 1 - 3)), (2.7.1(2)), (2.12), (2.13.2), (2.14), (12.2), (13.2.1)]

1.3 Water/Other Measurement

Manual #	Risk rating	Description
1.3.5.5	Low Risk	No water production measurement. [OGCR 14.140 - 14.170; Directive 004; Directive 017 (6.1), (6.2.2.1), (7.1.1), (7.2.1), (7.3), (7.3.1), (7.3.3), (7.4), (7.4.1), (7.4.3)]
1.3.5.10	Low Risk	No measurement of injected/disposed water or other substance(s). [OGCR 14.200; Directive 017 (1.7.3(ii), (iv))]
1.3.5.15	Low Risk	Meter or product analyzer not installed in accordance with the requirements. [OGCR 14.180(3); Directive 017 (2.6), (6.4.2)]
1.3.5.20	Low Risk	Water meter not proved since installation, following repairs, or meter proving has expired. [OGCR 14.140(3); Directive 017 (2.6), (2.10)]
1.3.5.25	Low Risk	Product analyzer calibration expired. [Directive 017 (2.11)]
1.3.5.28	Low Risk	No continuous proportional sampler or product analyzer where water cut is > 10 per cent, or the sampler/analyzer is inoperable. [OGCR 14.150; Directive 017 (6.4.2)]
1.3.10.5	Low Risk	Water production not reported to the Petroleum Registry. [OGCR 12.030(1); Directive 007 (3.4)]
1.3.10.10	Low Risk	Injection or disposition of water/other substance not reported to the Petroleum Registry. [OGCR 12.030(1); Directive 007 (3.4)]
1.3.10.15	Low Risk	Measurement device calibration/proving tag/detailed report not attached or does not meet requirements. [OGCR 14.140(3)(c); Directive 017 (2.6(10), (11), (Exceptions 1)), (2.10)]
1.3.10.20	Low Risk	Product analyzer tag/detailed report does not meet requirements. [Directive 017 (2.11)]

1.4 Spacing

Manual #	Risk rating	Description
1.4.5.5	High Risk	Flare stack or incinerator less than 100 metres from an occupied residence. [OGCR 8.080(3); Directive 060 (7.8(2)(b))]
1.4.5.10	High Risk	Flare pit, flare stack, or incinerator less than 25 metres from oil or gas processing equipment. [OGCR 8.080(5); Directive 060 (7.8(1)(c))]
1.4.5.15	Low Risk	Flare pit, flare stack, or incinerator less than 50 metres from a well or oil storage tank. [OGCR 8.080(5); Directive 060 (7.8(1)(a), (b))]

Manual #	Risk rating	Description
1.4.5.20	Low Risk	Flare pit, flare stack, or incinerator less than 100 metres from a surface improvement, except surveyed roadway or road allowance. [<i>OGCR</i> 1.020(2)(28), 8.080(3); <i>Directive 056</i> Appendix 3; <i>Directive 060</i> (7.8(2)(a))]
1.4.5.25	Low Risk	Flare or incinerator less than 40 metres to a public roadway. [<i>OGCR</i> 8.080(3); <i>Directive 056</i> Appendix 3; <i>Directive 060</i> (7.8(2)(a)), footnote 15]
1.4.5.30	High Risk	Flame type equipment placed or operated within 25 metres of a process vessel without adequate flame arrester. [<i>OGCR</i> 8.090(5), (8)]
1.4.5.35	High Risk	Flame type equipment within 25 metres of a well, oil storage tank, or other source of ignitable vapour. [<i>OGCR</i> 8.090(4); <i>Interim Directive (ID) 91-03</i> (3.3 (3))]
1.4.5.40	High Risk	Ventilation requirements not met for flame type equipment within the same building as a process vessel or source of ignitable vapour. [<i>OGCR</i> 8.090(6)]
1.4.5.45	Low Risk	Fire within 50 metres of a well, oil storage tank, or other source of ignitable vapour (25 metres for heavy oil/crude bitumen production). [<i>OGCR</i> 8.090(2); <i>Interim Directive (ID) 91-03</i> (3.3)]
1.4.5.50	High Risk	Smoking within 25 metres of a well, separator, oil storage tank, or other source of ignitable vapour. [<i>OGCR</i> 8.120(1)]
1.4.5.55	Low Risk	Outer perimeter of tank dike to surface improvement (other than public roadway) less than 60 metres. [<i>OGCR</i> 8.030(4)]
1.4.5.60	Low Risk	Oil storage tank(s) to well less than 50 metres (25 metres for heavy oil/crude bitumen production). [<i>OGCR</i> 8.090(3); <i>Directive 055</i> (3.7); <i>Interim Directive (ID) 91-03</i> (3.3 (2))]
1.4.5.65	Low Risk	Internal combustion engine exhaust within 25 metres of a well, process vessel, oil storage tank, or source of ignitable vapours, not constructed to prevent flame emergence. [<i>OGCR</i> 8.090(9)(a)]
1.4.5.70	Low Risk	End of exhaust pipe from internal combustion engine is located within 6 metres of the well and/or is not directed away from the well (1 metre for heavy oil production). [<i>OGCR</i> 8.090(9)(b); <i>Interim Directive (ID) 91-03</i> (3.3(4)(a))]

1.5 Flaring, Incinerating, and Venting

Manual #	Risk rating	Description
1.5.5.5	High Risk	No flare or incinerator stack where one is required. [<i>OGCR</i> 7.060(1) - (3), 7.070(1), (3), (5), (6); <i>Directive 060</i> (8.1(5)(b)); <i>Interim Directive (ID) 91-03</i> (3.2(3))]
1.5.5.10	High Risk	Operating procedures and/or automatic shutdowns not in place where needed to control sour/acid gas flaring events. [<i>Directive 060</i> (7.5(3))]
1.5.5.13	Low Risk	Failure to meet solution gas reduction requirements during planned shutdowns and emergency events. [<i>Directive 060</i> (2.11.1(1), (2), Table 1), (5.2(4))]

Manual #	Risk rating	Description
1.5.5.15	Low Risk	Stack height or design does not meet requirements. [OGCR 7.060(4)(a), (7), 7.070(5), (6) ; Directive 060 (7.4) ; Interim Directive (ID) 91-03 (3.2(3))]
1.5.5.20	High Risk	Pilot/ignition device(s) not available/operable where required. [OGCR 7.060(4)(c), (10), 7.070(1), 7.070(5) ; Directive 060 (7.3), (7.3.1(1)) , Appendix 13]
1.5.5.25	High Risk	Insufficient heating value available to flare. [Directive 060 (7.1.1(1))]
1.5.5.30	Low Risk	No wind guard on gas sour/acid flare when exit velocity is not sufficient. [OGCR 7.060(4)(b), 7.070(5)]
1.5.5.35	High Risk	No flame arrester, equivalent safety device, or appropriate engineering and operating practices to prevent backflash where required. [OGCR 8.090(7) ; Directive 060 (7.7(1) - (3)), (8.1(9))]
1.5.5.40	High Risk	No knockout drum or flare separator where required. [OGCR 7.060(4)(d), 7.070(5) ; Directive 060 (7.6(2)), (7.6.1), (8.1(5)(b))]
1.5.5.45	High Risk	Knockout drum or flare separator controls, equipment or design does not meet requirements. [Directive 060 (7.6)]
1.5.5.50	High Risk	Exposed flame from an incinerator. [Directive 060 (7.1.2 (1)(a))]
1.5.5.55	High Risk	Insufficient exit temperature, no automatic temperature shutdown, or no process temperature control and recording where required for incinerators. [Directive 060 (7.1.2 (1) - (3))]
1.5.5.60	High Risk	Gas is being vented, not burned, where it could support stable combustion. [OGCR 8.080(1) ; Directive 060 (8.1(2),(5))]
1.5.5.65	High Risk	Venting practices not conducted in accordance with the requirements. [OGCR 8.080(1) ; Directive 060 (8.1(4) - (7))]
1.5.5.70	High Risk	Flare pit containing produced fluids. [OGCR 8.080(4) ; Directive 060 (7.11(1)) ; Informational Letter (IL) 96-04]
1.5.5.75	High Risk	Flare pit used at facility/well site constructed after July 1, 1996. [OGCR 8.080(2) ; Directive 060 (7.11) ; Informational Letter (IL) 96-04]
1.5.5.80	Low Risk	Inadequate construction, design, equipment, and/or use of a flare pit at a facility/well site. [OGCR 8.080(3), (4) ; Directive 060 (7.11) ; Informational Letter (IL) 96-04 ; Informational Letter (IL) 94-06]
1.5.5.83	High Risk	Routine flaring, incinerating, or venting solution gas from an oil/bitumen battery with a GOR greater than 3000 m ³ /m ³ . [Directive 060 (2.5(1)(b))]
1.5.10.5	High Risk	Failure to conduct dispersion modelling for flaring or incinerating gas with greater than 10 mol/kmol H ₂ S or 1 tonne per day of sulphur. [Directive 060 (3.6(1), (2)), (7.12(1), (2))]
1.5.10.10	High Risk	Decision tree or economic evaluation not completed or results not implemented for new, existing, and temporary flares, incinerators, and vents as required. [Directive 060 (2.3, Figure 2), (2.4(1)(a)(i)(ii)), (2.5(1)(a)), (2.8(1)), (3.1(1), (2), Figure 3), (4.1(5), Figure 5), (5.1, Figure 6), (6.1, Figure 7), (7.11(4)), (8.1(1)), (9.1)]

Manual #	Risk rating	Description
1.5.10.15	Low Risk	Failure to keep flaring, incinerating, and venting logs as required. [<i>Directive 060</i> (10.4(1)(b) - (e)), (2)]
1.5.10.20	High Risk	Flaring or incinerating sour gas containing more than 50 mol/kmol H ₂ S without a permit where required. [<i>Directive 060</i> (3.3.1(1)), (3.3.2(2) - (4))]
1.5.10.25	High Risk	Failure to comply with any condition of flaring permit or approval (temporary permits, volume allowance threshold exceedance permits, and blanket permits). [<i>Directive 060</i> (3.3(1))]
1.5.10.30	High Risk	Failure to comply with conditions for flaring or incinerating small volumes of sour gas containing more than 50 mol/kmol H ₂ S when a permit is not required. [<i>Directive 060</i> (3.3.2(2) - (4))]
1.5.10.35	Low Risk	Failure to notify the appropriate ERCB Field Centre of flaring, incinerating, or venting events as required. [<i>OGCR</i> 7.060(9.5)(a); <i>Directive 060</i> (2.9(6)), (2.11.1(3)), (3.9), (4.2), (5.4), (6.4(1) - (3)), Table 1, Table 2]
1.5.10.40	High Risk	No resident notification and/or consultation. [<i>OGCR</i> 7.060(9.5)(b), (c); <i>Directive 060</i> (2.5(1)(c)(i), (6)(c), (6)(d)), (2.9(3), (5), (6)), (2.11.1(3)), (3.9(1), (4) - (7)), (4.2(1)), (5.4(1)), (6.4(1)), Table 1, Table 2]
1.5.10.45	Low Risk	Public information packages or resident notification information do not meet the requirements. [<i>Directive 060</i> (2.9.1), (3.9(4), (5))]

1.6 Signs and Security

Manual #	Risk rating	Description
1.6.5.5	Low Risk	Conspicuous identification sign not posted at the primary entrance to the well or facility. [<i>OGCR</i> 6.020(3), (6); <i>Directive 055</i> (3.8)]
1.6.5.10	Low Risk	Improper identification sign. [<i>OGCR</i> 6.020(3), (5); <i>Directive 055</i> (3.8)]
1.6.5.15	Low Risk	No or improper warning symbol posted adjacent to all entrances to the developed area of wells and facilities. [<i>OGCR</i> 6.020(8) - (13), Schedule 12]
1.6.5.20	Low Risk	No or inadequate fence or alternative security measures where required. [<i>OGCR</i> 8.170, 8.171; <i>Directive 057</i>]

1.7 Emergency Controls and Relief Systems

Manual #	Risk rating	Description
1.7.5.5	Low risk	Operating gas catalytic heater with inoperable safety shut off. [<i>OGCR</i> 8.090(8); <i>Alberta Regulation 62/2003 Occupational Health and Safety Regulation</i> , Part 1, 12(1)]
1.7.5.8	Low Risk	No high level and high pressure shutdown device installed on a separator, treater, or other pressure vessel which receives production from an oil well containing more than 10 mol/kmol H ₂ S. [<i>OGCR</i> 7.060(3.1)]

