

Draft Directive 058 (released June 2021)

Industry Feedback and AER Response

We received over 200 comments on draft *Directive 058*. In this response document, comments covering similar issues have been consolidated. Comments on grammar, punctuation and cross-referencing have not been summarized, but changes were made where needed.

Directive 058 applies to waste generated by the upstream petroleum industry and covers only processes that are within our jurisdiction. *Directive 058* is enforceable under the *Oil and Gas Conservation Act (OGCA)*.

As noted in section 1.5, “What’s New,” the directive has been significantly restructured. This was not only due to the consolidation of various regulatory instruments. As part of our contributions towards the Government of Alberta’s *Red Tape Reduction (RTR) Act*, various obsolete requirements were removed and requirements that were duplicated from other sources were removed or clarified. In doing so, we inadvertently changed the intent of several requirements, which was identified through the feedback. Corrections have been made to the final directive and are noted in the table below.

We also expanded the waste storage activity in *Directive 058* to include the storage of water for reuse in hydraulic fracturing operations. This work was part of our centralized fluid storage (CFS) project, which we engaged stakeholders on before drafting the additions to the directive.

Much of the feedback that we received on the draft directive fell outside of the scope of the CFS and RTR work. This feedback, although appreciated, has been identified as out of scope below.

In the future, we will be clearer about what is and is not in scope when requesting feedback.

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
General Comments		
<p>Some valuable details have been removed from the draft <i>Directive 058</i> (e.g., sections 10, 11.4). As the <i>Waste Control Regulations</i> is included within the AER purview (as a specified enactment), is the assumption that industry is to refer to those documents or documents referenced within it (i.e., <i>Alberta User Guide for Waste Managers</i>).</p> <p>Make a statement that emphasizes the requirements in the <i>Waste Control Regulations</i> and <i>Alberta User Guide for Waste Managers</i> are applicable to the management of oilfield waste. List applicable enactments.</p>	CNRL	RTR work resulted in the removal of duplicate information. In this case, the <i>WCR</i> and <i>Alberta User Guide for Waste Managers</i> are the source documents, which section 2 of the directive refers to specifically, and industry is to refer to those source documents.
Must statement without a number associated to the requirement. Add a number to the requirement.	Anonymous	Revised wording in section 1.3 to indicate that only AER requirements that are unique to this directive are numbered.
Can <i>Directive 056</i> surface facilities accept third-party produced water? Consider stating produced water from third parties is considered a waste.	Catapult Water	This is out of scope for <i>Directive 058</i> . Contact the <i>Directive 056</i> helpline.
<i>Directive 058</i> has no formalized guidance on hydrovac dewatering requirements and specifications of systems. The AER's standards for hydrovac management and specifications for approved hydrovac dewatering systems should be incorporated.	Catapult Water	This was out of scope for CFS and RTR.
The applicability of <i>Directive 058</i> to facilities that are regulated by the AER but fall under the <i>Oil Sands Conservation Act (OSCA)</i> and <i>Rules</i> has not been addressed.	CAPP	Not all <i>OSCA</i> facilities are included in the <i>OGCA</i> definition of a facility. Thus, waste generated at those facilities is not considered oilfield waste.

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Section 1, “Introduction”		
1.3 Can the AER add the responsibilities of the waste generator and waste receiver back into this document?	CAPP Catapult Water CNRL Secure Energy	No. Under RTR, duplicate information was removed. The responsibilities of the waste generator and waste receiver are set out in the <i>Oil and Gas Conservation Rules</i> . Section 1.3 of the directive has been edited to indicate that the responsibilities are set out in the <i>OGCR</i> .
The AER and AEP have divided regulatory responsibilities, regarding waste management. Mention the MOU [ID 2000-03] or the content within them, particularly with respect to landfills and class 1a wells.	CNRL	<i>ID 2000-03: Harmonization of Waste Management and Memorandum of Understanding Between the Alberta Energy and Utilities Board and Alberta Environment</i> has been discontinued as an interim directive (or ID) because it contains no regulatory requirements, but it will be continued as a memorandum of understanding because it informs the relationship between the AER and Alberta Environment and Parks on waste management. <i>Directive 058</i> reflects the AER’s regulatory responsibilities.
The use of “duty holder” to lump the generator and receiver together is not acceptable. Distinction between generator and receiver needs to be defined clearly and not used interchangeably.	Catapult Water Pure Environmental	The draft directive, section 1.3, stated that “for clarity, the duty holder has been identified when a requirement is specific to the oilfield waste generator or oilfield waste generator receiver.” The generator and receiver were not lumped together under the term “duty holder” in all situations. Additional text has been added to section 1.3: The Oil and Gas Conservation Rules (<i>OGCR</i>) section 8.150(2) sets out the responsibilities of the oilfield waste generator , while <i>OGCR</i> section 8.150(3) sets out the responsibilities for the oilfield waste receiver . In this directive, the duty holder has been identified when a requirement is specific to the oilfield waste generator or oilfield waste receiver.

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>All documentation required under this directive must be provided to the AER upon request to confirm compliance. Industry is required to provide the AER an application before receiving approval; therefore, the application material should not have to be provided again. The only material that should be required upon request applies to record keeping, reporting, and monitoring.</p>	<p>CNRL</p>	<p>Applications do not contain all of the supporting documentation. All directives, including <i>Directive 058</i>, must align with the AER’s compliance assurance program. A key component of the program are audits.</p>
<p>1.4(2) Release reporting should simply reference the <i>Spill Reporting Regulations</i>. Suggest removing (a), (b), and (c) from this section.</p>	<p>Anonymous Secure Energy</p>	<p>This requirement was part of the consolidation of <i>IL 98-01</i> with <i>Directive 058</i>. <i>IL 98-01</i> was an enforceable regulatory instrument, and unrefined product releases are not defined elsewhere in AER regulations.</p>
<p>1.5 For rarely used waste management methods, the wording states that duty holders MAY still apply for an approval. State that duty holders MUST still apply for approval.</p> <p>If industry were to apply, how would industry know the type of information required by the AER?</p>	<p>Anonymous CNRL</p>	<p>The wording has been revised as follows to indicate that an approval is required and what needs to be included in the application.</p> <p>Rarely used waste management methods “disposal by pipeline” and “spreading oily by-product on roads” have been removed. Duty holders may still use these methods but must apply for an alternative waste management activity as per section 5.</p>

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Section 2, “Waste Characterization and Classification”		
<p>The AER uses different terminology than AEP to classify waste, but the different terms have the same meaning. All information on how a waste stream is to be characterized has been removed from the directive and information on this process is not clearly provided.</p> <p>Could the AER consider dropping the terms DOW and non-DOW for hazardous and non-hazardous? This would streamline meanings across jurisdictions (in Alberta at least). Alternatively, draft should include reference to where users can find information on how wastes are to be characterized and classified (<i>Alberta User Guide for Waste Managers</i>).</p>	<p>CAPP Catapult Water CNRL</p>	<p>RTR resulted in the removal of duplicate information. In this case, the primary source on the properties of hazardous waste is the <i>Waste Control Regulation</i>.</p> <p>Historically oilfield waste has used the designators DOW and non-DOW rather than hazardous and non-hazardous waste. Changing the wording from DOW to hazardous waste is out of scope for CFS and would require engagement with the GoA and others.</p> <p>From section 2 of the directive</p> <p style="padding-left: 40px;">The AER uses different terminology than AEP to classify waste, but the different terms have the same meaning</p> <p>and</p> <p style="padding-left: 40px;">The duty holder should therefore be mindful of this terminology when referring to AEP documents such as the Waste Control Regulation (WCR) or the Alberta User Guide for Waste Managers.</p> <p>Thus, no changes to the text were necessary.</p>
<p>The AER removed the reference to “prior testing or an in-depth knowledge of the origin of the waste” as an acceptable method of waste characterization.</p>	<p>Pure Environmental Secure Energy</p>	<p>The directive references the <i>Alberta User Guide for Waste Managers</i>, which supports the use of prior knowledge.</p> <p>We have also added the following sentence to the introductory text in appendix 2:</p> <p style="padding-left: 40px;">Where waste classification is unclear, refer to AEP’s <i>Alberta User Guide for Waste Managers</i> for further information.</p>
<p>(3) “To classify oilfield waste the generator and receiver must follow....”</p> <p>Is it not the generator’s responsibility to classify the waste?</p>	<p>Pure Environmental Secure Energy</p>	<p>Revised text for clarity:</p> <p style="padding-left: 40px;">The oilfield waste generator must classify the waste and the oilfield waste receiver must verify the waste’s classification ...</p>

