

IN THE MATTER of a CONTRAVENTION
of the *OIL AND GAS ACTIVITIES ACT*
[SBC 2008] Chapter 36
before
The BC OIL AND GAS COMMISSION
Case File 2016-066FSJ

BETWEEN

The BC Oil and Gas Commission

AND

Chevron Canada Ltd.

ADMINISTRATIVE FINDING

Before Vice President, Operations, Lance Ollenberger

Representing the Commission Ken McLean, Oil & Gas Operations Officer /
Enforcement

Representing Chevron Canada Ltd. Sheldon Scyrup, Environmental Specialist

Decision Date September 14, 2017

Introduction:

1. The BC Oil and Gas Commission (Commission) received two self-reported incident notifications in May and June of 2016 concerning deceased waterfowl found at Chevron Canada Ltd.'s, (Chevron's) Water Hub Facility site located at C-001-K/94-O-05.
2. Further investigation into the incidents alleged that Chevron failed to follow Condition 4 of its facility permit and, in addition, did not manage its completion fluid and associated chemical substances properly.
3. A Contravention Report (the Report) was provided to me in January 2017 alleging that Chevron contravened section 21 of the *Oil and Gas Activities Act* (OGAA) and/or section 20 of the *Drilling and Production Regulation* (DPR).
4. On January 18, 2017, the Commission sent out a letter and the Report informing Chevron that I was considering making a finding that Chevron contravened section 21 of OGAA and/or section 20 of the DPR and informed Chevron of their opportunity to be heard in written form.
5. Chevron provided a response in a letter dated February 23, 2017 (the Response).
6. I have been delegated authority under sections 62 and 63 of OGAA. I will be making a determination with regards to: whether Chevron contravened section 21 of OGAA and/or section 20 of the DPR; whether to impose an administrative penalty under section 63 of OGAA; and the amount of the penalty, if any. I have reviewed the Report and Chevron's Response. In making a determination, I rely on these documents, and the applicable legislation.

Applicable Legislation

7. Section 21 of OGAA states, in part, that subject to section 23, a person must not carry out an oil and gas activity unless the person carries out the oil and gas activity in compliance with this Act and the regulations; a permit issued to the person, if any, and an order issued to the person, if any.
8. Condition 4 of Chevron's Water Hub Facility at C-001-K/94-O-05 states:

"The containment facility must be constructed and maintained in a manner that prevents harm to waterfowl. Adequate measures include the use of netting and regular removal of any visible hydrocarbons from the surface of the facility."
9. Maximum penalties for specific violations are set by regulation. Section 2(1) of the *Administrative Penalties Regulation* (APR) states that a person who contravenes section 21 of OGAA is liable to an administrative penalty not exceeding \$500,000.
10. Section 20 of the DPR states that before a well permit holder drills, completes, plugs or begins production from a well, the well permit holder must ensure that adequate provision is made for the management of any oil, gas, formation water, drilling fluid, completion fluid, chemical substances, and waste.
11. Maximum penalties for specific violations are set by regulation. Section 5(1) of the *Administrative Penalties Regulation* (APR) states that a person that contravenes section 20 of the DPR is liable to an administrative penalty not exceeding \$500,000.

12. Section 62(1) of OGAA states that, after providing an opportunity to be heard to a person who is alleged to have contravened a provision of the Act, the regulations, a permit, an authorization or an order, the Commission may find that the person has contravened the provision.
13. Section 62(5) of OGAA states, in part, that the Commission may not find that a person has contravened a provision of OGAA or the regulations if the person demonstrates to the satisfaction of the Commission that they exercised due diligence to prevent the contravention.
14. Section 63(1) states that, if the Commission finds that a person contravened a provision of OGAA or its regulations, the Commission may impose an administrative penalty. Section 63(2) of OGAA sets out the factors that must be considered when determining whether to impose an administrative penalty under section 63(1) and the amount of the penalty. These include:
 - (a) previous contraventions by, administrative penalties imposed on, or orders issued to the person;
 - (b) the gravity and magnitude of the contravention;
 - (c) the extent of harm to others resulting from the contravention;
 - (d) whether the contravention was repeated or continuous;
 - (e) whether the contravention was deliberate;
 - (f) any economic benefit derived by the person from the contravention;
 - (g) the person's efforts to prevent and correct the contravention; and
 - (h) other prescribed matters.