Manual #	Risk rating	Description
1.7.5.13	Low Risk	No or inadequate/inappropriate pop tank or alternate conditions not adhered to. [OGCR 8.031]

1.8 Storage

Manual #	Risk rating	Description
1.8.5.5	High Risk	Contaminated materials or materials possessing the potential to leach stored directly on the ground. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.10	Low Risk	Aboveground storage tank(s) not constructed or operated appropriately. [OGCR 8.030(1) ; Directive 055 (5.1) , (5.3)]
1.8.5.15	High Risk	No secondary containment as required. [OGCR 8.030(2) ; Directive 055 (5.1) , (5.3.2), (6.1), (8.2), Appendix 2(1), (2.2.1)]
1.8.5.20	Low Risk	No secondary containment (containers and indoor tanks). [OGCR 8.030(2) ; Directive 055 (5.3.2.3) , (7)]
1.8.5.25	Low Risk	Secondary containment not designed, constructed, sized, and maintained as required. [OGCR 8.030(2) ; Directive 055 (5.3) , (5.3.2.1), (5.3.2.1(a)), (5.3.2.1(b)), (5.3.3), (6.1), (7), Appendix 2(1), (2.2.1)]
1.8.5.30	Low Risk	No system to monitor the interstitial space. [OGCR 8.030(2) ; Directive 055 (5.3.3) , (6.2), Appendix 2]
1.8.5.35	Low Risk	Required measures not incorporated to prevent overfilling of tanks. [OGCR 8.030(1) ; Directive 055 (5.3.1) , (5.3.3), (6.1)]
1.8.5.40	Low Risk	Spill control device(s) not used around hose connections at fluid transfer points. [OGCR 8.030(1) ; Directive 055 (5.3.1) , (5.3.3), (6.1)]
1.8.5.45	High Risk	Temporary single-walled aboveground tank not diked where required. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.50	High Risk	No leak detection and secondary containment where required (single-walled underground storage tank retrofitted between January 1, 1996, and January 1, 2002). [OGCR 8.030(2) ; Directive 055 Appendix 2(2.2.1)]
1.8.5.55	Low Risk	Aboveground/underground tank(s) out of service do not meet the requirements. [OGCR 8.030(2) ; Directive 055 (12)]
1.8.5.60	Low Risk	Oilfield wastes/empty barrels stored more than one year. [OGCR 8.030(1) ; Directive 055 (3.3)]
1.8.5.65	High Risk	Bulk pad not constructed of compacted clay, synthetic liner, concrete, or asphalt. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.70	High Risk	Bulk pad storage area does not incorporate a slope directed to a catchment device. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.75	High Risk	Bulk pad storage area does not incorporate a continuous curb with a minimum height of 15 cm on at least three sides. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.80	High Risk	Bulk pad does not incorporate a leachate collection or leak detection system where required. [OGCR 8.030(1) , (2); Directive 055 (9)]

Manual #	Risk rating	Description
1.8.5.85	High Risk	Stockpiled materials are exceeding capacity of the bulk pad. [OGCR 8.030(1) ; Directive 055 (9)]
1.8.10.5	Low Risk	Automatic shutdown system/interstitial space not checked on a monthly basis. [OGCR 8.030(2) ; Directive 055 (5.3.3), (6.2), (10)]
1.8.10.10	High Risk	Single-walled underground storage tank not tested within past three years (tank installed prior to January 1, 1996). [OGCR 8.030(2) ; Directive 055 Appendix 2(2.2.2)]
1.8.10.15	High Risk	Underground storage tank installed after 1996 not tested for integrity as a complete system (including associated piping) prior to placing in service. [OGCR 8.030(2) ; Directive 055 (6.1), (10)]
1.8.10.20	Low Risk	Aboveground storage tank not tested within past five years (pre-1996 site where current secondary containment requirements are not met). [OGCR 8.030(2) ; Directive 055 Appendix 2(2), (2.1.2)]
1.8.10.25	Low Risk	Records of leak detection monitoring results not available or not retained for at least five years. [OGCR 8.030(2) ; Directive 055 (10), Table 2]
1.8.10.30	Low Risk	Records of tank/piping inspection and corrosion monitoring programs not available or retained for at least five years. [Directive 055 (10)]

2 Public Safety

2.1 ERPs

Manual #	Risk rating	Description
2.1.3.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1) ; Directive 071 (2005 edition) (1.4.1)]
2.1.3.10	High Risk	No approved site-specific ERP where required. (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (4.2.1), Table 4, (4.2.2), (4.2.2.1); Bulletin 2008-15 (2.2)]
2.1.3.13	High Risk	ERP manual not updated yearly, exercises not conducted, or details not documented (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (4.2.2), (4.14); Bulletin 2008-15 (2.2)]
2.1.3.15	Low Risk	Operator not communicating with residents in the emergency planning zone (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (2.2.1); Bulletin 2008-15 (2.2)]
2.1.3.20	High Risk	Copy of ERP not readily available (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (4.2.2); Bulletin 2008-15 (2.2)]
2.1.5.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1) ; Directive 071 (2.1(1))]
2.1.5.10	High Risk	Failure to have an ERP approved prior to commencement of operations. [Directive 071 (7.1(2)), (8.1(2)), (9.1(2)); Bulletin 2008-15 (2.2)]
2.1.5.13	High Risk	Failure to have an up-to-date copy of the ERP at a response location(s) in area of operations. [Directive 071 (11.1(1)), (14.1(1)); Bulletin 2008-15 (2.2)]

Manual #	Risk rating	Description
2.1.5.15	High Risk	Failure to ensure that on-site supervisory personnel are aware of the size of the EPZ. [<i>Directive 071</i> (12.1(1)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.18	High Risk	Failure to test the sour operation, HVP pipeline, or cavern storage facility ERP through tabletop and major exercises. [<i>Directive 071</i> (14.10(28)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.20	Low Risk	Failure to develop a public information package and/or to provide all required persons with a copy. [<i>Directive 071</i> (4.3.1(12)), Table 3; <i>Bulletin 2008-15</i> (2.2)]
2.1.5.25	High Risk	Failure to ensure that a call to the licensee 24-hour emergency telephone number initiates immediate action. [<i>Directive 071</i> (2.1(3))]
2.1.5.30	High Risk	Failure to ensure that the licensee 24-hour emergency telephone number is posted by way of a conspicuous sign erected at the entrance to all licensee well and facility operations. [<i>Directive 071</i> (2.1(4))]
2.1.5.35	High Risk	Failure to ensure that the equipment identified in the ERP is available and located where specified in the ERP for any operation. [<i>Directive 071</i> (14.4(16)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.40	High Risk	Failure to ensure that company equipment is operational and the appropriate documentation is available to verify testing and calibration requirements. [<i>Directive 071</i> (14.4(17)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.3	High Risk	Failure to demonstrate that the plan management system ensures that the ERPs are up-to-date as changes are identified. [<i>Directive 071</i> (14.6(22)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.5	High Risk	Failure to provide a copy of the public information package to all identified residences in the EPZ every two years and/or conduct a public awareness program with members of the public through personal consultative process. [<i>Directive 071</i> (14.6(23)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.10	Low Risk	Failure to carry out public and local authority notification and consultation. [<i>Directive 071</i> (13.1(1)), Table 8; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.13	High Risk	Failure to distribute changes in information that are instrumental to implementing the ERP to all required plan holders. [<i>Directive 071</i> (14.6(24)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.15	Low Risk	Failure to distribute copies of the sour operations, HVP pipeline, cavern storage facility, sour well site specific drilling and/or completion ERP, or approved supplement to government departments and agencies within 10 business days after approval, unless the government agency requests otherwise in writing. [<i>Directive 071</i> (5.7(15)), (7.3.3(11)), (9.3.2(7)), Appendix 5; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.18	Low Risk	Failure to notify the ERCB Field Centre about a major exercise and/or invite the local authority, Alberta Health Services, or any other government agency to participate or observe. [<i>Directive 071</i> (14.10(29)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.20	Low Risk	Failure to provide a copy of the public information package to the local ERCB Field Centre. [<i>Directive 071</i> (4.3.1(13)); <i>Bulletin 2008-15</i> (2.2)]

Manual #	Risk rating	Description
2.1.10.25	High Risk	Failure to immediately contact the ERCB after activating internal response resources to confirm the level of emergency and convey the specifics of the incident. [Directive 071 (11.1.1(4)), (14.2(4)); Bulletin 2008-15 (2.2)]

3 Environment

3.1 Emissions

Manual #	Risk rating	Description
3.1.5.5	High Risk	H ₂ S emissions at any facility that receives gas containing more than 10 mol/kmol of H ₂ S. [OGCR 7.070(1), (3), 9.040(c), 9.050(5); Directive 060 (7.1), (8.2); Interim Directive (ID) 91-03 (3.2(3))]
3.1.5.10	High Risk	Exceeding Alberta Ambient Air Quality Objectives. [Directive 060 (3.3.2(2)(c)), (3.6(6)), (7.12(1)), Appendix 8(5)(b)]
3.1.5.15	High Risk	Sour fluids transported via a non-pressurized tank truck or truck without suitable and functional emissions controls. [Directive 060 (8.7(2))]
3.1.5.20	High Risk	Failure to meet the permissible sound level at the nearest or most impacted dwelling. [Directive 038 (2.1(3)), (2.2(9)), (3.1(3)), (4.4(22)), (5.1(1)), Appendix 1]
3.1.5.25	Low Risk	Routine combustion of gases results in continuous or repeat black smoke emissions. [OGCR 7.040(1), 9.050(6)(d); Directive 060 (7.1(2)), (7.2(1)(a))]
3.1.5.30	High Risk	Individual dehydrator(s) or site dehydrator benzene emissions over the limits. [Directive 039 (2); Directive 060 (8.3(1), (3))]
3.1.5.35	High Risk	Failure of the operator to develop and implement a fugitive emissions program to detect and repair leaks. [Directive 060 (8.7(1)); Bulletin 2009-44 ; CAPP Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities]
3.1.10.5	Low Risk	Noise complaint response/procedures not conducted in accordance with requirements. [Directive 038 (4)]
3.1.10.10	Low Risk	Failure to notify resident(s) within 750 metres of a dehydrator (for new, relocated, or existing glycol dehydrators). [Directive 039 (1); CAPP BMP Control of Benzene Emissions from Glycol Dehydrators (Executive Summary, Chapter 11)]
3.1.10.15	Low Risk	Dehydrator Engineering and Operations Sheet (DEOS) not done, incomplete/inaccurate, and/or not posted. [Directive 039 (3); Directive 060 (8.3(2)(b))]
3.1.10.20	Low Risk	Failure to correctly complete the Decision Tree Analysis (for new or relocated glycol dehydrators as of January 1, 2007). [Directive 039 (1); Directive 060 (8.3(2)(a)); CAPP BMP Control of Benzene Emissions from Glycol Dehydrators (Executive Summary, Appendix A)]

Manual #	Risk rating	Description
3.1.10.25	Low Risk	Failure of the fugitive emissions program to meet the CAPP best management practice. [Directive 060 (8.7(1)(a)); CAPP <i>Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities</i>]

3.2 Waste Management

Manual #	Risk rating	Description
3.2.5.5	Low Risk	Facility not maintained in a clean condition. [OGCR 8.150(4)]
3.2.5.10	High Risk	Waste sent to facility not authorized to accept it. [OGCR 8.150(2); Directive 058 (2.1(1))]
3.2.5.15	High Risk	Oilfield wastes are mixed/diluted to avoid regulatory requirements. [Directive 058 (5.5); Interim Directive (ID) 99-04 (2)]
3.2.5.20	High Risk	Conditions not met for on-site land treatment. [Directive 058 (16.2(1) - (3)); Informational Letter (IL) 98-02 (4.2)]
3.2.5.25	High Risk	Oilfield waste was not treated according to one-time, on-site biopile/biocell treatment requirements. [Directive 058 (16.3(1), (4)(c))]
3.2.5.30	High Risk	One-time, on-site biopile or biocell containment device or leachate collection system is not appropriately designed or operated. [Directive 055 (8.1); Directive 058 (11.6), (16.3)]
3.2.5.35	High Risk	Small batch feed incinerator or mobile thermal treatment facility not operating according to requirements. [Directive 058 (11.6), (17.4), (17.5); Interim Directive (ID) 2000-03 (3.1(a), (b))]
3.2.5.40	High Risk	Conditions not met for spreading of oily by-products to roads. [Directive 058 (29.3), (29.8); Informational Letter (IL) 99-02]
3.2.5.45	High Risk	Banned oilfield wastes injected into pipeline system. [Directive 058 (6), (6.1)]
3.2.10.5	High Risk	Oilfield waste generator not tracking oilfield waste from cradle to grave. [OGCR 8.150(2); Directive 058 (7.1), (9.1), (9.2)]
3.2.10.10	Low Risk	Waste tracking system data or manifest copies and supporting documentation not retained for two years. [Directive 058 (8.9), (9.2)]
3.2.10.15	Low Risk	ERCB manifests not completed or completed improperly for DOWs transported on public roads. [Directive 058 (7.1), (8); Interim Directive (ID) 2000-03 (3.4)]
3.2.10.20	Low Risk	Discrepancy on the waste manifest is not reconciled. [Directive 058 (8.8)]
3.2.10.25	Low Risk	Biopile or biocell records not kept for two years. [Directive 058 (16.3(5)), (11.8)]
3.2.10.30	Low Risk	Small batch feed incinerator or mobile thermal treatment facility does not notify ERCB as required. [Directive 058 (17.4), (17.5(3))]