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<p>(5) “The duty holder must not dilute oilfield waste by adding any solid or liquid.”</p> <p>What about sawdust or other additives to stabilize drilling waste?</p> <p>What about when waste is treated on site, such as with gypsum, in order to meet landfill requirements?</p>	<p>CAPP</p> <p>CNRL</p> <p>Husky</p> <p>Pure Environmental</p>	<p>The duty holder must characterize and classify the waste before adding any amendment and before adding any sorbent materials to facilitate transportation. Therefore, sawdust or other additives to stabilize drilling waste may be used after the waste has been characterized and classified.</p> <p>Edits were made to clarify the requirement, and the order of requirements switched for clarity.</p> <p>Revised wording in the directive:</p> <p style="padding-left: 40px;">The duty holder must characterize and classify the waste before adding any amendment (e.g., waste must meet landfill acceptance criteria prior to any amendment) and before adding any sorbent materials to facilitate transportation.</p> <p style="padding-left: 40px;">The duty holder must not dilute oilfield waste by adding any solid or liquid to avoid regulatory requirements.</p>
<p>Section 3, “Documentation for Transport”</p>		
<p>Reference to the <i>Interprovincial Movement of Hazardous Waste Regulations</i> under <i>CEPA</i> – the regulations will no longer be applicable as of October 31, 2021. The new <i>CEPA</i> regulations, <i>Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations</i>, which includes interprovincial movement of hazardous wastes, comes into force on October 31, 2021.</p>	<p>CAPP</p> <p>Secure Energy</p>	<p>Because the directive will not be in effect before October 31, 2021, the wording has been revised as follows:</p> <p style="padding-left: 40px;">Tracking and classification requirements for the movement of hazardous wastes and hazardous recyclables between Alberta and other provinces and territories are set out in the Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations under the Canadian Environmental Protection Act.</p>
<p><i>TDG</i> definition of dangerous goods does not always align with the definition of DOW.</p> <p>Does the waste classification drive the options for waste management or does the <i>TDG</i> classification for transport/placarding drive the options?</p>	<p>CNRL</p> <p>Secure Energy</p>	<p>Where applicable, DOW shipments follow the Transportation of Dangerous Goods (TDG) Act and Regulations.</p>

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<p>(7) “The oilfield waste generator and oilfield waste receiver must use shipping documents (e.g., recycle docket, movement documentation, waste form, manifest, truck ticket) to ensure that oilfield wastes are safely transported and received at the intended point of treatment or disposal facility.”</p> <p>Not all generators are aware of the option to use the electronic version of the Alberta Oilfield Waste Form.</p> <p>“The oilfield waste generator and oilfield waste receiver must use shipping documents...”</p> <p>This statement indicates that oilfield waste receivers are responsible for what shipping document, if any, the waste generator uses.</p>	<p>Catapult Water</p> <p>CNRL</p> <p>EnvironAPPS</p> <p>Secure Energy</p>	<p>Waste generators are responsible for tracking their waste and ensuring the waste’s safe transport and receipt at the intended point of treatment or disposal facility.</p> <p>Section 3.1 outlines when to use the Alberta Oilfield Waste Form.</p> <p>Edits were made to clarify that the electronic version of the waste form may be used and to clarify that the receiver is not responsible for the shipping document used by the generator.</p> <p>Revised wording in directive:</p> <p style="padding-left: 40px;">The oilfield waste generator must use shipping documents (e.g., recycle docket, movement documentation, waste form [electronic or hard copy], manifest, truck ticket) to ensure that oilfield wastes are safely transported and received at the intended point of treatment or disposal facility.</p> <p style="padding-left: 40px;">The oilfield waste receiver must fill out their portion of the shipping document.</p>
<p>(7) and (9) When must the AER Oilfield Waste Form be used?</p>	<p>Catapult</p>	<p>The title of section 3.1 was changed to “When to Use the Alberta Oilfield Waste Form” to better reflect what the section contains.</p> <p>It must be used when DOWs are being transported entirely within Alberta.</p>
<p>Oilfield waste generators still do not have clarity regarding requirements related to documentation for tracking of produced water even after the release of <i>Bulletin 2019-29</i>.</p>	<p>EnvironAPPS</p>	<p><i>Bulletin 2019-29: Tracking and Manifesting Produced Water</i> states that “<i>Directive 058</i> requirements are still in force and are independent of Alberta Transportation requirements. Companies must continue to comply with all AER requirements.”</p>
<p>(8) Currently waste code, waste source, and waste generator info not required on truck tickets (1996 edition of <i>Directive 058</i> does not outline info for truck tickets).</p> <p>Does waste source refer to originating location?</p> <p>What kind of generator info is required: name? contact info?</p>	<p>CNRL</p> <p>Secure Energy</p>	<p>The waste code and the waste source are necessary on the shipping documents for first responders to use in case of an accident.</p> <p>Waste source refers to the originating location. Edits made to the clarify requirement:</p> <p style="padding-left: 40px;">The oilfield waste generator must provide detailed information on the shipping documents...including the waste code and the waste source (i.e., where the waste was generated).</p>

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<p>Section 3.1</p> <p>(9) “The AER’s waste form must be filled out for each load of DOW being transported unless the same oilfield waste is being transported.”</p> <ul style="list-style-type: none"> Continued requirement to use an AER Alberta Oilfield Waste Form for DOWs has become an industry-wide issue. Truck tickets have become a standard shipping document. <p>Can the AER remove the requirement to use the Alberta Oilfield Waste Form and change the wording in section 3 to mandate the information required on a shipping document for all wastes?</p> <ul style="list-style-type: none"> Currently, the Alberta Oilfield Waste form is only available for use in its current form. Vendors are approaching industry with electronic manifesting form software. <p>Can we use alternative manifesting to the form, including using a single form following the <i>TDG</i>?</p> <p>(10) When shipping, companies are required to use <i>TDG</i> shipping documents and follow <i>TDG</i> guidelines for transportation.</p> <ul style="list-style-type: none"> The AER is requiring duplicate paperwork. <p>Can the AER eliminate duplicate manifesting requirements and direct companies to comply with the <i>TDG</i> requirements?</p>	<p>Anonymous</p> <p>CAPP</p> <p>Catapult Water</p> <p>Secure Energy</p>	<p>The process for manifesting DOWs has not changed. Any changes are out of scope for RTR and CFS.</p>

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<p>(10) “The AER’s waste form cannot be used when transporting DOWs across provincial, territorial, or international borders, which falls under federal jurisdiction.”</p> <p>Can the form be used on its own?</p> <p>Can the AER include the applicable federal shipping document or refer to the federal regulatory instrument that applies to transporting DOWs across borders?</p>	<p>CNRL</p> <p>Secure Energy</p>	<p><i>Directive 058</i> covers only processes that are within our jurisdiction. Requirements outside our jurisdiction are liable to change and it is the responsibility of the operator to stay informed. That is why we are only providing a general reference.</p> <p>Edits made to clarify the requirement:</p> <p style="padding-left: 40px;">The AER’s waste form cannot be used on its own when transporting DOWs across provincial, territorial, or international borders, which falls under federal jurisdiction. The federal requirements for shipping documents must be followed.</p>
<p>(10) Composition (oil, water, solids) is required for each load.</p> <p>This is different from <i>Directive 058</i> (1996) where section 10.1 says, “Where appropriate, the components of a waste should also be determined (i.e., oil, water, and solids). Representative samples should be centrifuged to determine the proportionate quantities of each component.”</p> <p>This is now worded as a must in the draft. Why?</p> <p>Can it be clarified that it is only the receiver that needs to fill in the composition?</p>	<p>Anonymous</p> <p>CAPP</p> <p>CNRL</p> <p>Secure Energy</p>	<p>We have revised the requirement to reflect that it is the responsibility of the receiver to determine the composition.</p> <p>The instructions on how to fill out the waste form have not changed. The form still indicates who is responsible for what.</p> <p>The wording was changed to “must” to be consistent with the requirement in the form.</p>
<p>(11) “The oilfield waste generator and the waste receiver must complete their respective parts of the AER’s Alberta Oilfield Waste Form when DOWs are being transported entirely within Alberta. Waste volumes may be recorded in tonnes, kilograms, cubic metres, or litres.”</p> <p>Why do units for volume need to be specified? Yards and imperial measurements are still used in the field (although more and more rarely).</p>	<p>CNRL</p>	<p>This requirement was transferred over to the new version of directive and reflects the units required when entering data in the oilfield waste disposition report.</p>

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<p>(11) “When a shipment contains multiple types of oilfield waste, each of unknown quantity, the oilfield waste generator must document the shipment based on the most dangerous waste and identify each waste code, source site locations, and the total combined volume.”</p> <p>This seems to contradict requirement 10 where quantity and composition is required.</p>	<p>Catapult Water CNRL Secure Energy</p>	<p>The AER expects each generator to be manifesting their own waste since they are the most familiar with the waste. Thus, bulk loads would be mixed waste from one generator’s multiple sites, not multiple generators.</p> <p>Requirement 11 in the draft directive aligns with the requirement in section 8.5 of the 2006 edition of <i>Directive 058</i>. Revisions to the requirement are out of scope.</p>
<p>3.1.1 The list of examples of when one is exempt from using the AER form was not carried over in draft. Can these be added back in?</p>	<p>CAPP CNRL</p>	<p>Yes. The examples were inadvertently removed as part of RTR. They have been put back in.</p>

