Administrative Penalty Director's Decision

Named Party: Murphy Oil Company Ltd. **BA Code:** 0063

File No. 2015-004

Legislative Authority

Section 237(1) of the *Environmental Protection and Enhancement Act* (*EPEA*) and section 1 of the Schedule in the *Administrative Penalty Regulation*

Section 59.3(a) of the *Public Lands Act* (*PLA*) and section 171(2) of the *Public Lands Administration Regulation*

Section 70 of the *Responsible Energy Development Act* (*REDA*) and section 8.1 of the *Responsible Energy Development Act General Regulation*

Preliminary Assessment

Number of Counts Identified	Base Assessment Amounts	Factor Variance(s)	
Count 1	$2 500	+$1 000	
Count 2	$3 500	+$1 500	
Count 3	$3 500	- $500	
Count 4	$157 500		
Count 5	$3 500		
Total Counts: 5	**Total Base Assessment: $170 500**	**Total Variance:**	**+$2 000**

Total Preliminary Assessment: $172 500

Director's Decision Summary

On January 30, 2017, I, Ron Wagener, Director Pipelines, Environmental and Operational Performance for the Alberta Energy Regulator (AER), spoke with Craig Sinclair, Director HSE for Murphy Oil Company Ltd. (Murphy) to discuss AER Investigation File No. 2015-004 and the Preliminary Administrative Penalty Assessment (Assessment). Mr. Sinclair agreed to meeting in person to discuss the investigation findings and Assessment. The Assessment was sent to, and received by, Murphy on February 1, 2017.

The investigation related to a pipeline failure and release of 1429 m^3 of light hydrocarbon condensate (diluent) about 64 km east of Peace River that was reported to the AER on March 1, 2015.

On February 7, 2017, I, Ron Wagener, met with Murphy representatives Craig Sinclair, Director, HSE; Albert Ussher, Senior Environmental Engineer (Regulatory); Michael Jackson, Senior Attorney with Murphy via teleconference; and Shawn Munro, Partner with Bennett Jones LLP.

The purpose of the meeting was to review the facts on which the preliminary assessment was based, how the assessment was calculated, and provide an opportunity for Murphy to share with the AER any relevant information not previously submitted to be considered prior to making a final decision

The Preliminary Assessment identified the following counts and base assessments:

Public Lands Act

COUNT 1

On March 1, 2015, in the Province of Alberta, the AER became aware that Murphy released 1429 m^3 of light hydrocarbon condensate (diluent) that resulted in loss or damage to approximately 13,400 m^2 (1.34 hectors) of public lands contrary to section 54(1)(a.1) of the *Public Lands Act*.

BASE PENALTY TABLE

Seriousness of Contravention

Extent of actual or potential loss or damage	Major	Moderate	Minor
Major	5000	3500	2500
Moderate	3500	2500	1500
Minor	2500	1500	1000
None	1000	650	250

Seriousness of Contravention: Moderate

The release of 1429 m^3 of light hydrocarbon condensate (diluent) caused damage to soil, vegetation and water on public lands both and off the pipeline ROW. The pipeline had three separate release points with Area 1 resulting in diluent migrated off the pipeline ROW.

Public lands are a valuable resource and are entitled to be protected for the benefit of all Albertans. As the economy of Alberta expands and diversifies, pressures will be increasingly exerted on public lands to accommodate additional activity. It is necessary to ensure public lands are not damaged so that existing

and future generations of Albertans can benefit from them. Any loss or damage to public lands is considered a serious breach of legislation. Murphy failed to take reasonable steps, such as operator training, implementing operating procedures, or preventive maintenance, to ensure that the leak detection system was capable of the early detection of leaks. If Murphy had followed their established procedures, this damage to public lands (i.e. the soil and waterbody) could have been avoided.

Extent of Actual or Potential Loss or Damage: Moderate

The damage to the local ecosystems was physically from the condensate or from the collateral damage arising from the containment and remediation activities. Losses of soil materials in the directly impacted areas will occur and even soil that is found to be recoverable after treatment will take time to replace and restore to full function. While traces of dissolved hydrocarbons were found some distance away there was no sign that the major water bodies in the area were impacted. Groundwater in the immediate impact areas and areas slightly outside this zone were impacted but large scale movements were not seen.

The actual and potential loss caused by the release based on the evidence is considered moderate due to the frozen ground conditions present at the time of the release. Of the three areas impacted only one area resulted in diluent leaving the ROW.