3.3 Spills

Manual #	Risk rating	Description
3.3.5.5	High Risk	Facility closer than 100 metres to the normal high water mark of a body of water or permanent stream without appropriate protective measures. [OGCR 8.060]
3.3.5.10	High Risk	Spill or release not contained/cleaned up. [OGCR 8.050(1) , 8.051(b)]
3.3.10.5	High Risk	No notification of a reportable spill or release to ERCB. [OGCR 8.050(2) , 8.051(a) , 12.140 ; Informational Letter (IL) 98-01 (4.1)]
3.3.10.10	Low Risk	Late notification of a reportable spill or release to ERCB. [OGCR 8.050(2) , 8.051(a) , 12.140 ; Informational Letter (IL) 98-01 (4.1)]

3.4 Surface Water

Manual #	Risk rating	Description
3.4.5.5	High Risk	Release criteria of collected surface water not met prior to release to adjacent lands. [Directive 055 (11)]
3.4.5.10	Low Risk	Surface water that meets the surface discharge criteria disposed to injection/disposal well. [Directive 051 (2.3)]

4 Liability Management

4.1 Abandonment

Manual #	Risk rating	Description
4.2.10.5	Low Risk	No notification of facility abandonment. [Directive 006 Appendix 3(1), (2)]

99 Other

Manual #	Risk rating	Description
99.5.5	Low Risk	Noncompliant with other low risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]
99.10.10	High Risk	Noncompliant with other high risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]

C Waste Facilities

Waste facility inspections are entered into the Waste Management Facility database. The structure of the following inspection items has been aligned with the other compliance categories in this manual.

1 Equipment

1.2 Hydrocarbon Liquids Measurement

Manual #	Risk rating	Description
1.2.5.20	Low Risk	Measurement device not calibrated/proved since installation, following repairs, or calibration/proving expired. [OGCR 14.090(2)(a), (b), 14.110(1), (3), 14.120(1), (4); Directive 017 (2.6), (2.8.1), (2.8.2), (2.9), (2.12), (2.13), (2.14), (12.2), (13.2.1)]]
1.2.10.3	Low Risk	Measurement/estimation procedures not per approval. [OGCR 7.001, 8.150(3)(e); see specific approval]
1.2.10.5	Low Risk	Hydrocarbon liquid volumetric data not reported to the Petroleum Registry. [Directive 007 (3.4); Directive 047 (1.1), (1.5(1)); see specific approval]
1.2.10.10	Low Risk	Measurement device calibration/proving tag or detailed report does not meet requirements. [OGCR 14.090(2)(c), 14.110(5), 14.120(5); Directive 017 (2.6(10), (11), (Exceptions 1 - 3)), (2.7.1(2)), (2.12), (2.13.2), (2.14), (12.2), (13.2.1)]]

1.3 Water/Other Measurement

Manual #	Risk rating	Description
1.3.5.3	High Risk	No waste characterization/sampling of incoming waste stream(s). [Directive 058 (11.4), (11.6(4))]
1.3.5.10	Low Risk	No measurement of injected/disposed water or other substance(s). [OGCR 14.200; Directive 017 (1.7.3(ii), (iv))]
1.3.5.15	Low Risk	Meter or product analyzer not installed in accordance with the requirements. [Directive 017 (2.6), (6.4.2)]
1.3.5.20	Low Risk	Water meter not proved since installation, following repairs, or meter proving has expired. [OGCR 14.140(3), 14.190; Directive 017 (2.6), (2.10)]]
1.3.5.25	Low Risk	Product analyzer calibration expired. [Directive 017 (2.11)]]
1.3.10.5	Low Risk	Water/other substance volumetric data not reported to the Petroleum Registry. [Directive 007 (3.4); Directive 047 (1.1), (1.5(1)); see specific approval]
1.3.10.15	Low Risk	Measurement device calibration/proving tag/detailed report not attached or does not meet requirements. [OGCR 14.140(3)(c); Directive 017 (2.6(10), (11), (Exceptions 1)), (2.10)]]
1.3.10.20	Low Risk	Product analyzer tag/detailed report not attached or does not meet requirements. [Directive 017 (2.11)]]

1.4 Spacing

Manual #	Risk rating	Description
1.4.5.5	High Risk	Flare stack or incinerator less than 100 metres from an occupied residence. [OGCR 8.080(3) ; Directive 060 (7.8(2)(b))]
1.4.5.10	High Risk	Flare pit, flare stack, or incinerator less than 25 metres from oil or gas processing equipment. [OGCR 8.080(5) ; Directive 060 (7.8(1)(c))]
1.4.5.15	Low Risk	Flare pit, flare stack, or incinerator less than 50 metres from a well or oil storage tank. [OGCR 8.080(5) ; Directive 060 (7.8(1)(a), (b))]
1.4.5.20	Low Risk	Flare pit, flare stack, or incinerator less than 100 metres from a surface improvement, except surveyed roadway or road allowance. [OGCR 1.020(2)(28) , 8.080(3) ; Directive 056 Appendix 3 ; Directive 060 (7.8(2)(a))]
1.4.5.25	Low Risk	Flare or incinerator less than 40 metres to a public roadway. [OGCR 8.080(3) ; Directive 056 Appendix 3 ; Directive 060 (7.8(2)(a)) , footnote 15]
1.4.5.30	High Risk	Flame type equipment placed or operated within 25 metres of a process vessel without adequate flame arrester. [OGCR 8.090(5) , (8)]
1.4.5.35	High Risk	Flame type equipment within 25 metres of a well, oil storage tank, or other source of ignitable vapour. [OGCR 8.090(4) ; Interim Directive (ID) 91-03 (3.3 (3))]
1.4.5.40	High Risk	Ventilation requirements not met for flame type equipment within the same building as a process vessel or source of ignitable vapour. [OGCR 8.090(6)]
1.4.5.45	Low Risk	Fire within 50 metres of a well, oil storage tank, or other source of ignitable vapour (25 metres for heavy oil/crude bitumen production). [OGCR 8.090(2) ; Interim Directive (ID) 91-03 (3.3)]
1.4.5.50	High Risk	Smoking within 25 metres of a well, separator, oil storage tank, or other source of ignitable vapour. [OGCR 8.120(1)]
1.4.5.55	Low Risk	Outer perimeter of tank dike to surface improvement (other than public roadway) less than 60 metres. [OGCR 8.030(4)]
1.4.5.60	Low Risk	Oil storage tank(s) to well less than 50 metres (25 metres for heavy oil/crude bitumen production). [OGCR 8.090(3) ; Directive 055 (3.7) ; Interim Directive (ID) 91-03 (3.3 (2))]
1.4.5.65	Low Risk	Internal combustion engine exhaust within 25 metres of a well, process vessel, oil storage tank, or source of ignitable vapours, not constructed to prevent flame emergence. [OGCR 8.090(9)(a)]
1.4.5.70	Low Risk	End of exhaust pipe from internal combustion engine is located within 6 metres of the well and/or is not directed away from the well (1 metre for heavy oil production). [OGCR 8.090(9)(b) ; Interim Directive (ID) 91-03 (3.3(4)(a))]

1.5 Flaring, Incinerating, and Venting

Manual #	Risk rating	Description
1.5.5.5	High Risk	No flare or incinerator stack where one is required. [OGCR 7.060(1) - (3) , 7.070(1) , (3), (5), (6); Directive 060 (8.1(5)(b)); Interim Directive (ID) 91-03 (3.2(3))]
1.5.5.15	Low Risk	Stack height or design does not meet requirements. [OGCR 7.060(4)(a) , (7), 7.070(5) , (6); Directive 060 (7.4); Interim Directive (ID) 91-03 (3.2(3))]
1.5.5.20	High Risk	Pilot/ignition device(s) not available/operable where required. [OGCR 7.060(4)(c) , (10), 7.070(1) , 7.070(5) ; Directive 060 (7.3), (7.3.1(1)), Appendix 13]
1.5.5.25	High Risk	Insufficient heating value available to flare. [Directive 060 (7.1.1(1))]
1.5.5.30	Low Risk	No wind guard on gas sour/acid flare when exit velocity is not sufficient. [OGCR 7.060(4)(b) , 7.070(5)]
1.5.5.35	High Risk	No flame arrester, equivalent safety device, or appropriate engineering and operating practices to prevent backflash where required. [OGCR 8.090(7) ; Directive 060 (7.7(1) - (3)), (8.1(9))]
1.5.5.40	High Risk	No knockout drum or flare separator where required. [OGCR 7.060(4)(d) , 7.070(5) ; Directive 060 (7.6(2)), (7.6.1), (8.1(5)(b))]
1.5.5.45	High Risk	Knockout drum or flare separator controls, equipment or design, does not meet requirements. [Directive 060 (7.6)]
1.5.5.50	High Risk	Exposed flame from an incinerator. [Directive 060 (7.1.2 (1)(a))]
1.5.5.55	High Risk	Insufficient exit temperature, no automatic temperature shutdown, or no process temperature control and recording where required for incinerators. [Directive 060 (7.1.2 (1) - (3))]
1.5.5.60	High Risk	Gas is being vented, not burned, where it could support stable combustion. [OGCR 8.080(1) ; Directive 060 (8.1(2),(5))]
1.5.5.65	High Risk	Venting practices not conducted in accordance with the requirements. [OGCR 8.080(1) ; Directive 060 (8.1(4) - (7))]
1.5.5.70	High Risk	Flare pit containing produced fluids. [OGCR 8.080(4) ; Directive 060 (7.11(1)); Informational Letter (IL) 96-04]
1.5.5.75	High Risk	Flare pit used at facility/well site constructed after July 1, 1996. [OGCR 8.080(2) ; Directive 060 (7.11); Informational Letter (IL) 96-04]
1.5.5.80	Low Risk	Inadequate construction, design, equipment, and/or use of a flare pit at a facility/well site. [OGCR 8.080(3) , (4); Directive 060 (7.11); Informational Letter (IL) 96-04 ; Informational Letter (IL) 94-06]
1.5.10.5	High Risk	Failure to conduct dispersion modelling for flaring or incinerating gas with greater than 10 mol/kmol H ₂ S or 1 tonne per day of sulphur. [Directive 060 (3.6(1), (2)), (7.12(1), (2))]
1.5.10.15	Low Risk	Failure to keep flaring, incinerating, and venting logs as required. [Directive 060 (10.4(1)(b) - (e)), (2))]

Manual #	Risk rating	Description
1.5.10.35	Low Risk	Failure to notify the appropriate ERCB Field Centre of flaring, incinerating, or venting events as required. [OGCR 7.060(9.5)(a) ; Directive 060 (2.9(6)), (2.11.1(3)), (3.9), (4.2), (5.4), (6.4(1) - (3)), Table 1, Table 2]
1.5.10.40	High Risk	No resident notification and/or consultation. [OGCR 7.060(9.5)(b), (c) ; Directive 060 (2.5(1)(c)(i), (6)(c), (d)), (2.9(3), (5), (6)), (2.11.1(3)), (3.9(1), (4) - (7)), (4.2(1)), (5.4(1)), (6.4(1)), Table 1, Table 2]
1.5.10.45	Low Risk	Public information packages or resident notification information do not meet the requirements. [Directive 060 (2.9.1), (3.9(4), (5))]