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<p>3.2 The current directive stated that “the accurate measurement of waste quantities in the field is difficult and may vary depending on the waste type and method of containment/transportation. Waste generators must use sound judgement when recording waste quantities on the manifest and when reconciling discrepancies.”</p> <p>Can this be added back in? In the absence of measurements, sound judgement of waste quantities should be an acceptable method to record waste quantities on the manifest and when reconciling discrepancies.</p> <p>The examples of a serious discrepancy are not always easy identifiable by the receiver. Can the examples be revisited?</p> <p>How does industry notify the AER in the event of a serious discrepancy?</p> <p>Can the AER clarify “serious discrepancy” throughout the directive?</p> <p>Can the AER add a 30-day requirement for receivers to send manifests to generators to assist in reconciliation of records?</p> <p>Can the AER include detailed instructions related to the waste form’s completion, distribution, and associated timelines in an appendix in <i>Directive 058</i>?</p>	<p>CAPP</p> <p>Secure Energy</p> <p>Catapult</p> <p>Water</p> <p>CNRL</p>	<p>Any changes to these requirements, including timelines, were out of scope for CFS and RTR.</p> <p>The examples provided were part of the original text.</p> <p>We revised the wording in section 3.2 to cover all discrepancies, including serious discrepancies, to better align with <i>Directive 058 (2006)</i> and the AER’s waste form.</p> <p>In the event of a serious discrepancy, industry is to notify the AER via email to Directive058@aer.ca.</p> <p>A new appendix has not been created because it would duplicate information already contained in the form.</p>
<p>3.3 The new version doesn’t have the commonly used concept of “cradle-to-grave management.” Can it be put back in?</p>	<p>CNRL</p>	<p>Yes. Revised wording in the directive:</p> <p>If the oilfield waste is shipped to a facility (e.g., storage or transfer station) prior to final disposition, the oilfield waste generator must obtain the details of the final disposition from the waste receiver (cradle-to-grave waste management).</p>

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<p>(20) “The oilfield waste receiver must retain copies of all dockets for materials received and shipped for a minimum of two years on site or at the local field office <i>unless</i> the activity has to be reported through Petrinex, in which case the copies must be retained for a minimum of five years as per <i>Directive 047: Waste Reporting Requirements for Oilfield Waste Management Facilities.</i>”</p> <p>Can <i>Directive 047</i> record retention timelines be aligned with <i>Directive 058</i> and the <i>Waste Control Regulations</i>?</p> <p>Are electronically accessed records acceptable?</p>	<p>CNRL</p> <p>Anonymous</p>	<p>Any changes to <i>Directive 047</i> were out of scope.</p> <p>Yes, records accessed electronically are acceptable.</p>
<p>3.4(21) Is the oilfield waste disposition report under <i>Directive 058</i> the same as the annual oilfield waste disposition report under <i>Directive 030</i>?</p> <p>Will <i>Directive 030</i> be updated with the specific information to be contained in the OWD report, the required format, and the method of submitting?</p> <p>Can the AER confirm that generators will be given time (3 months) to reconcile documents prior to the due date for requested reports?</p>	<p>Husky</p> <p>CAPP</p> <p>CNRL</p> <p>Secure Energy</p>	<p>Yes, the two reports are the same.</p> <p>Changes to <i>Directive 030</i> were out of scope.</p> <p>We can ask at any time for the report for the previous calendar year and the generator has 45 calendar days, not 3 months, to comply.</p>
<p>(22) “Within the OWD report, the oilfield waste generator must include (a) all DOWs, and (b) any non-DOWs requested by the AER.”</p> <p>The reference to reportable wastes has been removed from the document. This change to the requirement changes how generators operate. Was this change intentional?</p>	<p>CNRL</p> <p>CAPP</p>	<p>This specific requirement was incorrectly transferred over to the new version of the directive. The wording has since been revised:</p> <p>Within the OWD report, the oilfield waste generator must include</p> <ul style="list-style-type: none"> a) all DOWs, b) all waste that may be a DOW (i.e., identified as “may be a non-DOW” or “testing required” in appendix 2), and c) any non-DOWs requested by the AER.

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Section 4, “Oilfield Waste Management Activities That Do Not Require Approval”		
<p>Not all subsections in section 4 align with the section header. Clarity would be appreciated.</p>	<p>Numerous parties</p>	<p>The section was reviewed and restructured. The subsections that did not fit under section 4 have been moved to section 10.</p>
<p>4.1(26) “...must remove unsuccessfully treated waste... and send it to an approved waste management facility...”</p> <p>Are landfills considered a waste management facility?</p>	<p>Catapult Water</p>	<p>Yes, landfills are included in the definition of an oilfield waste management facility.</p>
<p>(25) “The duty holder must not use treatment techniques that will prevent the site from meeting reclamation certificate requirements.”</p> <p>The need to meet reclamation criteria is already required via <i>EPEA</i>. Why is the condition is required?</p>	<p>CNRL</p>	<p>Changes to the biodegradation requirements were out of scope for CFS and RTR.</p> <p>This requirement was transferred over to the new edition of the directive and serves as a reminder that biodegradation treatment activities cannot prevent the site from meeting requirements for reclamation certification.</p>
<p>(27) The duty holder must only send hydrocarbon-contaminated soils that are suitable for biodegradation to AEP-regulated land treatment facilities.</p> <p>Can the materials suitable for biodegradation be expanded? Including tank clean-outs?</p> <p>Why is “off-site odour” used rather than “fugitive off-site emissions”?</p> <p>Are there other facilities that the contaminated soils can be sent to?</p>	<p>CAPP CNRL Pure Environmental</p>	<p>Changes to the biodegradation requirements were out of scope for CFS and RTR. Some of the requirements were transferred over from <i>ID 2000-04</i>.</p> <p>Expanding the section’s applicability and changing terminology were not possible.</p> <p>Contaminated soils may be sent to other facilities if approved to receive the soil. AEP-regulated facilities have a restriction. Revised wording to provide clarity:</p> <p style="padding-left: 40px;">Only hydrocarbon-contaminated soils that are suitable for biodegradation may be sent to AEP-regulated land treatment facilities.</p>

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(28) Clarify the soil depths for this expectation. In land treatment, the objective is to use the top 15 cm to incorporate the waste. Therefore, is the expectation that the soils below 15 cm shall meet the HC requirements? Reword to provide clarity.	Secure Energy	Changes to the biodegradation requirements were out of scope for CFS and RTR.
(30) “The duty holder must not aerate the waste as a means to reduce contaminate levels.” Does this mean alluing (or equivalent) is no longer an acceptable method of remediation in Alberta?	CAPP CNRL Husky	Alluing has never been an acceptable method by the AER. The directive continues to allow aeration by physically turning over piles or windrows. However, aeration for the purpose of reducing contaminant levels is not an approved waste management method.
(36) Shallow subsoils is first referenced here but not yet defined until requirement 43. Include what shallow subsoils means and maybe include the reference from which it originates.	CNRL	Changes to the biodegradation requirements were out of scope for CFS and RTR.
(45) and (51) The duty holder must manage any leachate generated as an oilfield waste. Can an operator reuse leachate or surface discharge it?	Matrix Secure Energy	Yes, operators may reuse the leachate as per the directive.
4.1.2(48) Rewrite sentence to remove “any” leachate as it is not clear that all of it needs to be collected.	Catapult Water	Wording revised to replace “any” with “all.”
(49) What is the definition of “impervious liner” and why is no minimum thickness provided?	Catapult Water	Although impervious liner is not specifically defined in <i>Directive 055</i> , the directive outlines the minimum thickness of liners and the performance parameters to be met based on whether the liner is to be used as secondary or primary containment. The wording in the <i>Directive 058</i> glossary has been revised to refer to section 4.1 in <i>Directive 055</i> .