Background

15. The Commission originally issued a Facility Permit to Apache Canada Limited (Apache) in June 2014 for construction of the Liard South Water Hub (the water hub). Chevron subsequently took over ownership of the facility upon completion of the permit transfer in October 2015. The water hub's design allowed for storage of a combination of hydraulic fracturing flow-back fluid and source water during drilling and completion activities.
16. The discovery of deceased ducks on two separate occasions prompted Chevron to submit self-disclosure incident reports to the Commission on May 27, 2016 and June 6, 2016 reporting each occurrence of the deceased waterfowl located at the water hub.
17. A Commission Operations Officer inspected the site following the first occurrence, took photographs and noted the deterrents that were in place at that point in time at the location. Chevron also provided photographs and outlined in the self-disclosure the changes implemented at the water hub including doubling the frequency of site visits and increasing the firing of the bird scare cannon while initiating an evaluation of additional bird mitigation options.
18. Subsequent to the second occurrence, Chevron made further adjustments to the deterrents to include even more frequent firing of the bird cannon and increased site presence along with periodic inspections by personnel and contractors. Chevron conveyed to the Commission that an internal investigation was underway to identify options for additional controls.

19. Safety and Environmental Advisory 2012-01, Preventative Measures to Protect Birds and Wildlife (the Advisory), was issued to industry to remind operators that they must ensure proper measures are in place to protect birds and wildlife from coming into contact with potentially harmful fluids stored in earthen excavations such as a water hub. The Advisory describes a collection of suggested practices that can be used to protect birds and wildlife around exposed fluids.
20. Additionally, Information Letter OGC IL 09-07, Storage of Fracture Fluid Returns (OGC IL 09-07) advises industry of the requirements for the containment, storage and disposal of returned fracture fluids to enhance protection of wildlife. This guidance document addresses mitigation measures associated with acceptable requirements for design, storage, inspection, and monitoring of lined earthen excavations.

Issues to be Decided

21. The issues which I will decide are:

Section 21 of OGAA:

- Did Chevron fail to comply with facility permit condition #4 to prevent harm to waterfowl?
- Did Chevron exercise due diligence in its efforts to comply with facility permit condition #4 to prevent harm to waterfowl?
- Did Chevron contravene section 21 of OGAA?
- If Chevron is found to have contravened section 21 of OGAA what if any, administrative penalty to impose?

Section 20 of the DPR:

- Did Chevron fail to make adequate provision for the management of completion fluid and associated chemical substances?
- Did Chevron exercise due diligence in its efforts to make adequate provision for the management of completion fluid and associated chemical substances?
- Did Chevron contravene section 20 of the DPR?
- If Chevron is found to have contravened section 20 of the DPR what if any, administrative penalty to impose?

Section 21 of OGAA:

Did Chevron fail to comply with facility permit condition #4 to prevent harm to waterfowl?

22. The Report alleges that Chevron failed to comply with permit condition #4 that states the containment facility must be constructed and maintained in a manner that prevents harm to waterfowl.
23. I find Chevron did fail to comply with the facility permit condition to prevent harm to waterfowl as evidenced by Chevron's self-disclosure reporting the discovery of the deceased birds. Chevron does not dispute that the waterfowl deaths were a result of the containment facility and there is no other evidence before me to suggest that the deaths were due to any other contributing factors.

Did Chevron exercise due diligence in its efforts to comply with facility permit condition #4 to prevent harm to waterfowl?

24. Pursuant to section 62(5) of OGAA, I may not find that Chevron contravened section 21 of OGAA if Chevron demonstrates to my satisfaction that it exercised due diligence to prevent the contravention. The test to be applied is whether Chevron has demonstrated that it took all reasonable steps to prevent the contravention. Chevron is not required to show that it took all possible or imaginable steps to avoid the contravention. The standard is not one of perfection, but rather of a reasonable person in similar circumstances.
25. Chevron states that preceding the incidents it already had a robust and extensive deterrent system in place. At the time it assumed ownership of the water hub in 2015, it reviewed and endorsed the existing deterrence measures that Apache had installed on the site due to the extensive analysis performed by Apache and its consultants in determining the most effective bird deterrent system. Chevron evaluated the potential of adding flagging to the wires but determined that this was not a viable option due to environmental and maintenance concerns. Consequently, Chevron hired environmental consultants to review and investigate various bird deterrent alternatives available and chose a reflective flappers style that were installed using double the amount of the manufacturer's recommendation.
26. Furthermore, in early spring Chevron broke up the ice on a nearby borrow pit to allow for an alternative landing site for migratory birds. Chevron also installed an absorbent boom to remove hydrocarbon sheen on the surface of the water that acted as an added deterrent. Chevron maintains its standard mitigation actions included putting a bird scare cannon in place and conducting daily, monthly and annual monitoring and inspection of the deterrent systems and condition of the water hub and surrounding site.
27. Chevron demonstrated that it proactively evaluated the effectiveness of the current deterrent measures put in place on the site as well as regularly investigated the adequacy of alternative options. Chevron engaged and relied on the expertise of its personnel and consultants to ensure it maintained and established effectual bird deterrent systems at the water hub. I accept the evidence provided by Chevron on the history of the efforts it made to prevent harm to waterfowl prior to the incidents. I concur that Chevron did incorporate the following measures: an electrified cattle guard and lockable gate, a high chain link fence around the perimeter, an amphibian fence surrounding the facility, bird deterrent wires with flappers and reflectors, a noise scare cannon, owl decoys, and frequent presence of personnel on site as well as multiple daily inspections. The Commission Officer who inspected the site after the first incident confirmed that all but one of the measures discussed in the Advisory were implemented by Chevron prior to the incidents. In addition, Chevron gave due consideration to the ninth measure, netting, and had reasonable safety justifications for why it was not implemented.
28. I find the measures taken by Chevron show that it had exercised due diligence in its efforts to comply with permit condition #4 to prevent harm to waterfowl.
29. Although this does not effect a determination of due diligence prior to the incidents occurring, I would note that I found the amount of time it took Chevron to install the new permanent deterrent measures (two months) troubling.