1.6 Signs and Security

Manual #	Risk rating	Description
1.6.5.5	Low Risk	Conspicuous identification sign not posted at the primary entrance to the well or facility. [OGCR 6.020(3), (6) ; Directive 055 (3.8)]
1.6.5.15	Low Risk	No or improper warning symbol posted adjacent to all entrances to the developed area of wells and facilities. [OGCR 6.020(8) - (13) , Schedule 12]
1.6.5.23	Low Risk	Oilfield landfill signage not in accordance with requirements. [Directive 058 (15.6(2)(s))]
1.6.5.28	Low Risk	Perimeter fence to prevent public and wildlife access not installed. [Directive 058 11.3(3)]

1.7 Emergency Controls and Relief Systems

Manual #	Risk rating	Description
1.7.5.5	Low Risk	Operating gas catalytic heater with inoperable safety shut off. [OGCR 8.090(8) ; Alberta Regulation 62/2003 Occupational Health and Safety Regulation , Part 1, 12(1)]

1.8 Storage

Manual #	Risk rating	Description
1.8.5.5	High Risk	Contaminated materials or materials possessing the potential to leach stored directly on the ground. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.10	Low Risk	Aboveground storage tank(s) not constructed or operated appropriately. [OGCR 8.030(1) ; Directive 055 (5.1), (5.3)]
1.8.5.15	High Risk	No secondary containment as required. [OGCR 8.030(2) ; Directive 055 (5.1), (5.3.2), (6.1), (8.2), Appendix 2(1), (2.2.1)]
1.8.5.20	Low Risk	No secondary containment (containers and indoor tanks). [OGCR 8.030(2) ; Directive 055 (5.3.2.3), (7)]
1.8.5.25	Low Risk	Secondary containment not designed, constructed, sized, and maintained as required. [OGCR 8.030(2) ; Directive 055 (5.3), (5.3.2.1), (5.3.2.1(a)), (5.3.2.1(b)), (5.3.3), (6.1), (7), Appendix 2(1), (2.2.1)]

Manual #	Risk rating	Description
1.8.5.30	Low Risk	No system to monitor the interstitial space. [OGCR 8.030(2) ; Directive 055 (5.3.3), (6.2), Appendix 2]
1.8.5.35	Low Risk	Required measures not incorporated to prevent overfilling of tanks. [OGCR 8.030(1) ; Directive 055 (5.3.1), (5.3.3), (6.1)]
1.8.5.40	Low Risk	Spill control device(s) not used around hose connections at fluid transfer points. [OGCR 8.030(1) ; Directive 055 (5.3.1), (5.3.3), (6.1)]
1.8.5.45	High Risk	Temporary single-walled aboveground tank not diked where required. [OGCR 8.030(1) ; Directive 055 (3.5)]
1.8.5.50	High Risk	No leak detection and secondary containment where required (single-walled underground storage tank retrofitted between January 1, 1996, and January 1, 2002). [OGCR 8.030(2) ; Directive 055 Appendix 2(2.2.1)]
1.8.5.55	Low Risk	Aboveground/underground tank(s) out of service do not meet the requirements. [OGCR 8.030(2) ; Directive 055 (12)]
1.8.5.60	Low Risk	Oilfield wastes/empty barrels stored more than one year. [OGCR 8.030(1) ; Directive 055 (3.3)]
1.8.5.65	High Risk	Bulk pad not constructed of compacted clay, synthetic liner, concrete, or asphalt. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.70	High Risk	Bulk pad storage area does not incorporate a slope directed to a catchment device. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.75	High Risk	Bulk pad storage area does not incorporate a continuous curb with a minimum height of 15 cm on at least three sides. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.80	High Risk	Bulk pad does not incorporate a leachate collection or leak detection system where required. [OGCR 8.030(1) , (2); Directive 055 (9)]
1.8.5.85	High Risk	Stockpiled materials are exceeding capacity of the bulk pad. [OGCR 8.030(1) ; Directive 055 (9)]
1.8.10.5	Low Risk	Automatic shutdown system/interstitial space not checked on a monthly basis. [OGCR 8.030(2) ; Directive 055 (5.3.3), (6.2), (10)]
1.8.10.10	High Risk	Single-walled underground storage tank not tested within past three years (tank installed prior to January 1, 1996). [OGCR 8.030(2) ; Directive 055 Appendix 2(2.2.2)]
1.8.10.15	High Risk	Underground storage tank installed after 1996 not tested for integrity as a complete system (including associated piping) prior to placing in service. [OGCR 8.030(2) ; Directive 055 (6.1), (10)]
1.8.10.20	Low Risk	Aboveground storage tank not tested within past five years (pre-1996 site where current secondary containment requirements are not met). [OGCR 8.030(2) ; Directive 055 Appendix 2(2), (2.1.2)]
1.8.10.25	Low Risk	Records of leak detection monitoring results not available or not retained for at least five years. [OGCR 8.030(2) ; Directive 055 (10), Table 2]

Manual #	Risk rating	Description
1.8.10.30	Low Risk	Records of tank/piping inspection and corrosion monitoring programs not available or retained for at least five years. [<i>Directive 055</i> (10)]
1.8.10.33	Low Risk	Leak detection system for lined earth excavation not monitored monthly/sampled annually. [<i>OGCR</i> 8.030(2), (3); <i>Directive 055</i> (8.2), (10)]

2 Public Safety

2.1 ERPs

Manual #	Risk rating	Description
2.1.5.5	High Risk	Failure to have a corporate-level ERP. [<i>Directive 058</i> (11.3(6))]
2.1.5.8	High Risk	Corporate ERP not on site. [<i>Directive 058</i> (11.3(6))]

3 Environment

3.1 Emissions

Manual #	Risk rating	Description
3.1.5.5	High Risk	H ₂ S emissions at any facility that receives gas containing more than 10 mol/kmol H ₂ S. [<i>OGCR</i> 7.070(1), (3), 9.040(c), 9.050(5); <i>Directive 060</i> (7.1), (8.2); <i>Interim Directive (ID) 91-03</i> (3.2(3))]
3.1.5.8	Low Risk	Odour emissions other than H ₂ S at an Oilfield Waste Management Facility. [<i>Directive 058</i> (11.3(2)), (11.6(3))]
3.1.5.10	High Risk	Exceeding Alberta Ambient Air Quality Objectives. [<i>Directive 060</i> (3.3.2(2)(c)), (3.6(6)), (7.12(1)), Appendix 8(5)(b)]
3.1.5.15	High Risk	Sour fluids transported via a non-pressurized tank truck or truck without suitable and functional emissions controls. [<i>Directive 060</i> (8.7(2))]
3.1.5.20	High Risk	Failure to meet the permissible sound level at the nearest or most impacted dwelling. [<i>Directive 038</i> (2.1(3)), (2.2(9)), (3.1(3)), (4.4(22)), (5.1(1)), Appendix 1]
3.1.5.25	Low Risk	Routine combustion of gases results in continuous or repeat black smoke emissions. [<i>OGCR</i> 7.040(1), 9.050(6)(d); <i>Directive 060</i> (7.1(2)), (7.2(1)(a))]
3.1.5.35	High Risk	Failure of the operator to develop and implement a fugitive emissions program to detect and repair leaks. [<i>Directive 060</i> (8.7(1)); <i>Bulletin 2009-44</i> ; CAPP <i>Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities</i>]
3.1.10.5	Low Risk	Noise complaint response/procedures not conducted in accordance with requirements. [<i>Directive 038</i> (4)]

Manual #	Risk rating	Description
3.1.10.25	Low Risk	Failure of the fugitive emissions program to meet the CAPP best management practice. [<i>Directive 060</i> (8.7(1)(a)); CAPP <i>Best Management Practice: Management of Fugitive Emissions at Upstream Oil and Gas Facilities</i>]

3.2 Waste Management

Manual #	Risk rating	Description
3.2.5.5	Low Risk	Facility not maintained in a clean condition. [<i>OGCR</i> 8.150(4)]
3.2.5.10	High Risk	Waste sent to facility not authorized to accept it. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (2.1(1))]
3.2.5.13	High Risk	Waste facility accepts wastes they are not approved to receive or capable of handling. [<i>OGCR</i> 8.150(3); <i>Directive 058</i> (2.1(2)); see specific approval]
3.2.5.15	High Risk	Oilfield wastes are mixed/diluted to avoid regulatory requirements. [<i>Directive 058</i> (5.5); <i>Interim Directive (ID) 99-04</i> (2)]
3.2.5.18	High Risk	No groundwater monitoring program where required. [<i>Directive 058</i> (11.7), (12.3), (13.3), (14.3), (15.6(1)(b)), (15.9(2)(c)), Appendix 4 (4.1); see specific approval]
3.2.5.35	High Risk	Small batch feed incinerator or mobile thermal treatment facility not operating according to requirements. [<i>Directive 058</i> (11.6), (17.4), (17.5); <i>Interim Directive (ID) 2000-03</i> (3.1(a), (b))]
3.2.5.40	High Risk	Conditions not met for spreading of oily by-products to roads. [<i>Directive 058</i> (29.3), (29.8); <i>Informational Letter (IL) 99-02</i>]
3.2.5.45	High Risk	Banned oilfield wastes injected into pipeline system. [<i>Directive 058</i> (6), (6.1)]
3.2.10.5	High Risk	Oilfield waste generator not tracking oilfield waste from cradle to grave. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (7.1), (9.1), (9.2)]
3.2.10.10	Low Risk	Records of waste received and disposed not retained for a minimum of two years. [<i>Directive 058</i> (8.9), (9.2), (11.8), (12.4), (13.5), (16.3(5))]
3.2.10.15	Low Risk	ERCB manifests not completed or completed improperly for DOWs transported on public roads. [<i>Directive 058</i> (7.1), (8); <i>Interim Directive (ID) 2000-03</i> (3.4)]
3.2.10.20	Low Risk	Discrepancy on the waste manifest is not reconciled. [<i>Directive 058</i> (8.8)]
3.2.10.23	Low Risk	Groundwater and/or leachate monitoring data not retained for the last five years. [<i>Directive 058</i> (11.8), Appendix 4(4.4)(2)]
3.2.10.30	Low Risk	Small batch feed incinerator or mobile thermal treatment facility does not notify ERCB as required. [<i>Directive 058</i> (17.4), (17.5(3))]

3.3 Spills

Manual #	Risk rating	Description
3.3.5.10	High Risk	Spill or release not contained/cleaned up. [<i>OGCR</i> 8.050(1), 8.051(b)]

3.3.10.5	High Risk	No notification of a reportable spill or release to ERCB. [<i>OGCR</i> 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]
3.3.10.10	Low Risk	Late notification of a reportable spill or release to the ERCB. [<i>OGCR</i> 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]

3.4 Surface Water

Manual #	Risk rating	Description
3.4.5.5	High Risk	Release criteria of collected surface water not met prior to release to adjacent lands. [<i>Directive 058</i> (11.6(2)(b))]
3.4.5.8	High Risk	No / inadequate provisions to accommodate surface water run-off. [<i>Directive 058</i> (11.6(2))]

5 Waste Facilities Specific

5.1 General

Manual #	Risk rating	Description
5.1.5.3	High Risk	WM Approval operational requirements are not met. [<i>OGCR</i> 7.001, 7.003, 8.150(3)(a) - (c), (e), (f); <i>Directive 058</i> (2.1(2)); see specific application and/or approval]
5.1.10.3	Low Risk	WM Approval administrative requirements are not met. [<i>OGCR</i> 7.003, 8.150(3)(a), (d); <i>Directive 058</i> (2.1(2)); see specific application and/or approval]

5.2 Waste Storage Facility/Transfer Station

Manual #	Risk rating	Description
5.2.5.3	Low Risk	Stand alone waste storage facility receiving waste from other licensee. [<i>Directive 058</i> (12.3)]

5.3 Landfill

Manual #	Risk rating	Description
5.5.5.3	High Risk	Landfill receiving municipal, non-upstream petroleum, or other industrial wastes. [<i>Directive 058</i> (15.1)]
5.5.5.8	High Risk	Liquid oilfield waste disposal to landfill. [<i>Directive 058</i> (15.8(1)(a)); <i>Interim Directive (ID) 99-04</i> (2)]
5.5.5.13	Low Risk	Groundwater wells at the landfill site are not secure or not maintained in good condition to ensure sampling. [<i>Directive 058</i> (15.9(4)(a))]
5.5.5.18	High Risk	Leachate, contaminated surface water, and contaminated groundwater not treated and appropriately disposed. [<i>Directive 058</i> (15.6(2)(i))]
5.5.5.23	Low Risk	Salvaged and stockpiled topsoil affected by the landfill operation. [<i>Directive 058</i> (15.6(2)(o)(i))]