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<p>(52) “extractable organic halogens.”</p> <p>Extractable organic halogens are not a common contaminant of concern or analyte in the oilfield soils we treat. Can this parameter be removed from the list of parameters that would need to be analyzed and instead only be analyzed if it is considered a potential contaminant of concern for a specific waste?</p>	<p>Matrix</p>	<p>Changes to the biodegradation requirements were out of scope for CFS and RTR.</p> <p>However, a company may apply for a variance to the parameters through an application for amendment as per section 9.</p>
<p>4.3 The terminology of “same production system” is antiquated. Can it be removed?</p>	<p>CAPP CNRL Secure Energy</p>	<p>The term “same production system” applies to oilfield waste management components. Removing it was out of scope for CFS and RTR. What was in scope under RTR was to provide clarity on when an oilfield waste management component can be applied for rather than an oilfield waste management facility.</p> <p>Part of the CFS scope included expanding the storage activity to include storing water for reuse. This storage activity can only be approved for an oilfield waste management facility regardless of whether the operator is receiving, reusing, or selling first- or third-party waste. An oilfield waste management facility has the appropriate oversight, including liability management, while an oilfield waste management component does not.</p>
<p>4.4 What are the requirements for handling, transporting, and disposing of radioactive frac sand?</p> <p>Section 4.4 no longer includes all of the information from section 32.1 of the 2006 edition of <i>Directive 058</i>. Why was it removed?</p>	<p>CNRL Secure Energy</p>	<p>Information was removed under RTR because duty holders must follow their Canadian Nuclear Safety Commission licensing conditions.</p> <p>The requirements for handling and transporting radioactive frac sand are subject to federal regulations and licensing requirements. If radioactive frac sand is to be disposed of, it must be sent to a facility or site approved to manage it (e.g., Class I landfill).</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>4.5(64) Vague statement.</p> <p>(66) The AB <i>Occupational Health and Safety Act</i> does not incorporate NORMs. The <i>Radiation Safety Act</i> and <i>Regulations</i> in AB are specific to workers who install, operate, or service x-ray equipment and high-powered lasers.</p> <p>Can the AER reference specific sections of the <i>Canadian Guidelines for the Management of NORMs</i>?</p>	<p>Secure Energy</p> <p>CAPP</p>	<p>References reviewed. The reference to the <i>Guidelines for the Handling of Naturally Occurring Radioactive Material (NORM) in Western Canada</i> was removed from <i>Directive 058</i> because it was out of date. The directive now emphasizes that the <i>Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials</i> are to be used.</p>
<p>4.7.1 Can the AER clarify what can be disposed of in a Class I landfill?</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>Wording revised:</p> <p>The duty holder must not dispose of DOW by landfilling unless the landfill is Class I and the waste meets the criteria listed in section 13(2) of the <i>WCR</i>.</p> <p>Section 13(2) of the <i>WCR</i> states that it must be a solid.</p>
<p>4.7.2 Content about Class II landfills approved prior to 1996 seems out of place in its current location.</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>This section was restructured and is now in section 10.</p>
<p>4.7.2 The list of waste streams noted is from AER <i>ID 99-04: Deposition of Oilfield Waste into Landfills</i>. The listed waste streams were probably to address a concern at that time. Can the list be extended to other waste streams with similar TPH and chloride chemistries for the landfill design compatibility (<i>ID 99-04</i>, paragraph 3)?</p>	<p>CNRL</p>	<p>The list provided is not exhaustive. “Such as” indicates that what follows are specific examples.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>4.7.2 “...the oilfield waste must be treated for use (e.g., contaminated soils for cover material).”</p> <p>Why is treatment required? If the soil meets Class II landfill criteria, contaminated soil simply replaces clean soil for cover or alternative daily cover.</p>	<p>CNRL</p>	<p>Municipal landfill cells are meant for the disposal of municipal waste. Oilfield waste can be accepted at a Class II landfill only if it is for reuse or if the landfill has dedicated trenches for disposal of oilfield waste.</p> <p>Wording revised:</p> <p style="padding-left: 40px;">If the facility is a municipal Class II landfill, either (a) the oilfield waste must be of a quality or treated to a quality that allows it to be reused (e.g., contaminated soils for cover material), or (b) the facility must have dedicated trenches or cells for oilfield waste.</p>
<p>4.7.2 Landfills regulated under <i>EPEA</i> are generally authorized to accept waste in accordance with its properties rather than its source.</p> <p>This section indicates that oilfield waste should not impact the lifespan of an AEP-regulated landfill despite the fact that all waste impacts the lifespan of a landfill.</p> <p>This section requires review and additional clarification with regard to AEP-regulated Class II landfills.</p>	<p>CAPP</p>	<p>These concepts are from <i>ID 99-04</i>. AEP approved incorporating the ID into this new edition of <i>Directive 058</i>.</p>
<p>4.7.2 Can municipal Class II landfills accept non-DOW contaminated soil if they have the appropriate lined cells but don’t use these cells solely for oilfield waste?</p> <p>Can the AER specifically define what they consider to be a municipal Class II landfill?</p>	<p>Matrix</p>	<p>Specific questions that were not addressed in the original <i>ID 99-04</i> relating to AEP landfills need to be directed to AEP.</p> <p>The definition of a municipal Class II landfill is under the jurisdiction of AEP.</p>
<p>4.7.2 TPH (total petroleum hydrocarbon) can mean several different laboratory analytical test methods.</p> <p>Please clarify what the AER expects when it asks for TPH.</p>	<p>CNRL</p>	<p>Contact AEP for the acceptance criteria for TPH at AEP landfills.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Section 5, “Alternative Waste Management Activity”		
<p>This section is very general. Can normal treatment options, such as neutralizing acid or base solutions, or standard management activities, such as separating oil and water on sites, be explicitly excluded as an activity requiring an approval?</p>	CEPA	<p>Generators can treat their waste on the site it was generated prior to disposal provided that it is an activity that falls under <i>Directive 058</i>. Generators can contact the AER at Directive058@aer.ca if they are uncertain about whether the waste activity occurring on their site requires an approval.</p>
<p>(67) A lot of these details will already be included in a remedial action plan (RAP) for a contaminated site</p>	Husky	<p>The cited requirement provides the information required when applying for an alternative waste management activity.</p>
Section 6, “Oilfield Waste Management Facilities and Oilfield Waste Management Components”		
<p>Is an oilfield waste management facility approval required if accepting third-party waste?</p>	Catapult Water	<p>Yes. No changes made to the directive.</p>
<p>(69) “Oilfield waste management facilities and oilfield waste management components must be designed, constructed, operated, and closed by qualified persons.”</p> <p>Qualified person, as defined in the glossary, is restrictive and not always practical especially in regard to operations. The definition of qualified person should not be limited to those in good standing with a professional organization.</p> <p>Can the definition be reviewed and include those with extensive experience and training?</p>	CNRL CAPP	<p>Wording in glossary revised:</p> <p>The person is expected to be a member in good standing of an association regulated by a professions or societies act of Alberta...</p>
<p>(70) The duty holder must keep all required approvals, licences, and permits on site or at the field or plant office. Are accessible digital files acceptable?</p>	Secure Energy	<p>Yes, digital files are acceptable. Wording revised:</p> <p>The duty holder must ensure that all required approvals, licences, and permits are available on site or at the field or plant office.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(71) “The total annual volume of non-oilfield waste received at an oilfield waste management facility must not exceed 25 per cent of the total annual volume of oilfield waste received.”</p> <p><i>ID 2000-03</i> notes “small quantities.” The <i>Directive 058</i> addendum notes 25%. The latter appears to be an arbitrary number.</p> <p>Can this percentage be reviewed?</p> <p>Can the 25% exclude wastes from exploration and production outside of Alberta.</p>	<p>CNRL</p>	<p>The review of this percentage was out of scope for CFS and RTR.</p> <p>Waste from exploration and production from outside of Alberta is already excluded from the 25% limit. The definition of non-oilfield waste in the directive’s glossary indicates that the term applies only to waste generated in Alberta.</p>
<p>(71) “The total annual volume of non-oilfield waste received at an oilfield waste management facility must not exceed 25 per cent of the total annual volume of oilfield waste received.”</p> <p>In 2019, the AER expanded the definition in OWMF approval conditions of the allowable received volumes to be used in the 25% NONOFD calculation. Can this expanded definition be incorporated in the directive?</p>	<p>Secure Energy Catapult Water</p>	<p>The expanded definition will continue to be captured in oilfield waste management facility approvals.</p> <p>The review of the percentage and how its calculated was out of scope for CFS and RTR.</p>
<p>Table 2. The purpose of the table is not clear.</p> <p>Landfills – The table suggests that landfills can accept third-party waste, which is currently not correct, although should be allowed.</p>	<p>CNRL CAPP</p>	<p>The table shows the differences between an oilfield waste management facility and an oilfield waste management component. The table title has been revised.</p> <p>The table rows “the scale of activities,” “accepts third-party waste,” and “accepts non-oilfield waste” have been removed to avoid confusion. The information still resides in the main body of the directive.</p>