Did Chevron contravene section 21 of OGAA?

30. I find that Chevron failed to comply with a facility permit condition; however, Chevron exercised due diligence and took all reasonable steps in its efforts to prevent the contravention, therefore did not contravene section 21 of OGAA.

Section 20 of the DPR:

Did Chevron fail to make adequate provision for the management of completion fluid and associated chemical substances?

31. It is alleged that Chevron did not make adequate provision for the management of its completions fluid and associated chemical substances as evidenced by the four dead waterfowl that occurred on two separate occasions. During the inspection performed by the Commission, it was noted that the reflectors were small in nature and that no flagging, ribbon or other hanging deterrents were visible on the cables strung across the pond resulting in harm to the birds. Dawn to dusk monitoring of the site was not implemented until after the second incident and additional deterrents were not installed until two months after the first incident.
32. In its Response, Chevron states that the previous operator designed and installed the bird deterrent systems after thorough analysis and collaboration with a consulting firm. The decision to leave the wire bare, with no flagging was based on the concern of quick deterioration of the tape leading to significant maintenance requirements and risk of ingestion by wildlife combined with successful operations with similar pits. Chevron reviewed and agreed with the mitigation measures installed by Apache and re-evaluated the deterrents again subsequent to draining the freshwater to begin using the water hub for completions activities. Chevron indicates that prior to the incidents it was utilizing eight of the nine suggested deterrents listed in the Advisory with the exception of netting. Chevron deliberately chose not to adopt netting as a deterrent after investigating various options due to the significant safety concern of employees performing maintenance and repairs over a pond of this size. It was determined netting was not a practical or effective solution for this type of water hub given the limited rescue lead access tie-off points for workers resulting in safety risks. Additionally, the restrictive length of picker truck booms prohibits the possibility of extending out and reaching the middle of the pond.
33. Chevron maintains that preceding the discovery of the deceased waterfowl there had been no previous occurrences at the site. Chevron states that in addition to the eight deterrent systems in place it also considered other options that included a radar-activated scare system, bird balls and the use of a floating cover. The company rejected these systems as not being viable options given that they would be ineffective or interfere with operational requirements. Chevron anticipated the possibility of waterfowl attraction to its pond as it is the first water source to thaw in the spring months and proactively put in place safeguards as a preventative measure. These safeguards included increasing the frequency of the scare cannon firing and opening up nearby fresh water sources as an alternative landing spot.
34. In addition, I find that Chevron met the requirements outlined in OGC IL 09-07 by verifying the water hub was designed and constructed using primary and secondary containment devices of high-density synthetic liners along with a built-in leak detection system and under-drain system.

35. I accept the evidence presented by Chevron outlining the steps taken to manage completion fluids in the pond including the comprehensive review and analysis of appropriate deterrent systems and the multiple mitigation measures that were in place at the time of the incidents. Therefore, I find that Chevron did make adequate provision for the management of completion fluid and associated substances.

Did Chevron exercise due diligence in its efforts to make adequate provision for the management of completion fluid and associated chemical substances?

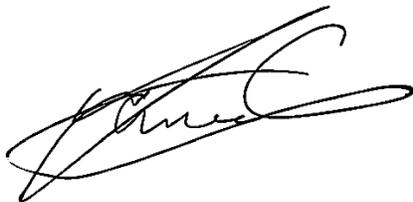
36. Given that I did not find that Chevron failed to adequately manage its completions fluid, there is no need to determine whether Chevron demonstrated due diligence.

Did Chevron contravene section 20 of the DPR?

37. I find that Chevron did not contravene section 20 of the DPR.

Conclusion

38. I have found that Chevron did fail to comply with a condition of their Facility permit, however they did not contravene section 21 of OGAA as they exercised due diligence to avoid the noncompliance. In addition, I have found the requirements of OGC IL 09-07 were met and Chevron did not fail to ensure adequate provision was made for the management for completion fluid and related substances under section 20 of the DPR. As such, I find Chevron did not contravene OGAA or its regulations.



Lance Ollenberger
Vice President, Operations
BC Oil and Gas Commission

Date: September 14, 2017