Manual #	Risk rating	Description
5.5.5.28	High Risk	Salvaged and stockpiled topsoil used to meet daily cover requirements. [<i>Directive 058</i> (15.6(2)(o)(ii))]
5.5.5.33	Low Risk	Salvaged and stockpiled topsoil not contoured, stabilized, and seeded to prevent wind/water erosion. [<i>Directive 058</i> (15.6(2)(o)(iii))]
5.5.5.38	High Risk	System not in place to measure quantities of waste being placed in the oilfield landfill. [<i>Directive 058</i> (15.6(2)(p))]
5.5.5.43	High Risk	Oilfield wastes being burned. [<i>Directive 058</i> (15.6(2)(r))]
5.5.5.48	Low Risk	Inadequate litter control. [<i>Directive 058</i> (15.6(2)(u))]
5.5.5.53	Low Risk	Barriers do not control public access and prevent unauthorized vehicular traffic and illegal dumping. [<i>Directive 058</i> (15.6(2)(v))]
5.5.5.58	Low Risk	Wastes deposited between property line and designated boundary of the landfill. [<i>Directive 058</i> (15.6(2)(w))]
5.5.5.63	High Risk	Class II landfill accepting Dangerous Oilfield Waste (DOW). [<i>Directive 058</i> (15.7(3))]
5.5.5.68	Low Risk	Class II landfill groundwater monitoring wells are not spaced appropriately from property boundaries and landfill boundaries. [<i>Directive 058</i> (15.6(2)(n))]
5.5.5.73	High Risk	Class III landfill accepting other than nondangerous, chemically inert, and nonleachable solid oilfield waste. [<i>Directive 058</i> (15.7(4))]

5.4 Biodegradation

Manual #	Risk rating	Description
5.6.5.3	Low Risk	Permanent biopile or biocell containment device or leachate collection systems are not appropriately designed or operated. [<i>Directive 058</i> (16.3(4)(b))]
5.6.10.3	Low Risk	Leak detection system not sampled monthly. [<i>Directive 058</i> (16.3(4)(b)(iv)), (16.3(5)(f))]

99 Other

Manual #	Risk rating	Description
99.5.5	Low Risk	Noncompliant with other low risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]
99.10.10	High Risk	Noncompliant with other high risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]

D Well Site Inspections

1 Equipment

1.1 Gas Measurement

Manual #	Risk rating	Description
1.1.5.10	High Risk	No produced gas measurement. [OGCR 14.040 ; Directive 017 (4.1), (4.2.1), (4.2.2), (4.2.3), (4.3.5), (5.5), (7)]
1.1.5.15	High Risk	Flared/vented gas not measured. [OGCR 14.040 ; Directive 017 (4.1), (4.3.5.1), (4.3.5.2), (4.3.5.3), (12.3.2); Directive 060 (10.1), (10.2)]
1.1.5.20	Low Risk	Fuel gas not measured. [Directive 017 (4.1), (4.2.2), (4.3.5.2), (4.3.5.3), (12.3.2)]
1.1.5.22	High Risk	Acid gas not metered. [OGCR 14.200 ; Directive 060 (10.1(1)(b))]
1.1.5.25	Low Risk	Design, installation, and operation of measurement system is not in accordance with requirements. [OGCR 14.070 , 14.080 ; Directive 017 (4.3.1), (4.3.4), (4.3.5)]
1.1.5.28	Low Risk	Gas well effluent measurement test taps installed upstream of the well effluent meter. [Directive 004 (4.2); Directive 017 (7.4)]
1.1.5.30	Low Risk	Meter not calibrated/proved since installation, following repairs, or calibration/proving expired. [OGCR 14.040 ; Directive 017 (2.5.1), (2.5.2.1)]
1.1.5.35	Low Risk	Calibration procedures not in accordance with requirements. [Directive 017 (2.5)]
1.1.5.40	Low Risk	Gas meter internal components are unsatisfactory. [OGCR 14.070 ; Directive 017 (2.5.2), (4.3.1)]
1.1.5.45	Low Risk	Gas meter internal components not checked in accordance with requirements. [Directive 017 (2.5.2), (2.5.2.1)]
1.1.5.50	Low Risk	Flowing gas temperature not determined in accordance with the requirements. [OGCR 14.060 (2), 14.080 ; Directive 017 (4.3.1)]
1.1.5.55	Low Risk	Sensing lines between orifice meter and recording device not designed in accordance with requirements. [OGCR 14.060 ; Directive 017 (4.3.4.1), (4.3.4.1(a))]
1.1.5.60	Low Risk	Chart recorder not suitably winterized to prevent sensing lines and other piping from freezing and disrupting measurement. [Directive 017 (4.3.4.1)]
1.1.5.65	Low Risk	Improper chart drive speed/inappropriate use of multiday charts. [OGCR 14.070 (1), (2); Directive 017 (4.3.1), (5.4.1), (6.5), (7.3.1), (7.4.1)]
1.1.10.10	High Risk	Gas production not reported to the Petroleum Registry. [OGCR 12.030 (1); Directive 007 (3.2); Directive 017 (13.2.2)]

Manual #	Risk rating	Description
1.1.10.15	Low Risk	Gas production determined using measurement by difference practices that are not in accordance with requirements. [<i>Directive 017</i> (5.5)]
1.1.10.20	High Risk	Flared/vented gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.2(5)); <i>Directive 017</i> (4.3.3.1(5), (6)), (12.3.2); <i>Directive 060</i> (10(1))]
1.1.10.25	Low Risk	Fuel gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.2(5)); <i>Directive 017</i> (4.3.3.1(8), (10))]
1.1.10.28	Low Risk	Acid gas not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.2(2))]
1.1.10.30	Low Risk	Measurement not in accordance with approval. [<i>Directive 017</i> (5), (5.1), (5.2); see specific approval]
1.1.10.35	Low Risk	Meter calibration/proving tag or detailed report does not meet requirements. [<i>Directive 017</i> (2.3(Exceptions 1)), (2.5.2), (2.5.2.1 (2), (3), (4), (8)), (2.5.3), (2.5.4)]
1.1.10.40	Low Risk	Incorrect or insufficient information recorded on chart. [<i>OGCR</i> 14.070(4); <i>Directive 017</i> (4.3.3.1(2)), (4.3.4.2)]

1.2 Hydrocarbon Liquids Measurement

Manual #	Risk rating	Description
1.2.5.10	Low Risk	Metering system not designed, installed, or operated as required. [<i>OGCR</i> 14.180(2); <i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (6.3.1), (12.2), (12.3), (12.3.4), (13.2.1)]
1.2.5.15	Low Risk	Meter installed downstream of snap-acting dump valve. [<i>Directive 017</i> (2.6(1)), (2.8.1), (2.8.2), (2.9), (12.2), (13.2.1)]
1.2.5.20	Low Risk	Measurement device not calibrated/proved since installation, following repairs, or calibration/proving expired. [<i>OGCR</i> 14.090(2)(a), (b), 14.110(1), (3), 14.120(1), (4); <i>Directive 017</i> (2.6), (2.8.1), (2.8.2), (2.9), (2.12), (2.13), (2.14), (12.2), (13.2.1)]
1.2.5.25	Low Risk	Prover tap size or location not in accordance with requirements. [<i>Directive 017</i> (2.6(2)), (12.2), (13.2.1)]
1.2.5.30	Low Risk	Procedures for the proving/calibration of measurement device/system are not in accordance with requirements. [<i>Directive 017</i> (2.6), (2.7), (2.8), (2.9), (2.11), (2.12), (2.13), (12.2), (13.2.1)]
1.2.5.35	Low Risk	Tank gauging procedures not in accordance with requirements. [<i>Directive 017</i> (6.3.1.2), (6.3.1.2(b) - (d)), (12.2), (12.3), (12.3.4), (13.2.1)]
1.2.10.5	High Risk	Hydrocarbon liquid production not reported to the Petroleum Registry. [<i>OGCR</i> 12.030(1); <i>Directive 007</i> (3.2)]
1.2.10.10	Low Risk	Measurement device calibration/proving tag or detailed report does not meet requirements. [<i>OGCR</i> 14.090(2)(c), 14.110(5), 14.120(5); <i>Directive 017</i> (2.6(10), (11), (Exceptions 1 - 3)), (2.7.1(2)), (2.12), (2.13.2), (2.14), (12.2), (13.2.1)]

1.3 Water/Other Measurement

Manual #	Risk rating	Description
1.3.5.5	Low Risk	No water production measurement. [OGCR 14.140 - 14.170 ; Directive 004 ; Directive 017 (6.1), (6.2.2.1), (7.1.1), (7.2.1), (7.3), (7.3.1), (7.3.3), (7.4), (7.4.1), (7.4.3)]
1.3.5.10	Low Risk	No measurement of injected/disposed water or other substance(s). [OGCR 14.200 ; Directive 017 (1.7.3(ii), (iv))]
1.3.5.15	Low Risk	Meter or product analyzer not installed in accordance with the requirements. [OGCR 14.180(3) ; Directive 017 (2.6), (6.4.2)]
1.3.5.20	Low Risk	Water meter not proved since installation, following repairs, or meter proving has expired. [OGCR 14.140(3) ; Directive 017 (2.6), (2.10)]
1.3.5.25	Low Risk	Product analyzer calibration expired. [Directive 017 (2.11)]
1.3.10.5	Low Risk	Water production not reported to the Petroleum Registry. [OGCR 12.030(1) ; Directive 007 (3.2)]
1.3.10.10	Low Risk	Injection or disposition of water/other substance not reported to the Petroleum Registry. [OGCR 12.030(1) ; Directive 007 (3.2)]
1.3.10.15	Low Risk	Measurement device calibration/proving tag/detailed report not attached or does not meet requirements. [OGCR 14.140(3)(c) ; Directive 017 (2.6(10), (11), (Exceptions 1)), (2.10)]
1.3.10.20	Low Risk	Product analyzer tag/detailed report does not meet requirements. [Directive 017 (2.11)]

1.4 Spacing

Manual #	Risk rating	Description
1.4.5.5	High Risk	Flare stack or incinerator less than 100 metres from an occupied residence. [OGCR 8.080(3) ; Directive 060 (7.8(2)(b))]
1.4.5.10	High Risk	Flare pit, flare stack, or incinerator less than 25 metres from oil or gas processing equipment. [OGCR 8.080(5) ; Directive 060 (7.8(1)(c))]
1.4.5.15	Low Risk	Flare pit, flare stack, or incinerator less than 50 metres from a well or oil storage tank. [OGCR 8.080(5) ; Directive 060 (7.8(1)(a), (b))]
1.4.5.20	Low Risk	Flare pit, flare stack, or incinerator less than 100 metres from a surface improvement, except surveyed roadway or road allowance. [OGCR 1.020(2)(28) , 8.080(3); Directive 056 Appendix 3; Directive 060 (7.8(2)(a))]
1.4.5.25	Low Risk	Flare or incinerator less than 40 metres to a public roadway. [OGCR 8.080(3) ; Directive 056 Appendix 3; Directive 060 (7.8(2)(a)), footnote 15]
1.4.5.30	High Risk	Flame type equipment placed or operated within 25 metres of a process vessel without adequate flame arrester. [OGCR 8.090(5) , (8)]

Manual #	Risk rating	Description
1.4.5.35	High Risk	Flame type equipment within 25 metres of a well, oil storage tank, or other source of ignitable vapour. [OGCR 8.090(4) ; Interim Directive (ID) 91-03 (3.3 (3))]
1.4.5.40	High Risk	Ventilation requirements not met for flame type equipment within the same building as a process vessel or source of ignitable vapour. [OGCR 8.090(6)]
1.4.5.45	Low Risk	Fire within 50 metres of a well, oil storage tank, or other source of ignitable vapour (25 metres for heavy oil/crude bitumen production). [OGCR 8.090(2) ; Interim Directive (ID) 91-03 (3.3)]
1.4.5.50	High Risk	Smoking within 25 metres of a well, separator, oil storage tank, or other source of ignitable vapour. [OGCR 8.120(1)]
1.4.5.55	Low Risk	Outer perimeter of tank dike to surface improvement (other than public roadway) less than 60 metres. [OGCR 8.030(4)]
1.4.5.60	Low Risk	Oil storage tank(s) to well less than 50 metres (25 metres for heavy oil/crude bitumen production). [OGCR 8.090(3) ; Directive 055 (3.7); Interim Directive (ID) 91-03 (3.3 (2))]
1.4.5.65	Low Risk	Internal combustion engine exhaust within 25 metres of a well, process vessel, oil storage tank, or source of ignitable vapours, not constructed to prevent flame emergence. [OGCR 8.090(9)(a)]
1.4.5.70	Low Risk	End of exhaust pipe from internal combustion engine is located within 6 metres of the well and/or is not directed away from the well (1 metre for heavy oil production). [OGCR 8.090(9)(b) ; Interim Directive (ID) 91-03 (3.3(4)(a))]