<p>Table 2. Can the AER incorporate short-term waste management facility and oilfield waste management component options for industry?</p>	<p>CNRL CAPP</p>	<p>Considering the inclusion of short-term facility or component options was out of scope for CFS and RTR.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>Table 2. Activity: Storage of water for reuse. These types of facilities may only be required for 3–5 years.</p> <p>Why is an oilfield waste management component for this activity not an option?</p> <p>Recommend editing the table to allow storage for reuse on any AER-licensed site (not just standalone sites).</p>	<p>CNRL CAPP</p>	<p>The large volumes of water for reuse that are being stored at these sites are a liability that an oilfield waste management component was not designed to address. An oilfield waste management facility, however, requires a site-specific liability assessment. In addition, oilfield waste management facilities are under the Oilfield Waste Liability (OWL) Program, while oilfield waste management components are not.</p>
<p>Table 2. Activity: Drilling fluid. Why is this limited to WMF?</p> <p>These facilities are often only needed for shorter time periods (3–5 years) while a drilling program in the area exists. Component approvals associated with a licensed site might be a better option.</p>	<p>CAPP CNRL</p>	<p>Drilling waste managed on a site is in accordance with <i>Directive 050</i>. Third-party drilling waste stored for reuse and recycling falls under <i>Directive 058</i> as a waste management facility (and thus the OWL program applies). Wording was revised in section 7.7, “Drilling Waste Reuse and Recycling,” and section 10.5, Drilling Waste Management.”</p>
<p>6.2(72) “The site must avoid drainage ways, areas subject to seasonal flooding, environmentally sensitive areas, and areas where the public would be directly affected.”</p> <p>How the public is directly affected may be subjective and difficult to audit.</p>	<p>CNRL</p>	<p>Changes to siting requirements were out of scope for CFS and RTR except for storage of water for reuse.</p>
<p>(74) “The scope and level of detail for the site assessment must be at a sufficient level of detail to design and implement an effective groundwater monitoring system.”</p> <p>“Sufficient level of detail” is subjective. Who determines what is “at a sufficient level”? How is industry to know what to expect from the AER?</p>	<p>CNRL</p>	<p>We removed the requirement because it is detailed elsewhere.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>6.3.2(77)(j) Petroleum hydrocarbon fractions referred to use F1–F4 and F1 and F2.</p> <p>Did the AER intend to use F1–F4 for petroleum hydrocarbon fractions?</p> <p>Potentially define petroleum hydrocarbon fractions in the glossary with intended fractions. Typically, these are all four fractions.</p>	<p>Catapult Water</p>	<p>Yes, F1 to F4 was intended. Revisions made.</p>
<p>(77k) “The background soil and groundwater conditions should not exceed the <i>Alberta Tier 1 and Tier 2 Soil and Ground Remediation Guidelines</i>.”</p> <p>This statement should be removed or edited, as there could be instances where the background levels are naturally above the Tier 1 and Tier 2 guidelines. If background conditions in an area do not meet these standards but a candidate property is nonetheless well suited to development as a waste management facility, this use should not be prohibited.</p>	<p>CAPP CNRL</p>	<p>This is a “should,” not a “must” statement, and therefore not mandatory. If background values are exceeded, the AER expects the duty holder to explain why in their application to construct or operate an oilfield waste management facility.</p>
<p>6.4(78) Waste component approvals are not included in the list for requiring groundwater monitoring. These activities could impact the groundwater as much as the others listed. Can oilfield waste management components be included?</p>	<p>Anonymous</p>	<p>Yes, in some circumstances groundwater monitoring may be required at oilfield waste management components, but not all the time. Text was reviewed and revised.</p> <p>The duty holder may also be required by the AER to implement a groundwater monitoring program for a facility not listed above or for an oilfield waste management component if it is warranted by the site-specific investigation.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(78)(b) “...groundwater monitoring and reporting for storage facilities managing waste for reuse.”</p> <p>The way it is written could include sites with AWSS. Industry’s assumption is that this requirement only applies to standalone sites with >2 year time for storage of water for reuse. Clarification is needed.</p>	<p>CAPP CNRL</p>	<p>This is only for oilfield waste management facilities.</p>
<p>(78)(e) Why are biodegradation facilities with secondary containment excluded from the requirement to have a groundwater monitoring program since even with secondary containment, they have the potential for adverse effects?</p>	<p>Secure Energy</p>	<p>Changes to biodegradation requirements were out of scope for CFS and RTR.</p>
<p>(80) “The duty holder must have qualified persons design and implement the network of groundwater monitoring wells in accordance with best practices and industry standards.”</p> <p>How is this auditable? Which best practices and industry standards is the AER looking for?</p>	<p>CNRL CAPP</p>	<p>Changes to the groundwater monitoring requirements were out of scope for CFS and RTR.</p> <p>The AER would ensure that the design and implementation of the network of wells was authenticated by a professional hydrogeologist. The qualified person would know what the best practices in the field are, which would be evidence based and defensible.</p>
<p>(81) It is not acceptable to install groundwater monitoring wells on a lease prior to construction. They will get damaged. Recommend using the geotechnical report to address water chemistry and prior-to-operation baseline water sampling. Geotech assessments would allow for groundwater samples to support this proposed requirement.</p>	<p>Catapult Water</p>	<p>Changes to the groundwater monitoring requirements were out of scope for CFS and RTR except for requirements that related directly to oilfield waste management facilities storing water for reuse.</p> <p>Applicants should contact Directive058@aer.ca for further information on variances.</p>
<p>(89) “Any new well that is replacing an existing well in the monitoring program must be ready before the next sampling date.”</p> <p>Can “or unless authorized by the director” or other similar wording be added to the requirement to add flexibility? Sometimes this is not practical.</p>	<p>CAPP</p>	<p>No changes needed. Companies can already apply for variance to a requirement as per section 5.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(92) “The duty holder must sample each groundwater monitoring well once in the spring and once in the fall.”</p> <p>Can the timing be “biannual or twice a year” to be less prescriptive?</p> <p>Also, can the option to decrease sampling frequency once background conditions are established be added?</p>	<p>CAPP</p>	<p>Changes to the groundwater monitoring requirements were out of scope for CFS and RTR except for requirements that related directly to oilfield waste management facilities storing water for reuse.</p>
<p>(93) “Retain it on site for 5 years.”</p> <p>Does this imply a physical copy of the annual report needs to be retained at the facility? Or an electronic copy within our network is appropriate? Clarification on document retention (i.e., hard copy vs digital records) is required.</p>	<p>CAPP Secure Energy</p>	<p>Not necessarily a physical copy but a copy that is easily accessible at site, which includes electronic. The report needs to be available when an AER field inspector arrives on site.</p>
<p>(94) Annual report requirement. Clarification on when annual reporting would end or is not required is needed.</p> <p>Are records required if site conditions (RoSC) are no longer required?</p>	<p>CAPP</p>	<p>Duty holders must prepare an annual report by March 31 of each year, including when RoSCs are not required.</p> <p>The annual reporting requirement is not tied to the RoSC, but it may change based on the status of the facility.</p>
<p>(95) “Notify the AER no later than 60 days after the sampling date.”</p> <p>Is this a one-time notification? Or recurring?</p>	<p>CAPP</p>	<p>It would be a one-time notification for that specific exceedance.</p>
<p>(96) “The annual groundwater monitoring report must be completed and submitted every second year to the AER by March 31 following the start of operations.”</p> <p>Where in <i>Directive 058</i> (1996) is this stated? Is this a new requirement?</p>	<p>CNRL</p>	<p>This is a new groundwater monitoring requirement that relates directly to oilfield waste management facilities storing water for reuse and fell within the scope of CFS.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>6.5(98) “The duty holder must have a site-specific soil monitoring program for oilfield waste management facilities storing water for reuse.”</p> <p>The heading could create confusion. If a soil monitoring program is required only when water is stored for reuse, then section 6.5 heading should be “Exception for a Storage Facility Managing Water for Reuse” with subheadings “Reporting Requirement” and “Soil Monitoring.”</p> <p>Is a soil monitoring program required if storage is in an aboveground storage tank?</p>	<p>CNRL</p> <p>CAPP</p> <p>Catapult Water</p>	<p>The exception noted is in relation to groundwater monitoring. Moving soil monitoring requirements into section 6.4, “Groundwater Monitoring and Reporting,” which is where the exception is found, would create confusion.</p> <p>Soil analysis requirements for the removal of a tank or tank farm are in section 5.6.2 of <i>Directive 055</i>. Soil monitoring in section 6.5 of <i>Directive 058</i> is not for an aboveground storage tank. Edits made to clarify.</p>
<p>(99) The soil monitoring program must be developed as per the Government of Alberta’s <i>Soil Monitoring Directive</i>. Where in <i>Directive 058</i> (1996) is this stated? Is this a new requirement?</p>	<p>CNRL</p>	<p>This is a new soil monitoring requirement that relates directly to oilfield waste management facilities storing water for reuse and fell within the scope of CFS.</p>
<p>(102) “The duty holder must install a perimeter fence to prevent unauthorized access (e.g., public, wildlife, livestock) to the oilfield waste management facility.”</p> <p>For areas constructed before the effective date of this directive, will there be a grandfather clause? Also, please clarify if fencing is only required for fixed, long-term, water-storage-for-reuse facilities.</p> <p>Sites that have run under the BMP for transfer stations that haven’t seen issues with wildlife shouldn’t be required to adhere. Installing a fence around a short term (<2 yr) water storage for reuse site with AWSS is not practical.</p> <p>Is fencing required for a <i>Directive 056</i> surface facility that is approved for a waste management component?</p>	<p>CAPP</p> <p>Catapult Water</p>	<p>This is not a new requirement; see section 11.3, 3. of <i>Directive 058</i> (2006).</p> <p>Refer to <i>Directive 055</i> if the AWSS is on site for less than two years.</p> <p>Fencing requirements for an oilfield waste management component follow the facility or well site licence conditions.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>6.6 Can the AER add the requirements for obtaining Alberta generator and receiver numbers from the AEP?</p> <p>Imported wastes require ABR numbers and to use AEP facilities an ABG number is required.</p>	<p>Catapult Water</p>	<p>As noted, the issuance of ABR and ABG numbers are not by the AER, rather AEP. Requirements outside our jurisdiction are liable to change, and it is the responsibility of the operator to stay informed.</p>