Base Assessment: $2 500

Pipeline Rules

COUNT 2

On March 1, 2015, in the Province of Alberta, the AER became aware that Murphy failed to demonstrate that the procedures contained in the manual(s) were being implemented contrary to section 7(3)(b) of the *Pipeline Rules.*

BASE PENALTY TABLE

Seriousness of Contravention

Extent of actual or potential loss or damage	Major	Moderate	Minor
Major	5000	3500	2500
Moderate	3500	2500	1500
Minor	2500	1500	1000
None	1000	600	250

Seriousness of Contravention: Major

The investigation determined that Murphy was not able to demonstrate that specific procedures contained in its *Pipeline Operations, Maintenance and Integrity Manual* (POMIM) was being implemented.

The AER requires licensees to not only have manuals but to implement the procedures contained in the manuals. These procedures and the implementation are necessary to reduce the risk of a pipeline failure and to ensure that when a pipeline failure does occur it is discovered as soon as possible so as to prevent the release continuing and causing damage and or impacts to the environment and public safety.
Murphy should have had systems in place to ensure employees have a full understanding, knowledge and

adequate training on manuals and procedures. The AER expects Murphy to have adequate supervision and oversight to ensure procedures are followed and documentation is made available, to confirm procedures have been followed and completed. Murphy's failure to demonstrate implementation of its POMIM procedures is considered a major contravention.

Murphy's low vapor pressure (LVP) pipeline leak detection procedure located in the POMIM indicates that regular inspections and maintenance of all instruments and systems affecting the LVP leak detection system will be performed. The AER found that maintenance was not being performed, as most of the receiving diluent meters at the well pads had not been calibrated since October 2012. If the end-point meters would have been calibrated on a minimum yearly interval and alarm set-points adjusted to appropriate tolerances, the system would have been able to provide early leak detection capabilities. Since the meters were not calibrated, the installed devices were not capable of early leak detection.

The POMIM indicated that annual LVP leak detection system tests (training exercises) would be performed; however, when interviewed, most of the interviewees were not aware that there was a leak detection system in place and were not trained in leak detection.

The pipeline ROW inspection procedure (Procedure No. 101) indicates a check sheet will be filled out for every ROW inspection. Although Murphy was conducting aerial surveys of their ROWs, no checklists were available when the AER investigators requested them. Further, according to Murphy's current pipeline integrity coordinator, due to inclement weather in January 2015, the aerial survey for the month was cancelled but no ground survey was completed in lieu.

Extent of Actual or Potential Loss or Damage: Moderate

The damage to the local ecosystems was physically from the condensate or from the collateral damage arising from the containment and remediation activities. Losses of soil materials in the directly impacted areas will occur and even soil that is found to be recoverable after treatment will take time to replace and restore to full function. While traces of dissolved hydrocarbons were found some distance away there was no sign that the major water bodies in the area were impacted. Groundwater in the immediate impact areas and areas slightly outside this zone were impacted but large scale movements were not seen. Worley's analysis of the failures in Areas 1, 2, and 3 determined that internal corrosion was the cause of failure in all three locations. The failure to follow the POMIM may have contributed to the pipeline release resulting in damage to public lands.

Base Assessment: $3 500

COUNT 3

On March 1, 2015, in the Province of Alberta, the AER became aware that Murphy failed to conduct and document an evaluation of any operating or discontinued metallic pipelines in a pipeline system to determine the necessity for, and the suitability of, internal corrosion mitigation procedures annually contrary to Section 54(1)(a) of the *Pipeline Rules*.

Seriousness of Contravention: Major

Corrosion is a major contributor affecting pipeline integrity and performance. Worley's analysis of the failures in Areas 1, 2, and 3 determined that internal corrosion was the cause of failure in all three locations. The AER has stringent requirements that must be followed to ensure pipelines are being operated in a safe and effective manner. The AER considers this an important component of an overall pipeline integrity program all licensees are expected to have in place.

Murphy's (POMIM) indicates in the section titled "Pipeline Work Order/KPI Procedure" that a planned work order would be issued annually for the evaluation of internal corrosion on steel pipelines and an internal corrosion mitigation review would occur quarterly. The investigation determined that Murphy failed to implement this requirement for three consecutive years as only one internal corrosion evaluation was completed contrary to the requirements in the POMIM. The only internal corrosion evaluation of the subject pipeline occurred on April 14, 2011.