1.5 Flaring, Incinerating, and Venting

Manual #	Risk rating	Description
1.5.5.5	High Risk	No flare or incinerator stack where one is required. [OGCR 7.060(1) - (3) , 7.070(1) , (3), (5), (6); Directive 060 (8.1(5)(b)); Interim Directive (ID) 91-03 (3.2(3))]
1.5.5.10	High Risk	Operating procedures and/or automatic shutdowns not in place where needed to control sour/acid gas flaring events. [Directive 060 (7.5(3))]
1.5.5.13	Low Risk	Failure to meet solution gas reduction requirements during planned shutdowns and emergency events. [Directive 060 (2.11.1(1), (2), Table 1), (5.2(4))]
1.5.5.15	Low Risk	Stack height or design does not meet requirements. [OGCR 7.060(4)(a) , (7), 7.070(5) , (6); Directive 060 (7.4); Interim Directive (ID) 91-03 (3.2(3))]
1.5.5.20	High Risk	Pilot/ignition device(s) not available/operable where required. [OGCR 7.060(4)(c) , (10), 7.070(1) , 7.070(5) ; Directive 060 (7.3), (7.3.1(1)), Appendix 13]
1.5.5.25	High Risk	Insufficient heating value available to flare. [Directive 060 (7.1.1(1))]
1.5.5.30	Low Risk	No wind guard on gas sour/acid flare when exit velocity is not sufficient. [OGCR 7.060(4)(b) , 7.070(5)]

1.5.5.35	High Risk	No flame arrester, equivalent safety device, or appropriate engineering and operating practices to prevent backflash where required. [OGCR 8.090(7); <i>Directive 060</i> (7.7(1) - (3)), (8.1(9))]
1.5.5.40	High Risk	No knockout drum or flare separator where required. [OGCR 7.060(4)(d), 7.070(5); <i>Directive 060</i> (7.6(2)), (7.6.1), (8.1(5)(b))]
1.5.5.45	High Risk	Knockout drum or flare separator controls, equipment or design, does not meet requirements. [<i>Directive 060</i> (7.6)]
1.5.5.50	High Risk	Exposed flame from an incinerator. [<i>Directive 060</i> (7.1.2(1)(a))]
1.5.5.55	High Risk	Insufficient exit temperature, no automatic temperature shutdown, or no process temperature control and recording where required for incinerators. [<i>Directive 060</i> (7.1.2(1) - (3))]
1.5.5.60	High Risk	Gas is being vented, not burned, where it could support stable combustion. [OGCR 8.080(1); <i>Directive 060</i> (8.1(2),(5))]
1.5.5.65	High Risk	Venting practices not conducted in accordance with the requirements. [OGCR 8.080(1); <i>Directive 060</i> (8.1(4) - (7))]
1.5.5.68	High Risk	Exceeding well test flaring/incineration and venting duration limits. [<i>Directive 060</i> (2.4(1)), (3.2(1), (2))]
1.5.5.70	High Risk	Flare pit containing produced fluids. [OGCR 8.080(4); <i>Informational Letter (IL) 96-04</i>]
1.5.5.75	High Risk	Flare pit used at facility/well site constructed after July 1, 1996. [OGCR 8.080(2); <i>Directive 060</i> (7.11); <i>Informational Letter (IL) 96-04</i>]
1.5.5.80	Low Risk	Inadequate construction, design, equipment, and/or use of a flare pit at a facility/well site. [OGCR 8.080(3), (4); <i>Directive 060</i> (7.11); <i>Informational Letter (IL) 96-04</i> ; <i>Informational Letter (IL) 94-06</i>]
1.5.5.83	High Risk	Routine flaring, incinerating, or venting solution gas from an oil/bitumen well with a GOR greater than 3000 m ³ /m ³ [<i>Directive 060</i> (2.5(1)(b))]
1.5.10.5	High Risk	Failure to conduct dispersion modelling for flaring or incinerating gas with greater than 10 mol/kmol H ₂ S or 1 tonne per day of sulphur. [<i>Directive 060</i> (3.6(1), (2)), (7.12(1), (2))]
1.5.10.10	High Risk	Decision tree or economic evaluation not completed or results not implemented for new, existing, and temporary flares, incinerators, and vents as required. [<i>Directive 060</i> (2.3, Figure 2), (2.4(1)(a)(i)(ii)), (2.5(1)(a)), (2.8(1)), (3.1(1), (2), Figure 3), (4.1(5), Figure 5), (5.1, Figure 6), (6.1, Figure 7), (7.11(4)), (8.1(1)), (9.1)]
1.5.10.15	Low Risk	Failure to keep flaring, incinerating, and venting logs as required. [<i>Directive 060</i> (10.4(1)(b) – (e)), (2)]
1.5.10.20	High Risk	Flaring or incinerating sour gas containing more than 50 mol/kmol H ₂ S without a permit where required. [OGCR 7.055; <i>Directive 060</i> (3.3.1(1)), (3.3.2(2) - (4)), (3.7(3))]
1.5.10.25	High Risk	Failure to comply with any condition of flaring permit or approval (temporary permits, volume allowance threshold exceedance permits, and blanket permits). [OGCR 7.055; <i>Directive 060</i> (3.3(1)), (3.5)]

1.5.10.30	High Risk	Failure to comply with conditions for flaring or incinerating small volumes of sour gas containing more than 50 mol/kmol H ₂ S when a permit is not required. [<i>Directive 060</i> (3.3.2(2) - (4))]
1.5.10.35	Low Risk	Failure to notify the appropriate ERCB Field Centre of flaring, incinerating, or venting events as required. [<i>OGCR</i> 7.060(9.5)(a); <i>Directive 060</i> (2.9(6)), (2.11.1(3)), (3.9), (4.2), (5.4), (6.4(1) - (3)), Table 1, Table 2]
1.5.10.40	High Risk	No resident notification and/or consultation. [<i>OGCR</i> 7.060(9.5)(b), (c); <i>Directive 060</i> (2.5(1)(c)(i), (6)(c), (6)(d)), (2.9(3), (5), (6)), (2.11.1(3)), (3.9(1), (4) - (7)), (4.2(1)), (5.4(1)), (6.4(1)), Table 1, Table 2]
1.5.10.45	Low Risk	Public information packages or resident notification information do not meet the requirements. [<i>Directive 060</i> (2.9.1), (3.9(4), (5))]
1.5.10.48	Low Risk	Licensee does not notify the appropriate ERCB Field Centre of any unresolved concerns/objections to temporary flaring event or well test. [<i>Directive 060</i> (3.9.1(2))]

1.6 Signs and Security

Manual #	Risk rating	Description
1.6.5.5	Low Risk	Conspicuous identification sign not posted at the primary entrance to the well or facility. [<i>OGCR</i> 6.020(3); <i>Directive 055</i> (3.8)]
1.6.5.10	Low Risk	Improper identification sign. [<i>OGCR</i> 6.020(3), (5), (7)]
1.6.5.15	Low Risk	No or improper warning symbol posted adjacent to all entrances to the developed area of wells and facilities. [<i>OGCR</i> 6.020(8), (9), (10), (11), (12), (13), Schedule 12]
1.6.5.20	High Risk	No or inadequate fence around well as required. [<i>OGCR</i> 8.180(1), (2)]
1.6.5.23	Low Risk	Licensee not ensuring vehicles do not operate within 3 metre radius of the wellhead. [<i>OGCR</i> 7.050(7.2); <i>Interim Directive (ID) 98-02</i> (Wellhead Protection)]
1.6.5.28	Low Risk	The wellhead is not conspicuously marked or fenced so that it is visible in all seasons. [<i>OGCR</i> 7.050(7.1); <i>Directive 013</i> Table 1; <i>Interim Directive (ID) 90-01</i> (7.3.5(8)); <i>Interim Directive (ID) 98-02</i> (Wellhead Protection)]
1.6.5.33	High Risk	Physical barrier that is clearly visible not constructed around critical sour well. [<i>Interim Directive (ID) 90-01</i> (7.3.5(9))]

1.7 Emergency Controls and Relief Systems

Manual #	Risk rating	Description
1.7.5.3	High Risk	Sour pressure relief valves at a well site > 10 mol/kmol H ₂ S not tied into flare system. [<i>OGCR</i> 7.060(1), (3)]
1.7.5.5	Low Risk	Operating gas catalytic heater with inoperable safety shut off. [<i>OGCR</i> 8.090(8); <i>Alberta Regulation 62/2003 Occupational Health and Safety Regulation</i> , Part 1, 12(1)]

Manual #	Risk rating	Description
1.7.5.8	Low Risk	No high level and high pressure shutdown device installed on a separator, treater, or other pressure vessel which receives production from an oil well containing more than 10 mol/kmol H ₂ S. [OGCR 7.060(3.1)]
1.7.5.13	Low Risk	No or inadequate/inappropriate pop tank or alternate conditions not adhered to. [OGCR 8.031]
1.7.5.18	High Risk	Well does not have a master valve as required. [OGCR 7.050(7.3), 7.050(7.4); <i>Interim Directive (ID) 98-02</i>]
1.7.5.23	High Risk	A flowing well at which the H ₂ S concentration exceeds 50 mol/kmol or critical sour well does not have two master valves. [OGCR 7.050(3)(a); <i>Interim Directive (ID) 90-01</i> (7.3.5(5))]
1.7.5.28	High Risk	Wellhead working pressure rating less than the bottom hole pressure for a well with greater than 50 mol/kmol H ₂ S or critical sour well. [OGCR 7.050(3)(c); <i>Interim Directive (ID) 90-01</i> (7.3.5(3))]
1.7.5.33	High Risk	Sour pumping well capable of flow to atmosphere with a H ₂ S content of 10 mol/kmol or greater not equipped with hydraulic rod blowout preventer (BOP) and environmental BOP. [OGCR 7.050(7.3), (7.4)]
1.7.5.38	High Risk	Well which produces gas containing more than 10 mol/kmol H ₂ S with a flow line gauge pressure exceeding 1400 kPa and does not have a mechanism installed on the wellhead that halts the flow of oil or gas in the event of an uncontrolled drop in pressure or an equipment failure. [OGCR 7.060(8)]
1.7.5.43	High Risk	Critical sour well capable of flow to atmosphere does not have a surface safety valve. [<i>Interim Directive (ID) 90-01</i> (7.3.5(6))]
1.7.5.48	High Risk	Critical sour well on rod pump does not have an environmental BOP on top of the stuffing box. [<i>Interim Directive (ID) 90-01</i> (7.3.5(7))]
1.7.5.53	Low Risk	Hot oil circulating string does not have a check valve in the injection line and an automatic shut-off valve on the return line (> 50 mol/kmol H ₂ S). [OGCR 7.050(4)]
1.7.5.58	High Risk	No subsurface safety valve in accordance with requirements where required. [OGCR 7.050(7), 8.060(b); <i>Interim Directive (ID) 90-01</i> (7.3.5(6))]
1.7.5.63	High Risk	Well not on pump is located closer than 100 metres to normal high-water mark of a body of water or permanent stream does not have an automatically closing wellhead valve. [OGCR 8.060(a)]
1.7.5.68	Low Risk	No or inadequate surface casing vent. [OGCR 6.100, 7.050(3)]

1.8 Storage

Manual #	Risk rating	Description
1.8.5.5	High Risk	Contaminated materials or materials possessing the potential to leach stored directly on the ground. [OGCR 8.030(1); <i>Directive 055</i> (3.5)]