<p>6.8(108) “As per the <i>Conservation and Reclamation Regulation</i>, oilfield waste management facilities are not included in the definition of ‘specified lands’ thus are not subject to the reclamation certification process under that legislation.”</p> <p>What are the closure requirements for oilfield waste management facilities?</p>	<p>Catapult Water CAPP</p>	<p>Although oilfield waste management facilities are not included under the definition of specified lands, they do follow the same activities that are required for closure. They just do not receive a reclamation certificate; the approval remains in place with a status of “undergone closure.”</p> <p>The end-of-life obligation is that the site is suitable for the next intended land use.</p> <p>Changing the status of an oilfield waste management facility, including to “undergone closure,” was part of the addendum to <i>Directive 058 (2015)</i>. Those requirements have been incorporated into this latest edition of <i>Directive 058</i>.</p>
<p>Section 7, “Oilfield Waste Management Activities That Require Approval”</p>		
<p>7.1 Does this affect refineries’ washing activities (i.e., heat exchanger bundles)?</p>	<p>Husky</p>	<p>No since a refinery is a midstream site. <i>Directive 058</i> applies to waste generated on an AER-licensed well site, facility, or pipeline regulated under the <i>OGCA</i>.</p>
<p>7.2 “Collecting and storing waste until volumes are sufficient for economic transfer to another facility for treatment, processing, recycling, disposal, or reuse are waste storage or waste transfer activities.”</p> <p>Can the definitions of waste transfer and waste storage be added to the glossary to keep it consistent with <i>Directive 058 (1996)</i>?</p>	<p>CNRL</p>	<p>Duplication of content was avoided in the directive unless necessary. Therefore, terms defined in the main body were not included in the glossary.</p>
<p>(111) “The duty holder does not need to apply to store or consolidate small volumes of waste provided that all of the following are met:”</p> <p>Per waste type or total of all wastes?</p> <p>Is this an exemption from requiring an approval?</p>	<p>Husky CNRL</p>	<p>Yes, this is an exemption from requiring an approval provided the listed conditions are met. This exemption is for the total aggregate volume, which is the same as the total of all waste.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
(113) Why limit the reuse of water to hydraulic fracturing operations only?	CNRL	<p>The <i>Water Conservation Policy</i> highlights numerous alternatives to high-quality nonsaline water that apply to <i>Directive 058</i> (e.g., produced water, water-based flowback, and leachate from various sources are “waters for reuse”).</p> <p>The CFS scope was limited to hydraulic fracturing.</p>
<p>(113) If a duty holder wants to store water such as produced water, flowback, or leachate for reuse as an alternative to high-quality nonsaline water in hydraulic fracturing operations, they must apply for an oilfield waste management facility with a waste storage activity.</p> <p>Why is applying for an oilfield waste management component not an option?</p> <p>Recommend no application requirements for the storage of produced water in AWSS and bladders, regardless of the operation, as long as all requirements outlined in the respective directives are followed.</p> <p>For storage of alternative water sources for longer than two years, recommend the option of applying for an oilfield waste management component and the ability to reapply for alternative storage applications on the same site, either with time in between when the AWSS is in use or in succession.</p>	CAPP	<p>One of the CFS objectives was to prevent unfunded liability on the landscape. The large volumes of water being stored for reuse are a significant liability. An oilfield waste management facility is covered by the Oilfield Waste Liability (OWL) program, an oilfield waste management component is not.</p>
<p>(114) It is not clear what is dilution versus blending.</p> <p>Can collected surface runoff and water from a groundwater collection system be stored for reuse?</p>	<p>Secure Energy</p> <p>CAPP</p>	<p>The wording was revised to better clarify the AER’s intent.</p> <p>At time of application, the proposed sources of water being stored for reuse are required, hence site-specific requests can be reviewed and may be included in the oilfield waste management facility approval conditions. Authorizations under other regulatory instruments may also be required.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(115) “Water being stored for reuse must be managed as a waste until it has been used.”</p> <p>Would like clarification on whether this will impact temporary surface pipelines and moving fluids around in lay flat hoses.</p> <p>What is the impact to an operator who wants to license their waste management facility to allow for third-party reuse?</p>	<p>CAPP</p>	<p>The CFS team has been working with the team tasked with developing the requirements for temporary surface pipelines to ensure that there is alignment.</p> <p>An operator may license their waste management facility to allow for third-party reuse. If the water is being marketed as a by-product, a safety data sheet is required as per section 8.2 in <i>Directive 058</i>. In addition, <i>Directive 047</i> contains reporting requirements for marketing a by-product.</p>
<p>Does this include produced water? Where does the AER define produced water as an oilfield waste? Is this a production fluid by definition?</p>	<p>Catapult Water</p>	<p>Production fluid contains hydrocarbons. Removing the hydrocarbons results in produced water, which is and always has been considered an oilfield waste.</p> <p>As per appendix 2 of the directive, produced water can be managed as a brine or brine equivalent. Produced water can be stored at a facility under <i>Directive 056</i>. However, when it is being stored for reuse, the facility must be an oilfield waste management facility under <i>Directive 058</i>.</p>
<p>(116) Is the salvage of topsoil and subsoil applicable to all oilfield waste management facilities for use at closure?</p> <p>Why is this requirement singled out in this section, waste storage and waste transfer?</p>	<p>CNRL</p>	<p>Previously, this requirement only applied to landfills. It was expanded for oilfield waste management facilities storing water for reuse to ensure that there will be topsoil and subsoil at the time of closure.</p> <p>Expanding this requirement to all types of oilfield waste management facilities was out of scope for RTR and CFS.</p>
<p>(116) “For facilities storing water for reuse, the duty holder must meet the following requirements regarding topsoil and subsoil: (a) During construction and operation of the storage area, the topsoil and upper subsoil must be recovered and stockpiled separately. (b) The stockpiles must be protected against erosion. (c) The recovered topsoil and upper subsoil must only be used for reclamation of the storage area. This also applies to areas where a natural liner is incorporated into the design.”</p> <p>Confirm that the lower subsoil can be used to reclaim other areas of the site.</p>	<p>CAPP</p>	<p>No, all of the subsoil must be retained for reclamation of the storage area. The wording has been revised.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>7.3(118) “The duty holder must segregate oilfield wastes from non-oilfield wastes upon receipt at a Class Ia well prior to disposal.”</p> <p>Do you mean receipt at the surface infrastructure (tanks)?</p> <p>If the wastes are compatible and the amount (e.g., m³) is measured before placement into the tank, then no issues. However, if there is a concern with hydrocarbon recovery and royalty payments, then separate tanks are understandable.</p>	<p>Anonymous CNRL</p>	<p>Wording revised for clarity:</p> <p style="padding-left: 40px;">If recovering hydrocarbons, the duty holder must segregate oilfield wastes from non-oilfield wastes upon receipt at a Class Ia well prior to disposal.</p>
<p>7.4 (120)(b) Groundwater monitoring is not a substitute for secondary containment. Suggest rethinking this requirement.</p>	<p>Secure Energy</p>	<p>Changes to the requirements for biodegradation were out of scope for RTR and CFS.</p>
<p>(122) The statement on concrete and asphalt does not seem to fit in this section and does apply to many other requirements.</p> <p>Remove from this section and add the definition of primary containment to the glossary and include this statement or keep the reference to <i>Directive 055</i>.</p>	<p>Secure Energy</p>	<p>It applies to this section only.</p> <p>The reference to <i>Directive 055</i> has been kept in.</p>
<p>(126) The requirement for biodegradation to be completed in five years is significant and could pose impacts to the environment. Reduce to two years.</p>	<p>Anonymous</p>	<p>Changes to the requirements for biodegradation and for land treatment were out of scope for RTR and CFS.</p> <p>Five years is from a pre-existing requirement for land treatment and has been applied to biodegradation for consistency.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(128) “The duty holder must retain the documentation on site for a minimum of two years after the treated material has been removed.”</p> <p>Why must documentation be retained on site?</p> <p>In some cases, it is not feasible to retain documentation on site, but rather at the nearest field centre or larger facility site. As well, the electronic era allows for easy access of applicable data/information.</p>	<p>CNRL</p>	<p>Electronic records are permitted; however, they need to be readily accessible at the site.</p>
<p>7.5(130) “The duty holder must locate the landfill on an AER-licensed or -approved site or within the footprint of an oil sands commercial scheme.”</p> <p>Why limited to oil sands commercial schemes?</p>	<p>CNRL</p>	<p>Wording revised to “within the footprint of an AER-approved scheme.”</p>
<p>(131) Sections 7.3 and 7.5: Record Keeping and Reporting.</p> <p>Why only these sections of the <i>Standards for Landfills</i>?</p> <p>Should all sections except 7.2 and 7.4 apply? Yes, there may be redundancy among the sections, but still applicable.</p>	<p>CNRL</p>	<p>Edits made to include sections 7.1(c), 7.5, 7.6, 7.7, and 7.8 of the <i>Standards for Landfills</i> for record keeping and reporting.</p>