The fact that Murphy failed to complete this requirement for three consecutive years is considered a major breach of the legislation. This annual evaluation is necessary to reduce the risk of a pipeline failure and to ensure that when a pipeline failure does occur it is discovered as soon as possible so as to prevent the release continuing and causing damage and or impacts to the environment and public safety.

Extent of Actual or Potential Loss or Damage: Moderate

The damage to the local ecosystems was physically from the condensate or from the collateral damage arising from the containment and remediation activities. Losses of soil materials in the directly impacted areas will occur and even soil that is found to be recoverable after treatment will take time to replace and restore to full function. While traces of dissolved hydrocarbons were found some distance away there was no sign that the major water bodies in the area were impacted. Groundwater in the immediate impact areas and areas slightly outside this zone were impacted but large scale movements were not seen.
Worley's analysis of the failures in Areas 1, 2, and 3 determined that internal corrosion was the cause of failure in all three locations. The failure to complete the annual evaluation likely contributed to the pipeline release resulting in damage to public lands.

Base Assessment: $3 500

Environmental Protection and Enhancement Act

COUNT 4

On or about January 15, 2015 until March 1, 2015, in the Province of Alberta, Murphy failed to report a release release of 1429 m^3 of light hydrocarbon condensate (diluent) that resulted in loss or damage to approximately 13,400 m^2 (1.34 hectors) of public lands when they ought to have known the release had occurred, contrary to section 110(1)(a) of the *Environmental Protection and Enhancement Act.*

BASE PENALTY TABLE

Potential For Adverse Effect	Type of Contravention: Major	Moderate	Minor
Major	5000	3500	2500
Moderate	3500	2500	1500
Minor to None	2500	1500	1000

Type of Contravention: Major

A licensee's duty to self-report releases to the environment that may cause, are causing, or have caused an adverse effect as soon as the responsible party ought to have known is a corner stone to the legislative scheme created by *EPEA* and its associated regulations, and is considered a major type of contravention.

Once Murphy was able to do a detailed review of all related flow data for the pipeline and compare the main diluent meter leaving the 04-33 facility with the diluent received at the associated well pads, the volume was revised and calculated at 1429 m^3. Murphy estimated that the pipeline had been leaking from about mid-January until March 1, 2015, when it was shut down and reported to the AER.

Not paying attention and understanding information such as elevated meter readings beginning January 12, 2015 until March 1, 2015 indicates that staff lacked sufficient knowledge and skills in interpreting the data. This data, if properly interpreted and communicated to senior Murphy staff, could have mitigated the duration and adverse effect of the release to the environment.

Reviewing and interpreting data such as meter readings is necessary to reduce the risk of a pipeline failure and to ensure that when a pipeline failure does occur it is discovered as soon as possible so as to prevent the release continuing and causing damage and/or impacts to the environment and public safety. A combination of inadequate and insufficient understanding and implementation of procedures relating to material balance, shutdown procedures, leak detection system maintenance, auditing and testing were all aggravating factors that lead up to and after the release from the pipeline.

Murphy had procedures in place that would have provided the necessary checks and balances to ensure Murphy was aware of a pipeline failure in a timely manner which would mitigate the loss or damage to the environment, yet still failed to identify the pipeline failure and release for 45 days, which the AER considers to be a significant period of time. Licensees operating in Alberta must take this responsibility seriously and the AER will ensure this occurs through education, prevention activities, and enforcement responses to change behavior where appropriate and necessary.

Potential for Adverse Effect: Moderate

The damage to the local ecosystems was physically from the condensate or from the collateral damage arising from the containment and remediation activities. Losses of soil materials in the directly impacted areas will occur and even soil that is found to be recoverable after treatment will take time to replace and restore to full function. While traces of dissolved hydrocarbons were found some distance away there was no sign that the major water bodies in the area were impacted. Groundwater in the immediate impact areas and areas slightly outside this zone were impacted but large scale movements were not seen. The chemical footprint outside the removal area was limited but there were mobile components moving in the landscape and in groundwater via the pipeline fill material and in sand seams that intersected the deeper impacts.

Section 237(2)(a) of *Environmental Protection and Enhancement Act* allows the AER to impose a daily administrative penalty amount for each day or part of a day which the contravention occurs or continues. In this case, the contravention occurred or continued for forty-five days.

Accordingly, a daily administrative penalty amount will be imposed for each of the forty-five days on which the contravention occurred or continued.