Manual #	Risk rating	Description
1.8.5.10	Low Risk	Aboveground storage tank(s) not constructed or operated appropriately. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (5.1), (5.3)]
1.8.5.15	High Risk	No secondary containment as required. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (5.1), (5.3.2), (6.1), (8.2), Appendix 2(1), (2.2.1)]
1.8.5.20	Low Risk	No secondary containment (containers and indoor tanks). [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (5.3.2.3), (7)]
1.8.5.25	Low Risk	Secondary containment not designed, constructed, sized, and maintained as required. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (5.3), (5.3.2.1), (5.3.2.1(a)), (5.3.2.1(b)), (5.3.3), (6.1), (7), Appendix 2(1), (2.2.1)]
1.8.5.30	Low Risk	No system to monitor the interstitial space. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (5.3.3), (6.2), Appendix 2]
1.8.5.35	Low Risk	Required measures not incorporated to prevent overfilling of tanks. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (5.3.1), (5.3.3), (6.1)]
1.8.5.40	Low Risk	Spill control device(s) not used around hose connections at fluid transfer points. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (5.3.1), (5.3.3), (6.1)]
1.8.5.45	High Risk	Temporary single-walled aboveground tank not diked where required. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (3.5)]
1.8.5.48	Low Risk	Temporary tank not emptied or not removed from site within 72 hours of completing the operation. [<i>OGCR</i> 8.030(1) - (3); <i>Directive 055</i> (3.5)]
1.8.5.50	High Risk	No leak detection and secondary containment where required (single-walled underground storage tank retrofitted between January 1, 1996, and January 1, 2002). [<i>OGCR</i> 8.030(2); <i>Directive 055</i> Appendix 2, Appendix 2(2.2.1)]
1.8.5.53	Low Risk	Open-top, nonmetallic aboveground storage tank(s) not constructed or operated appropriately. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (5.2)]
1.8.5.55	Low Risk	Aboveground/underground tank(s) out of service do not meet the requirements. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (12)]
1.8.5.60	Low Risk	Oilfield wastes/empty barrels stored more than one year. [<i>OGCR</i> 8.030(1); <i>Directive 055</i> (3.3)]
1.8.10.5	Low Risk	Automatic shutdown system/interstitial space not checked on a monthly basis. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (5.3.3), (6.2), (10)]
1.8.10.10	High Risk	Single-walled underground storage tank not tested within past three years (tank installed prior to January 1, 1996). [<i>OGCR</i> 8.030(2); <i>Directive 055</i> Appendix 2(2.2.2)]
1.8.10.15	High Risk	Underground storage tank installed after 1996 not tested for integrity as a complete system (including associated piping) prior to placing in service. [<i>OGCR</i> 8.030(2); <i>Directive 055</i> (6.1), (10)]
1.8.10.20	Low Risk	Aboveground storage tank not tested within past five years (pre-1996 site where current secondary containment requirements are not met). [<i>OGCR</i> 8.030(2); <i>Directive 055</i> Appendix 2(2), (2.1.2)]

Manual #	Risk rating	Description
1.8.10.25	Low Risk	Records of leak detection monitoring results not available or not retained for at least five years. [OGCR 8.030(2) ; Directive 055 (10), Table 2]
1.8.10.30	Low Risk	Records of tank/piping inspection and corrosion monitoring programs not available or retained for at least five years. [Directive 055 (10)]
1.8.10.33	Low Risk	Open-top, nonmetallic aboveground storage tank(s) not verified for integrity within past five years. [OGCR 8.030(2) ; Directive 055 (5.2)]

2 Public Safety

2.1 ERPs

Manual #	Risk rating	Description
2.1.3.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1) ; Directive 071 (2005 edition) (1.4.1)]
2.1.3.10	High Risk	No approved site-specific ERP where required (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (4.2.1), (4.2.2), (4.2.2.1); Bulletin 2008-15 (2)]
2.1.3.15	Low Risk	Operator not communicating with residents in the emergency planning zone (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (2.2.1); Bulletin 2008-15]
2.1.3.20	High Risk	Copy of ERP not readily available (ERPs in existence prior to April 8, 2008). [Directive 071 (2005 edition) (4.2.1), (4.2.2), (4.2.2.1); Bulletin 2008-15 (2)]
2.1.5.5	High Risk	Failure to have a corporate-level ERP. [OGCR 8.002(1) ; Directive 071 (2.1(1))]
2.1.5.10	High Risk	Failure to have an ERP approved prior to commencement of operations. [Directive 071 (7.1(2)); Bulletin 2008-15 (2.2)]
2.1.5.13	High Risk	Failure to ensure that a copy of the approved sour operations ERP and supplement is on site during all workover, servicing, or testing operations. [Directive 071 (7.3.2(9)); Bulletin 2008-15 (2.2)]
2.1.5.15	High Risk	Failure to ensure that on-site supervisory personnel are aware of the size of the EPZ. [Directive 071 (12.1(1)); Bulletin 2008-15 (2.2)]
2.1.5.20	Low Risk	Failure to develop a public information package and/or to provide all required persons with a copy. [Directive 071 (4.3.1(12)), Table 3; Bulletin 2008-15 (2.2)]
2.1.5.25	High Risk	Failure to ensure that a call to the licensee 24-hour emergency telephone number initiates immediate action. [Directive 071 (2.1(3))]
2.1.5.30	High Risk	Failure to ensure that the licensee 24-hour emergency telephone number is posted by way of a conspicuous sign erected at the entrance to all licensee well and facility operations. [Directive 071 (2.1(4))]

Manual #	Risk rating	Description
2.1.5.35	High Risk	Failure to ensure that the equipment identified in the ERP is available and located where specified in the ERP for any operation. [<i>Directive 071</i> (14.4(16)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.38	High Risk	Failure to meet the air quality monitoring requirements for critical sour wells. [<i>Directive 071</i> (14.3.8.1(13), (14)); <i>Bulletin 2008-15</i> (2.2)]
2.1.5.40	High Risk	Failure to ensure that company equipment is operational and the appropriate documentation is available to verify testing and calibration requirements. [<i>Directive 071</i> (14.4(17)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.5	High Risk	Failure to provide a copy of the public information package to all identified residences in the EPZ every two years and/or conduct a public awareness program with members of the public through personal consultative process. [<i>Directive 071</i> (14.6(23)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.10	Low Risk	Failure to carry out public and local authority notification and consultation. [<i>Directive 071</i> (13.1(1)), Table 8; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.15	Low Risk	Failure to distribute copies of the sour operations, HVP pipeline, cavern storage facility, sour well site specific drilling and/or completion ERP, or approved supplement to government departments and agencies within 10 business days after approval, unless the government agency requests otherwise in writing. [<i>Directive 071</i> (5.7(15)), (7.3.3(11)), (9.3.2(7)), Appendix 5; <i>Bulletin 2008-15</i> (2.2)]
2.1.10.20	Low Risk	Failure to provide a copy of the public information package to the local ERCB Field Centre. [<i>Directive 071</i> (4.3.1(13)); <i>Bulletin 2008-15</i> (2.2)]
2.1.10.25	High Risk	Failure to immediately contact the ERCB after activating internal response resources to confirm the level of emergency and convey the specifics of the incident. [<i>Directive 071</i> (11.1.1(4)), (14.2(4)); <i>Bulletin 2008-15</i> (2.2)]

3 Environment

3.1 Emissions

Manual #	Risk rating	Description
3.1.5.5	High Risk	H ₂ S emissions at well that produces gas containing more than 10 mol/kmol of H ₂ S. [<i>OGCR</i> 7.070(1), (3); <i>Directive 060</i> (7.1), (8.2); <i>Interim Directive (ID) 91-03</i> (3.2(3))]
3.1.5.10	High Risk	Exceeding Alberta Ambient Air Quality Objectives. [<i>Directive 060</i> (3.3.2(2)(c)), (3.6(6)), (7.12(1)), Appendix 8(5)(b)]
3.1.5.25	Low Risk	Routine combustion of gases results in continuous or repeat black smoke emissions. [<i>OGCR</i> 7.040(1), 9.050(6)(d); <i>Directive 060</i> (7.1(2)), (7.2(1)(a))]
3.1.5.30	High Risk	Individual dehydrator(s) or site dehydrator benzene emissions over the limits. [<i>Directive 039</i> (2); <i>Directive 060</i> (8.3(1), (3))]

Manual #	Risk rating	Description
3.1.10.10	Low Risk	Failure to notify resident(s) within 750 metres of a dehydrator (for new, relocated, or existing glycol dehydrators). [<i>Directive 039</i> (1); CAPP <i>BMP Control of Benzene Emissions from Glycol Dehydrators</i> (Executive Summary, Chapter 11)]
3.1.10.15	Low Risk	Dehydrator Engineering and Operations Sheet (DEOS) not done, incomplete/inaccurate, and/or not posted. [<i>Directive 039</i> (3); <i>Directive 060</i> (8.3(2)(b))]
3.1.10.20	Low Risk	Failure to correctly complete the Decision Tree Analysis (for new or relocated glycol dehydrators as of January 1, 2007). [<i>Directive 039</i> (1); <i>Directive 060</i> (8.3(2)(a)); CAPP <i>BMP Control of Benzene Emissions from Glycol Dehydrators</i> (Executive Summary, Appendix A)]

3.2 Waste Management

Manual #	Risk rating	Description
3.2.5.5	Low Risk	Well not maintained in a clean condition. [<i>OGCR</i> 8.150(4)]
3.2.5.10	High Risk	Waste sent to facility not authorized to accept it. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (2.1(1))]
3.2.5.15	High Risk	Oilfield wastes are mixed/diluted to avoid regulatory requirements. [<i>Directive 058</i> (5.5); <i>Interim Directive (ID) 99-04</i> (2)]
3.2.5.20	High Risk	Conditions not met for on-site land treatment. [<i>Directive 058</i> (16.2(1) - (3)); <i>Informational Letter (IL) 98-02</i> (4.2)]
3.2.5.25	High Risk	Oilfield waste was not treated according to one-time, on-site biopile/biocell treatment requirements. [<i>Directive 058</i> (16.3(1), (4)(c))]
3.2.5.30	High Risk	One-time, on-site biopile or biocell containment device or leachate collection system is not appropriately designed or operated. [<i>Directive 055</i> (8.1); <i>Directive 058</i> (11.6), (16.3)]
3.2.5.35	High Risk	Small batch feed incinerator or mobile thermal treatment facility not operating according to requirements. [<i>Directive 058</i> (11.6), (17.4), (17.5); <i>Interim Directive (ID) 2000-03</i> (3.1(a), (b))]
3.2.5.40	High Risk	Conditions not met for spreading of oily by-products to roads. [<i>Directive 058</i> (29.3), (29.8); <i>Informational Letter (IL) 99-02</i>]
3.2.5.45	High Risk	Banned oilfield wastes injected into pipeline system. [<i>Directive 058</i> (6), (6.1)]
3.2.10.5	High Risk	Oilfield waste generator not tracking oilfield waste from cradle to grave. [<i>OGCR</i> 8.150(2); <i>Directive 058</i> (7.1), (9.1), (9.2)]
3.2.10.10	Low Risk	Waste tracking system data or manifest copies and supporting documentation not retained for two years. [<i>Directive 058</i> (8.9), (9.2)]
3.2.10.15	Low Risk	ERCB manifests not completed or completed improperly for DOWs transported on public roads. [<i>Directive 058</i> (7.1), (8); <i>Interim Directive (ID) 2000-03</i> (3.4)]
3.2.10.20	Low Risk	Discrepancy on the waste manifest is not reconciled. [<i>Directive 058</i> (8.8)]

Manual #	Risk rating	Description
3.2.10.25	Low Risk	Biopile or biocell records not kept for two years. [<i>Directive 058</i> (16.3(5)), (11.8)]
3.2.10.30	Low Risk	Small batch feed incinerator or mobile thermal treatment facility does not notify ERCB as required. [<i>Directive 058</i> (17.4), (17.5(3))]

3.3 Spills

Manual #	Risk rating	Description
3.3.5.5	High Risk	Well closer than 100 metres to the normal high water mark of a body of water or permanent stream without appropriate protective measures. [<i>OGCR</i> 8.060]
3.3.5.10	High Risk	Spill or release not contained/cleaned up. [<i>OGCR</i> 8.050(1), 8.051(b)]
3.3.10.5	High Risk	No notification of a reportable spill or release to ERCB. [<i>OGCR</i> 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]
3.3.10.10	Low Risk	Late notification of a reportable spill or release to ERCB. [<i>OGCR</i> 8.050(2), 8.051(a), 12.140; <i>Informational Letter (IL) 98-01</i> (4.1)]

3.4 Surface Water

Manual #	Risk rating	Description
3.4.5.5	High Risk	Release criteria of collected surface water not met prior to release to adjacent lands. [<i>Directive 055</i> (11)]
3.4.5.10	Low Risk	Surface water that meets the surface discharge criteria disposed to injection/disposal well. [<i>Directive 051</i> (2.3)]

4 Liability Management

4.1 Suspension

Manual #	Risk rating	Description
4.1.5.3	High Risk	Improper suspension for given well type (if suspended to lower risk level). [<i>Directive 013</i> (3), Table 1]
4.1.5.8	Low Risk	All wellhead valves are not chained and locked or valve handles not removed. [<i>Directive 013</i> Table 1]
4.1.5.13	Low Risk	All outlets (except surface casing vents) not bull plugged or blind flanged with needle valves. [<i>Directive 013</i> Table 1]
4.1.5.23	Low Risk	Inactive well not suspended within 60 days after the one year anniversary of no production or injection. [<i>Directive 013</i> (8)]
4.1.10.3	Low Risk	Failure to report to the ERCB DDS system as required. [<i>Directive 013</i> (8), (9), Table 1]