<p>(131) This section indicates that <i>Directive 058</i> is consistent with the <i>Standards for Landfills</i>.</p> <p>This is true to an extent; however, there are differences, including for setbacks, between the two documents and <i>Directive 058</i> addresses this by indicating that in the event of a disagreement between the two, the more stringent requirements apply. Can the AER ensure consistency?</p>	<p>CAPP</p>	<p>The setbacks in table 2.1 of the <i>Standards for Landfills</i> in Alberta are from the waste footprint for the landfill, whereas the setbacks for <i>Directive 058</i> are from the facility boundary.</p> <p><i>Directive 058</i> applies to all waste management facilities. Landfills have additional requirements to meet as outlined in the <i>Standards for Landfills</i>.</p> <p>Where overlapping, the most stringent requirements apply.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>7.6.1(136) The “<i>National Guidelines for Hazardous Waste Incineration Facilities: Design and Operating Criteria.</i>” This document was not located using Google or other search engines. Ensure this reference document is accessible and readily available if cited.</p>	<p>Catapult Water</p>	<p>The document has been archived and is no longer publicly available. The reference has been removed from <i>Directive 058</i>.</p>
<p>7.6.2(147) Section is missing reference to volume/quantity limitations – 10 tonnes. Can the AER add volume/quantity limitations to this section?</p> <p>What are the notification requirements for small incinerators?</p> <p>What happened to the requirements for campsite incinerators that were previously in <i>Directive 058</i>?</p>	<p>Secure Energy CNRL</p>	<p>The definition of a small incinerator in the glossary (appendix 1) contains the 10 tonne limit.</p> <p>Edits were made to clarify small incinerator notification requirements (section 7.6.2) and to add campsite incinerators (section 7.6.3).</p>
<p>(149) By saying that the incinerator SHOULD be stored and transported in enclosed trailers, this allows for companies to not follow this requirement and limited ability for the AER to enforce. Reword statement to be a must statement.</p>	<p>Anonymous</p>	<p>“Ash from the incineration of oilfield waste must be managed as oilfield waste.” That is the requirement that is enforced. The “should” statement indicates a recommended practice.</p>
<p>7.7 The last paragraph is missing a reference to <i>Directive 055</i>. Add reference to <i>Directive 055</i>.</p> <p>The AER has permitted drilling fluid management facilities as DFFs, not WM facilities.</p>	<p>Secure Energy Catapult Water</p>	<p>DFF (drilling fluid facilities) are oilfield waste management facilities (WMs). Wording in section revised. Reference to <i>Directive 055</i> is not required.</p>
<p>7.8(153)(e–j) Additional reporting for waste storage for water reuse</p> <p>Does this apply to AWSS alternative storage approvals?</p>	<p>CAPP</p>	<p>Items (e) to (j) apply to oilfield waste management facilities storing water for reuse.</p> <p>The conditions within the alternative storage approval will indicate any reporting requirements. Alternative storage approvals are a <i>Directive 055</i> process.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Section 8, “Applications for New Oilfield Waste Management Facilities and Oilfield Waste Management Components”		
<p>8.1(157)(l) “a list of the facility identifiers, as per...”</p> <p>More clarity is recommended.</p>	<p>Catapult Water</p>	<p>Examples added for clarity.</p>
<p>(158) “Both the site-specific liability assessment and the Facility Liability Declaration Form must be included with the application for an oilfield waste management facility under a separate cover.”</p> <p>Why is financial security submitted separately?</p>	<p>CNRL</p>	<p>They are submitted separately because that information is kept confidential.</p>
<p>8.3(161) Application for water storage requires source of water and who will be reusing it.</p> <p>If this information forms part of the application, does it become a restriction on the licence? I.e., will this restrict the ability to share and maximize water recycling among producers?</p>	<p>CAPP</p>	<p>The requirements are not restricting the ability to share and maximize water recycling among producers. The approval conditions will be based on the application information provided.</p> <p>Depending upon the approval conditions, the company may need to have their approval amended to share water among other producers. Contact Directive058@aer.ca to find out if that is the case.</p>
<p>(161)(b) Application for water storage requires a summary of other sites assessed.</p> <p>Why is this requirement necessary? Can it be optional – “if there were other potential sites considered”?</p>	<p>CAPP</p>	<p>We expect site selection to be informed by risk, including minimizing the likelihood of a release and the severity should it occur. The requirement will therefore remain.</p>
<p>(161)(d) “the source of the waste”</p> <p>What information is the AER asking for?</p>	<p>Catapult Water</p>	<p>Added some examples to item (d).</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Section 9, “Applications to Modify Existing Oilfield Waste Management Facilities or Oilfield Waste Management Components”		
<p>9.2(170) “The duty holder must notify the AER when</p> <p>a) adding or removing storage tanks...</p> <p>d) redesignating storage devices.”</p> <p>Is this required for a replacement “in-kind”? As a tank is a storage device and various tanks can be designated to the ABIF, does the AER expect a notification every time a new tank is designated to the ABIF?</p> <p>Redesignation of devices was specifically removed from WM approvals; however, it has been included in this section.</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>Edits made for clarity.</p> <p>Yes, a notification is required when redesignating tanks (changing the tank identifiers).</p>
<p>9.5(180) “The duty holder must apply to amend the approval when making a change to an existing soil or groundwater monitoring program unless a new groundwater monitoring well is being added, in which case the AER must be notified.”</p> <p>Other than an amendment, are there other ways a change to the groundwater monitoring program can be initiated?</p> <p>To reduce administrative requirements, the addition of new wells can be communicated in the annual report.</p>	<p>CAPP</p>	<p>Changing requirements for amendments or notification as they relate to groundwater monitoring was out of scope for RTR and CFS.</p> <p>The addition of a new well is a notification as per section 9.5 of the directive.</p>
<p>9.9(194) Why is the addition of a landfill cell (or portion thereof) an amendment rather than a notification?</p>	<p>CNRL</p>	<p>Changing requirements for amendments or notifications as they relate to a landfill was out of scope for RTR and CFS.</p> <p>Expanding a landfill’s capacity by introducing a new cell increases its overall liability, which would likely not have been covered in the original approval.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>(195) This requirement addresses landfill closure but is not consistent with the <i>Standards for Landfills</i> in the context of capping of cells compared to final landfill closure at end of life.</p> <p>Recommend that this section be aligned with the <i>Standards for Landfills</i>.</p>	<p>CAPP</p>	<p>Wording revised to align with the <i>Standards for Landfills</i>.</p>
Appendix 1, “Glossary”		
<p>The AER did not include the definition of alternative water in <i>Directive 058</i>. It is very important to align documents that are linked, i.e., <i>Directives 055</i> and <i>058</i>. <i>Directive 058</i> needs to align and use terms widely used in other directives.</p> <p><i>Directive 058</i> uses “water for reuse.” <i>Directive 055</i> uses “alternative water.” Is alternative water the same as water for reuse?</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>Each definition has a specific purpose. Water for reuse is defined in <i>Directive 058</i>.</p> <p>As per the <i>Water Conservation Policy for Upstream Oil and Gas Operations</i>, alternative water sources encompasses more than just water for reuse. Therefore, the AER did not include a definition of alternative water in <i>Directive 058</i>.</p> <p><i>Directive 055</i> is not just for oilfield waste. Therefore, water for reuse was not defined in <i>Directive 055</i>.</p>
<p>Introducing the definition of sludge, as well as the associated waste codes, does not align with the rest of the document, waste regulations, and dangerous goods legislation.</p> <p>Remove sludge and associated waste codes. Stick to solid and liquid.</p>	<p>Secure Energy</p>	<p>This was a pre-existing definition. Reviewing definitions and waste codes was outside of the scope of CFS.</p> <p>To consolidate waste codes, those that currently reside in <i>Directive 047</i> were copied to <i>Directive 058</i>, appendix 2.</p>
<p>No definition of leachate</p>	<p>Secure Energy</p> <p>Catapult Water</p>	<p>Leachate added to glossary, citing the definition in <i>Directive 055</i>.</p>
<p>Alberta Society of Engineering Technologists is incorrect.</p>	<p>Secure Energy</p>	<p>Correction made.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Thermal treatment definition is missing.		Thermal treatment is described in section 7.6; therefore, a definition was not added to the glossary. The different types of thermal treatment units, however, are defined in appendix 1.
Treatment definition is very broad.		This was a pre-existing definition. Reviewing definitions was not within the scope of RTR or CFS.
Appendix 2, “Waste Names, Codes, and Common Waste Classification”		
Acids and caustics are not all DOW. <i>TDG</i> defines acids and caustics based on the pH value (pH within the range of 2–12.5 is not hazardous).	Catapult Water	Pre-existing classification. Review of waste classification was not in scope.
Barrels, pails. If containers are empty, by definition no testing is required. Considering this is for empty containers, this comment should be removed and replaced with the definition of an empty container or refer to that definition.	Secure Energy	Edits made to align with the previous edition of the directive.
Dry cell batteries are known to be non-DOW. Remove testing required for dry cell batteries and replace with non-DOW. After alkaline, add “(dry cell)” as some people might not know that alkaline batteries are dry cell.	Secure Energy Catapult Water	Edits made to revert wording back to what it was in the 2006 edition.
Caustic Fluids. DOW assumes pH is >12.5. There are fluids that are described as caustic by waste generators that are not DOW as the pH is <12.5. This causes confusion for generators and inspectors. Add clarification that spent caustic solutions generally with a pH <12.5 are non-DOW.	Secure Energy	Pre-existing classification. Review of waste classification was not in scope.