Base Assessment: $3 500 x 45 days = $157 500

COUNT 5

On or about January 15, 2015 until March 1, 2015, in the Province of Alberta, Murphy failed to conduct remedial actions on a released of 1429 m^3 of light hydrocarbon condensate (diluent) that resulted in loss or damage to approximately 13,400 m^2 (1.34 hectors) of public lands when they ought to have known the release had occurred, contrary to section 112(1) of the *Environmental Protection and Enhancement Act.*

Type of Contravention: Major

Immediate reasonable action to repair, remedy and confine the adverse effects of a substance once released to the environment as soon as the responsible party ought to have been aware is a significant requirement for a licensee to perform thus it is considered a major contravention. The purpose of the requirement to take immediate action is to prevent further damage to the environment which is likely to occur if remedial actions are not taken – such as a harmful substance entering the groundwater or a water body, and to limit the exposure to wildlife and vegetation. If immediate action is not taken, then there is a greater chance of adverse effect to the environment, and more severe adverse effects occurring.

The investigation has found that Murphy failed to take reasonable steps—such as operator training, implementing operating procedures, or preventive maintenance—to ensure that the leak detection system was capable of the early detection of leaks. That failure prevented Murphy from knowing the pipeline break had occurred. Remediation of the release did not begin until March 1, 2015, about 48 days after the diluent meter leaving the facility started to register (on January 12) higher than normal volumes – when the AER believes the release began – and 45 days after January 15, 2015, when Murphy ought to have known the leak occurred.

A combination of inadequate and insufficient understanding and implementation of procedures relating to material balance, shutdown procedures, leak detection system maintenance, auditing and testing were all aggravating factors causing additional unnecessary damage to public lands and impact to the environment due to the length of time that no remedial actions were taken.

Potential for Adverse Effect: Moderate

The failure to take remedial action at the time of the release likely resulted in a greater degree of damage to public lands that could have been mitigated if remedial actions were taken sooner. The damage to the local ecosystems was physically from the condensate or from the collateral damage arising from the containment and remediation activities. Losses of soil materials in the directly impacted areas will occur and even soil that is found to be recoverable after treatment will take time to replace and restore to full function. While traces of dissolved hydrocarbons were found some distance away there was no sign that the major water bodies in the area were impacted. Groundwater in the immediate impact areas and areas slightly outside this zone were impacted but large scale movements were not seen. The chemical footprint outside the removal area was limited but there were mobile components moving in the landscape and in groundwater via the pipeline fill material and in sand seams that intersected the deeper impacts.

Base Assessment: $3 500

Factors to be considered to vary the Assessment

Factors	*EPEA*	*PLA*
(a)	the importance to the regulatory scheme of compliance with the provision;	the importance to the regulatory scheme of compliance with the provision that was contravened;
(b)	the degree of willfulness or negligence in the contravention;	the degree of willfulness or negligence, if any, on the part of any person responsible for the contravention;
(c)	whether or not there was any mitigation relating to the contravention;	any steps taken by a person responsible for the contravention to avoid or limit the extent of any actual loss or damage that resulted or any potential loss or damage that may reasonably be expected to result from the contravention;
(d)	whether or not steps have been taken to prevent reoccurrence of the contravention;	any steps taken by a person responsible for the contravention to prevent its recurrence;
(e)	whether or not the person who receives the notice of administrative penalty has a history of non-compliance;	any previous contravention of a provision prescribed by subsection (2) by a person responsible for the contravention;
(f)	whether or not the person who receives the notice of administrative penalty has derived any economic benefit from the contravention;	whether a person responsible for the contravention derived or is likely to derive any economic benefit from the contravention;
(g)	any other factors that, in the opinion of the Director, are relevant	any other factor that, in the opinion of the Director, is relevant.

Factors applicable to this case

Factor from above	**Amount Varied**	**Description/Comments**
(a)	+$1 000	The requirement to immediately self-report and remediate releases that may cause an adverse effect to the environment as soon as the responsible party ought to have known is a corner stone of the AER Compliance Assurance Framework. Not being aware of the release for 45 days is an aggravating factor.
(b)	+$1 500	Murphy failed to ensure its operators were knowledgeable, trained and competent in pipeline integrity maintenance and procedures. Not following the POMIM specifically for leak detection, corrosion control and training are aggravating factors that likely contributed to the pipeline release resulting in damage to public lands

(c)	Neutral	This factor is not applicable. Once the release was identified steps taken to contain and remediate the release are requirements the AER expects all companies to perform.
(d)	Neutral	This Factor is not applicable.
(e)	Neutral	This Factor is not applicable.
(f)	Neutral	This Factor is not applicable.
(g)	Neutral	This Factor is not applicable.