4.2 Abandonment

Manual #	Risk rating	Description
4.2.5.3	High Risk	Failure to conduct abandonment operations in accordance with a nonroutine approval. [<i>OGCR</i> 3.013; <i>Directive 020</i> (2.1)]
4.2.5.8	High Risk	Failure to abandon a well with existing zonal abandoned Level-A interval in accordance with the requirements. [<i>OGCR</i> 3.013; <i>Directive 020</i> (3.2)]
4.2.5.13	High Risk	Failure to repair and reabandon a leaking well. [<i>OGCR</i> 3.013; <i>Directive 020</i> (3.3)]
4.2.5.23	High Risk	Failure to abandon a reentry well from the reentry depth to surface. [<i>OGCR</i> 3.013; <i>Directive 020</i> (3.4)]
4.2.5.28	High Risk	Failure to set cement plugs as required. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4)]
4.2.5.33	High Risk	Failure to use a cement blend that meets the requirements. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.1), (4.2), (5.3), (5.4.1)]
4.2.5.38	High Risk	Failure to locate a cement plug using one of the approved methods. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.5), (5.3 - 5.5), (6)]
4.2.5.43	High Risk	Failure to correct a misplaced cement plug. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.5)]
4.2.5.48	High Risk	Failure to conduct remedial cementing operations as required. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.1), (4.3), (4.4), (5.1), (5.5.1)]
4.2.5.53	High Risk	Failure to fill the wellbore with the required fluid. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.1), (4.3), (4.4), (5.2)]
4.2.5.58	High Risk	Failure to abandon each completed pool separately and cover all nonsaline groundwater with cement. [<i>OGCR</i> 3.013; <i>Directive 020</i> (5)]
4.2.5.63	High Risk	Failure to abandon cased-hole wells not penetrating oil sands zones in accordance with requirements. [<i>OGCR</i> 3.013; <i>Directive 020</i> (5.3)]
4.2.5.68	High Risk	Failure to abandon cased-hole wells penetrating oil sands zones in accordance with requirements. [<i>OGCR</i> 3.013; <i>Directive 020</i> (5.4)]
4.2.5.73	High Risk	Failure to conduct a fluid level test to determine if there are any leaking plugs. [<i>OGCR</i> 3.013; <i>Directive 020</i> (7.2)]
4.2.5.78	Low Risk	Failure to conduct surface abandonment operations immediately following confirmation of a successful reabandonment of a leaking well. [<i>OGCR</i> 3.013; <i>Directive 020</i> (3.3)]
4.2.5.83	Low Risk	Failure to complete surface abandonment within specified timeframe. [<i>OGCR</i> 3.013; <i>Directive 020</i> (4.6), (8)]
4.2.5.88	High Risk	Failure to conduct cut and cap operations in accordance with requirements. [<i>OGCR</i> 3.013; <i>Directive 020</i> (8.1)]
4.2.5.93	High Risk	Failure to complete surface equipment removal and cleanup activities within 12 months. [<i>OGCR</i> 3.013; <i>Directive 020</i> (8)]
4.2.10.3	High Risk	Failure to review the existing cement behind the casing as required. [<i>OGCR</i> 3.013; <i>Directive 020</i> (5.1)]
4.2.10.8	High Risk	Failure to have written ERCB approval prior to reentering a previously abandoned well. [<i>OGCR</i> 3.013; <i>Directive 020</i> (3.3)]

Manual #	Risk rating	Description
4.2.10.13	Low Risk	Failure to leave well open for a visual inspection in the designated site inspection region prior to cutting and capping. [<i>OGCR</i> 3.013; <i>Directive 020</i> (7.2)]
4.2.10.23	Low Risk	Failure to inform affected parties prior to surface abandonment. [<i>OGCR</i> 3.013; <i>Directive 020</i> (8)]
4.2.10.28	Low Risk	Failure to notify ERCB prior to commencement of abandonment operations. [<i>OGCR</i> 3.013; <i>Directive 020</i> (2.2), (8)]

5 Well Site Inspections Specific

5.1 Injection/Disposal Wells

Manual #	Risk rating	Description
5.1.5.3	High Risk	Disposal/injection well accepting prohibited waste streams. [<i>Directive 051</i> (2.3)]
5.1.5.8	Low Risk	Class Ia well has <500 kPa positive pressure or no fluid level detection system on the annulus. [<i>Directive 051</i> (8.2)]
5.1.5.13	High Risk	Exceeding maximum injection rates. [<i>OGCA</i> 39(1)(d); see specific approval]
5.1.5.18	High Risk	Exceeding maximum operating pressure. [<i>OGCA</i> 39(1); <i>Directive 051</i> (8.1(Class III)); see specific approval]
5.1.5.23	High Risk	Injected gas stream exceeds specified mole fraction of H ₂ S level. [<i>OGCA</i> 39(1); see specific approval]
5.1.5.28	High Risk	Failure to monitor for the breakthrough of acid gas at a producing well. [<i>OGCA</i> 39(1); see specific approval]
5.1.10.3	High Risk	Injection without an approval. [<i>OGCA</i> 39(1)(d); <i>OGCR</i> 15.070(1); <i>Directive 051</i> (3); <i>Directive 065</i> (4.2.1)]

5.2 SCVF/GM

Manual #	Risk rating	Description
5.2.5.3	High Risk	Failure to repair a serious SCVF/GM. [<i>Interim Directive (ID) 2003-01</i> (2.4)]
5.2.5.8	High Risk	Failure to perform SCVF/GM tests as required. [<i>Directive 020</i> (7.1), (7.3); <i>Interim Directive (ID) 2003-01</i> (2.3.1), (2.3.2)]
5.2.5.13	High Risk	Producing a vent flow that does not meet the SCVF production requirements. [<i>Interim Directive (ID) 2003-01</i> (2.4.3(a))]
5.2.10.3	High Risk	Failure to report a known SCVF/GM. [<i>Interim Directive (ID) 2003-01</i> (2.3.1), (2.3.2)]

5.3 Isolation Packer

Manual #	Risk rating	Description
5.3.5.3	High Risk	Failure to complete required packer testing annually. [<i>OGCR</i> 6.120, 7.050(1), (3), (3.1); <i>Directive 051</i> (7.2); <i>Interim Directive (ID) 2003-01</i> (1.2)]

Manual #	Risk rating	Description
5.3.5.8	High Risk	Failure to perform repairs and report repair results to the ERCB within 90 days of detection. [<i>Interim Directive (ID) 2003-01</i> (1.2)]
5.3.10.3	High Risk	Failure to complete necessary reporting of required packer testing by September 1 of each year. [<i>OGCR</i> 6.120(2), 7.050(3.1); <i>Interim Directive (ID) 2003-01</i> (1.3)]

5.4 Casing Failure

Manual #	Risk rating	Description
5.4.5.3	High Risk	Failure to repair a casing failure. [<i>Interim Directive (ID) 2003-01</i> (3.3)]
5.4.10.3	High Risk	Failure to report a known casing failure. [<i>Interim Directive (ID) 2003-01</i> (3.3)]

99 Other

Manual #	Risk rating	Description
99.5.5	Low Risk	Noncompliant with other low risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]
99.10.10	High Risk	Noncompliant with other high risk ERCB requirement(s) (see comments for details). [Refer to the applicable ERCB requirement (must be a risk-assessed noncompliance).]

Appendix 1 References and Contacts

ERCB Documents

Acts and Regulations

Oil and Gas Conservation Act

Oil and Gas Conservation Regulations

Bulletins

Bulletin 2008-15: New Edition of *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry* Issued

Bulletin 2009-44: Reminder of the January 1, 2010, Fugitive Emissions Program Effective Date

Directives

Directive 004: Determination of Water Production at Gas Wells

Directive 006: Licensee Liability Rating (LLR) Program and Licence Transfer Process

Directive 007: Volumetric and Infrastructure Requirements

Directive 013: Suspension Requirements for Wells

Directive 017: Measurement Requirements for Upstream Oil and Gas Operations

Directive 020: Well Abandonment Guide

Directive 038: Noise Control

Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators

Directive 047: Waste Reporting Requirements for Oilfield Waste Management Facilities

Directive 051: Injection and Disposal Wells – Well Classifications, Completions, Logging, and Testing Requirements

Directive 055: Storage Requirements for the Upstream Petroleum Industry

Directive 056: Energy Development Applications and Schedules

Directive 057: Fencing and Site Access Requirements for Oil and Gas Facilities

Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry

Directive 059: Well Drilling and Completion Data Filing Requirements

Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting

Directive 065: Resources Applications for Oil and Gas Reservoirs

Directive 071: Emergency Preparedness and Response for the Upstream Petroleum Industry (2005 edition)

Directive 071: Emergency Preparedness and Response for the Upstream Petroleum Industry (2008 edition)

Interim Directives

Interim Directive (ID) 90-01: Completion and Servicing of Sour Wells

ID 91-03: Heavy Oil/Oil Sands Operations

ID 98-02: Minimum Wellhead Requirements

ID 99-04: Deposition of Oilfield Waste into Landfills

ID 2000-03: Harmonization of Waste Management

ID 2003-01: 1) Isolation Packer Testing, Reporting, and Repair Requirements, 2) Surface Casing Venting Flow/Gas Migration Testing, Reporting, and Repair Requirements, 3) Casing Failure Reporting

Information Letters

Informational Letter (IL) 94-06: Discharge of Produced Liquids to Earthen Structures - Notice of Intention to Amend Existing Regulations

IL 96-04: EUB Policy Update and Clarification on the Use of Earthen Pits

IL 98-01: A Memorandum of Understanding Between Alberta Environmental Protection and the Alberta Energy and Utilities Board

[IL 98-02: Suspension, Abandonment, Decontamination, and Surface Land Reclamation of Upstream Oil and Gas Facilities](#)

[IL 99-02: Use of Produced Sand in Road Construction](#)

Other Documents

[Alberta Regulation 62/2003, Occupational Health and Safety Regulation](#)

[CAPP Best Management Practices: Control of Benzene Emissions from Glycol Dehydrators](#)

[CAPP Best Management Practices: Management of Fugitive Emissions at Upstream Oil and Gas Facilities](#)

ERCB Contacts

Applications Branch

Facilities Applications: 403-297-4369

Resources Applications: 403-297-4967

Customer Contact Centre

403-297-8311

Field Surveillance and Operations Branch

EPA Help Line: 403-297-2625

Liability Management: 403-297-3710

Technical Operations: 403-297-6179

Compliance assurance inquires: 403-297-6179 or ComplianceCoordination@ercb.ca

Field Centres and Offices

Bonnyville: 780-826-5352

Drayton Valley: 780-542-5182

Fort McMurray Office: 780-743-7214

Grande Prairie: 780-538-5138

High Level: 780-926-5399

Medicine Hat: 403-527-3385

Midnapore: 403-297-8303

Red Deer: 403-340-5454

St. Albert: 780-460-3800

Wainwright: 780-842-7570

Information Collection and Dissemination

Production: 403-297-8952

Well Data Services: 403-297-8696

Information Services: 403-297-8190 (or 403-297-8311, select 2)

Geology and Reserves

Geology and Reserves: 403-297-8214

Other Contacts

Alberta Environment: 1-800-222-6514

Alberta One Call: 1-800-242-3447

Alberta Utilities Commission Complaint Line: 780-427-4903

Workplace Health and Safety: 1-866-415-8690

Appendix 2 Acronyms

AENV – Alberta Environment

AUC – Alberta Utilities Commission

BMP – Best Management Practices

BOP – Blowout Preventer

CAPP – Canadian Association of Petroleum Producers

DDS – Digital Data Submission

DEOS – Dehydrator Engineering and Operations Sheet

DOW – Dangerous Oilfield Waste

EPA – Emergency Planning and Assessment

EPZ – Emergency Planning Zone

ERCB – Energy Resources Conservation Board

ERP – Emergency Response Plan

FIS – Field Inspection System

FSOB – Field Surveillance and Operations Branch

GM – Gas Migration

GOR – Gas-Oil Ratio

OGCA – Oil and Gas Conservation Act

OGCR – Oil and Gas Conservation Regulations

PSL – Permissible Sound Level

SCVF – Surface Casing Vent Flow

WM – Waste Management