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>Cement (returns, dry). The table only references disposal options for cement returns generated as a result of drilling and to see <i>Directive 050</i>. Cement returns are also generated during pressure cementing of conductor casing for preparing the drilling of wells but has traditionally not been included within the scope of <i>Directive 050</i>.</p> <p>Revision could specify cement returns generated by this process which could also be managed in accordance with <i>Directive 050</i>.</p>	<p>CNRL</p>	<p>Review of waste management options was not in scope.</p>
<p>Chemicals – Inorganic “Dangerous when wet.”</p> <p>Recommend using proper chemical characteristics “Water-reactive Substances” Class 4.3.</p>	<p>Catapult Water</p>	<p>Pre-existing classification. Review of classifications was not in scope.</p>
<p>There are too many filter and hydrovac codes.</p> <p>Do not believe they are used.</p>	<p>Secure Energy</p>	<p>Pre-existing codes. Review of waste codes was not in scope.</p>
<p>Why are there so many waste codes?</p> <p>Does the AER specifically look at the number of SOILCO and SLGHYD loads that are received on an annual basis?</p> <p>Why are there nine sludge waste codes yet no code for tank bottoms with no hydrocarbon content?</p> <p>Basically all the loads accepted are disposed of and treated in the same manner despite the code associated with the load. All liquids are disposed of downhole, solids are separated from the liquids and taken to a landfill capable of accepting them, and the oil is skimmed and recovered for resale.</p> <p>Reduce/eliminate the appendix or modify it.</p>	<p>Anonymous</p>	<p>Pre-existing codes. Review of waste codes was not in scope.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>[COEMUL] If normally a non-DOW, then why does [SOILEM] requiring testing?</p> <p>Alignment with [SOILEM] is required.</p> <p>Typically DOW is not correct. Should be the same as SOILCO. Emulsion is less likely to be a DOW than crude oil and condensate. Suggest changing to have the same attributes as SOILCO.</p>	<p>Secure Energy</p>	<p>Testing is required because it was a waste code issued after 1996. Codes pre-1996 have historical data for waste classifications.</p> <p>Determining waste classifications for post-1996 waste codes was not in scope.</p>
<p>Introduction should include “knowledge of process generating the waste.”</p> <p>Can the AER add a sentence reminding user that “waste may be classified based on the generator’s knowledge of the process generating the waste”?</p>	<p>Secure Energy CNRL</p>	<p>Edits made to reference the <i>Alberta Users Guide for Waste Managers</i>, which indicates that waste may be classified based on the generator’s knowledge of the process generating the waste.</p>
<p>It is recommended to simplify this appendix by changing “Common Waste Classification” to a “Prescribed or Listed Waste Classification” like Ontario or the US EPA, thereby removing the ambiguity. If implementing this change, other sections would need to be updated to reflect this, including section 2 and appendix 1. A key change would be to also allow for a generator to “test out of” a designated waste classification if they choose to.</p>	<p>Secure Energy</p>	<p>Such a change was not in scope and would require further analysis.</p>
<p>Crude oil/condensate emulsions (residuals after treatment). Normally a non-DOW. Unlikely crude oil/condensate will be classified as non-DOW based on the properties. Recommend using DOW as a default.</p>	<p>Catapult Water</p>	<p>Pre-existing classification. Review of classifications was not in scope.</p>
<p>[DRWSHC] indicates non-DOW. As this is hydrocarbon based, should mention flash point as a property for characterization.</p>	<p>Secure Energy</p>	<p>Edits made.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>[FILLUB] Reference to waste type 201 is ambiguous as it comes from the Waste Users Guide, but no explanation here. This should be removed or explained.</p>	<p>Secure Energy</p>	<p>Review of waste codes was not in scope.</p>
<p>Filters – other (raw/fuel gas, NGLs) and Filters – produced/process water. Pyrophoric characteristics are unlikely characteristic for these filter types. This common property is typically only related to amine filters (gas sweetening). Consider removing this common property from these filters.</p>	<p>Catapult Water</p>	<p>Review of waste properties was not in scope.</p>
<p>[FRFLDR] Waste name includes radioactive. Replace “radioactive” with NORM. Any fluids returned from surface (including frac fluids) typically contain NORM as it disturbs the shale/rock.</p>	<p>Secure Energy</p>	<p>Review of waste names was not in the scope.</p>
<p>[FRSDR] Waste management options.</p> <p>Add: Storage to decay or direct to an approved hazardous waste disposal facility. It is uncommon that the supplier wants the waste frac sand returned. Most clients want it to be disposed of for them. This typically requires a pilot or temporary approval to store frac sand to allow for decay.</p> <p>Remove “may be a DOW after radioactive decay (based on waste characterization).” Replace with: DOW. The half-life of radioactive tracers found in frac sand are typically too long to ever witness the decay of the isotopes (i.e., years to get to a level acceptable for disposal).</p> <p>Radioactive materials should include chemical toxicity.</p>	<p>Secure Energy</p>	<p>The waste management options are not inclusive of all options. Radioactive frac sand is subject to the Canadian Nuclear Safety Commission’s regulations and licensing requirements.</p> <p>Edits made to identify that the waste is DOW and added toxicity to common properties.</p>
<p>[HSPWTR] What is the definition of high solids produced water? Suggest adding a definition for clarity on when the code should be used.</p>	<p>Secure Energy</p>	<p>It was originally defined in an announcement in 2010 by the ERCB (predecessor to the AER). Edits made to provide clarity.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
<p>[NORM] Consider removing NORM as NORM is a contaminant, same as to BTEX or metals. NORM is not a waste. There is no code for BTEX.</p> <p>Does the AER want all wastes with NORM contamination to use this code vs. the codes on the list? As NORM is not a substance listed in the <i>WCR</i>, which would render a material a hazardous waste, wastes with NORM should not be considered DOW.</p> <p>Suggest removing or providing clarity on when this code should take precedent over other codes such as SMETAL, SOIL, etc. Remove reference to DOW.</p> <p>Common properties missing radioactivity. Add radioactivity as a common property. Radioactivity is the primary issue with NORM.</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>Pre-existing code. Review of waste codes, classifications, and properties was not in scope.</p> <p>The <i>Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials</i> is referenced to harmonize standards across Canada and ensure appropriate controls for NORM. Section 4.5 identifies where NORM-contaminated materials are to be sent.</p>
<p>[PAINT] Increasingly paints are becoming VOC free and are non-DOW. This needs to be updated. Update to include a discussion around non-DOW paints.</p>	<p>Secure Energy</p>	<p>Review of waste classifications was not in the scope.</p>
<p>Pyrophoric versus self-heating. Pyrophoric is a commonly used term, but self-heating is more accurate.</p>	<p>Catapult Water</p> <p>Secure Energy</p>	<p>Review of terminology was not in scope.</p>
<p>Add “water reactivity” as a common property.</p>	<p>Catapult Water</p>	<p>Review of properties was not in scope.</p>
<p>A common property listed is “leachate.” It is not clear what is meant by using this term. I believe a more accurate term would be “leachable BTEX.”</p>	<p>Secure Energy</p>	<p>Review of properties was not in scope.</p>
<p>I don’t believe there is a difference between corrosivity and pH. Remove pH from the common properties list.</p>	<p>Secure Energy</p>	<p>Review of properties was not in scope.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Most salt heat medium consists of nitrate and nitrites, which are classified as 5.1 oxidizers. Common waste classification should be DOW.	Secure Energy	Pre-existing classification. Review of classification not in scope.
Salt heat medium. Change term to the common name “bath heater salt.”	Catapult Water	Changes to waste names was not in scope.
<p>Sludge. Why are we introducing sludge?</p> <p>Wastes must be liquid or solid as per the paint filter test to determine management and transportation requirements under the <i>WCR</i> and <i>TDG</i>.</p> <p>Remove sludge waste codes as these wastes should be either liquid or solid as mentioned in appendix 1.</p>	Secure Energy	Reviewing wastes was not in scope.
<p>Well workover fluids – recover hydrocarbon and inject via disposal well. Can this not be used as alternative water or reuse water?</p> <p>Consider adding reuse or alternative water as a waste management option.</p>	Catapult Water	Well workover fluids cannot be used as alternative water or reuse water because it is not generated from hydraulic fracturing operations.
Appendix 3, “Treatment and Disposal Method Descriptors for the Oilfield Waste Disposition Report”		
This appendix is not needed as this is covered throughout document.	Secure Energy	Appendix 3 is an update to the previous appendix 8 with clearer descriptors for the disposal and treatment methods that are used for the oilfield waste disposition report. This information will help when completing the report under <i>Directive 030</i> .
<p>Soil Remediation / Treatment. Ex-situ treatment of soil using peroxide is as common a soil treatment method as thermal desorption.</p> <p>Can there be some discussion of how this treatment method fits under <i>Directive 058</i>?</p>	Matrix	<p>Adding new waste management methods was not in scope. Duty holders would apply under section 5 as an alternative waste management activity.</p> <p>Contact Directive058@aer.ca for further information.</p>

Stakeholder Feedback – Section of Draft Directive	Stakeholder	AER Response
Appendix 4, “Examples of Minimizing Waste”		
Remove as it is outdated.	Secure Energy	Removing this appendix was not in scope.