Discussion

At the February 7, 2017, meeting Murphy requested the AER provide a brief review of the investigation findings and the calculation of the base assessments and factors considered. Murphy had no fundamental disagreement with the assessment. Murphy provided verbal information related to steps they have taken to prevent a reoccurrence of these contraventions and inquired if these items would have any bearing on the final decision. Murphy was directed to send these points in an email to myself with a deadline of February 10, 2017.

Submission of Murphy

A written submission was received by e-mail February 9, 2017. The written submission was in letter format addressed to myself and contained three pages outlining the following points:

Murphy initiated significant changes to its Seal Lake operations. The results of these changes were then expanded to other Alberta operations. These changes include the following:

- Murphy management is present at quarterly integrity program meetings in the field, and quarterly management meetings in the office. During these meetings, updates regarding key integrity programs (in-line inspections, chemical programs, pigging, pipeline modifications, etc.) are discussed.
- Development of internal/external audit protocols (action items are tracked to completion).
- Improved pipeline leak detection system.
- Increased management presence in the field through formal observation/inspection program.
- Creation of work orders to track all required maintenance, as well as improved tracking to completion.
- Development of an improved operator competency program.
- Regularly scheduled training (awareness as well as technical).
- Development and implementation of Murphy Canadian Business Unit standards.

Senior Murphy management has supported all identified improvements, and all of the above learnings have been applied or are in the process of being applied to all of Murphy’s operated properties in Canada.

Final Decision

I, Ron Wagener, Director, Pipelines for the AER, have fully considered all of the information collected in the investigation and verbal submission presented to me by Murphy in the February 7, 2017 meeting and that was summarized in a written submission sent to me from Murphy on February 9, 2017. I am of the opinion that the contraventions described did occur and are supported by the evidence to demonstrate the contraventions.

After a review of all the information available, I find that there is lack of evidence to support due diligence by Murphy for the following reasons:

Murphy failed to take reasonable steps, such as operator training, implementing operating procedures, or preventive maintenance, to ensure that the leak detection system was capable of the early detection of leaks. That failure prevented Murphy from knowing the pipeline break had occurred. Subsequently, the release caused damage to public lands.

Although systems and written operating procedures were in place to allow Murphy to monitor and manage the leak detection system that includes internal corrosion and corrosion mechanisms, these systems and operating procedures were not being implemented on the subject pipeline.

Lack of management oversight and communication at all levels were also contributing factors which resulted in the discovery of the release 45 days after Murphy ought to have known it occurred.

I find the base penalty amounts recommended in the Preliminary Assessment appropriate and reflective of both the potential damage and actual damage and lack of due diligence. I find the variance factors calculated in the Assessment reasonable and appropriate and remain the same except for Factor (d) which states, “whether or not steps have been taken to prevent reoccurrence of the contravention”. This factor allows the AER to assess actions taken by Murphy to ensure future compliance with the regulatory requirements and ensures the specific contravention do not reoccur are considered.

Murphy was well represented by senior leadership at the February 7, 2017 meeting thus showing a strong commitment to learn from the experience and make improvements to prevent a reoccurrence. Murphy also took the opportunity to submit a written submission outlining these improvements.

All of these learnings are supported by Murphy senior management and have been implemented or are in the process of being implemented to all of Murphy’s operated properties in Canada. Based on the above information, I find Variance Factor (d) will change to -$500.

(d)	-$500	The AER believes Murphy’s commitments to these actions shows an understanding and desire to change their behavior to ensure these contraventions do not reoccur.

Total Number of Counts

Number of Counts Identified	Base Assessment Amounts	Factor Variance(s)	
Count 1	$2 500	+$1 000	
Count 2	$3 500	+$1 500	
Count 3	$3 500	-$500	
Count 4	$157 500		
Count 5	$3 500		
Total Counts: 5	**Total Base Assessment: $170 500**	**Total Variance:**	**+$2 000**

Accordingly, the application of the factors to the base penalties assessed results in a total Administrative Penalty of $172 500.

Final Assessment: $172 500

Date: February 23, 2017

Director's Signature: *<original signed by>*

Ron Wagener, Director Pipelines, Environmental & Operational Performance, AER