

## Decision Summary RA20024

This document summarizes my reasons for issuing Approval RA20024 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA20024. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at [www.nrcb.ca](http://www.nrcb.ca) under Confined Feeding Operations (CFO)/CFO Search. My decision is based on the act and its regulations, the policies of the NRCB, the information contained in the application, and all other materials in the application file.

Under AOPA this type of application requires an approval. For additional information on NRCB permits please refer to [www.nrcb.ca](http://www.nrcb.ca).

### 1. Background

On April 24, 2020, Rob Luymes on behalf of August, Harriet, Robert and Kate Luymes (Rob Luymes) submitted a Part 1 application to the NRCB to expand an existing dairy CFO.

During a site visit, I observed that a maternity barn/calf barn was constructed in approximately 2007-2008, without an NRCB permit. As this is considered unauthorized construction, the NRCB's compliance division was notified. The applicant seeks to permit this facility as part of this application.

The Part 2 application was submitted on August 11, 2020. On November 26, 2020, I deemed the application complete.

The proposed expansion involves:

- Increasing livestock numbers from 70 dairy cows (plus dries and replacements) to 180 dairy cows (plus dries and replacements)
- Increasing livestock numbers from 25 beef feeders to 30 beef feeders
- Constructing a liquid manure storage facility (5.6 m high, and 29.0 m in diameter)
- Expanding an existing dairy barn (from 17.1 m x 54.9 m to 29.9 m x 71.9 m)
- Decommissioning the existing earthen manure storage facility
- Permitting the existing maternity barn/calf barn (61 m x 18.3 m)
- The applicant also requested a variance under section 17 of AOPA of the prohibition against manure storage facilities and manure collection areas less than 100 metres away from water wells/springs or 30 metres away from common bodies of water. That variance request is discussed in Appendix F and section 6, below.

#### a. Location

The existing CFO is located at NE 16-41-27 W4M in Lacombe County, roughly 7 km northwest of Lacombe, Alberta. The terrain of the site slopes to the west. Several gravel extraction sites exist in close proximity to the CFO, with the closest located approximately 50 m south of a manure storage facility. A moderate cliff separates the CFO to the closest gravel site. As a result of the gravel extraction, groundwater is exposed.

#### b. Existing permits

As the CFO existed on January 1, 2002, the CFO is grandfathered with a deemed registration

under section 18.1 of AOPA. This deemed registration allows for the construction and operation of a 70 dairy cow (plus dries and replacements) and 25 beef feeder CFO. The determination of the CFO's deemed permit status under section 18.1 of AOPA is explained in Appendix H attached. The deemed facilities are listed in the appendix to the Approval RA20024.

## **2. Notices to affected parties**

Under section 19 of AOPA, the NRCB notifies (or directs the applicant to notify) all parties that are "affected" by an approval application. Section 5 of AOPA's Part 2 Matters Regulation defines "affected parties" as:

- In the case where part of a CFO is located, or is to be located, within 100 m of a bank of a river, stream or canal, a person or municipality entitled to divert water from that body within 10 miles downstream
- the municipality where the CFO is located or is to be located
- any other municipality whose boundary is within a specified distance from the CFO, depending on the size of the CFO
- all persons who own or reside on land within a specified distance from the CFO, depending on the size of the CFO

For the size of this CFO the specified distance is 0.5 miles. (The NRCB refers to this distance as the "affected party radius.")

A copy of the application was sent to Lacombe County, which is the municipality where the CFO is located.

The NRCB gave notice of the application by public advertisement in the Lacombe Express on November 26, 2020. The full application was posted on the NRCB website for public viewing. As a courtesy, fourteen letters were sent to people identified by Lacombe County as owning or residing on land within the affected party radius.

## **3. Notice to other persons or organizations**

Under section 19 of AOPA, the NRCB may also notify persons and organizations the approval officer considers appropriate. This includes sending applications to referral agencies which have a potential regulatory interest under their respective legislation.

Referral letters and a copy of the complete application were emailed to, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), and Alberta Agriculture and Forestry (AF).

I also sent a copy of the application to ATCO Gas & Pipelines.

I received comments from AHS and AEP. Their comments are addressed in Appendix D, attached.

## **4. Alberta Land Stewardship Act (ALSA) regional plan**

Section 20(10) of AOPA requires that an approval officer must ensure the application complies with any applicable ALSA regional plan.

There is no ALSA regional plan for the area where the CFO is located.

## **5. Municipal Development Plan (MDP) consistency**

I have determined that the proposed expansion is consistent with the land use provisions of Lacombe County's municipal development plan. (See Appendix A for a more detailed discussion of the county's planning requirements.)

## **6. AOPA requirements**

With respect to the technical requirements set out in the regulations, the proposed expansion:

- Meets the required AOPA setbacks from all nearby residences (AOPA setbacks are known as the "minimum distance separation" requirements, or MDS)
- Meets the required AOPA setbacks from springs and common bodies of water
- Has sufficient means to control surface runoff of manure
- Meets AOPA's nutrient management requirements regarding the land application of manure
- Meets AOPA groundwater protection requirements for the design of floors and liners/protective layers of manure storage facilities and manure collection areas

With the terms and conditions summarized in part 12, the application meets all relevant AOPA requirements. The variances and exemptions that are required to address the AOPA requirements around the water well setback are discussed in part 9 and 10 of this decision summary.

## **7. Responses from municipality and other directly affected parties**

Directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions relevant to the application, and are entitled to request an NRCB Board review of the approval officer's decision. Not all affected parties are "directly affected" under AOPA.

Municipalities that are affected parties are identified by the act as "directly affected." Lacombe County is an affected party (and directly affected) because the proposed expansion is located within its boundaries.

Ms. Allison Noonan provided a written response on behalf of Lacombe County. Ms. Noonan stated that the application is consistent with Lacombe County's land use provisions of the municipal development plan. The application's consistency with Lacombe County's municipal development plan is addressed in Appendix A, attached.

Apart from municipalities, any member of the public may request to be considered "directly affected." The NRCB received responses from two individuals.

Of the two people who submitted responses, one owns or resides on land within the 0.5 mile notification radius for affected persons. Because of his location within this radius, and because he submitted a response, he qualifies for directly affected party status. (See NRCB Operational Policy 2016-7: Approvals, part 6.2)

One of the respondents does not own or reside on land within the 0.5 mile radius for affected persons. However, I considered the individual's response to determine if the respondent is directly affected by the application. Appendix B sets out my reasons for determining which

respondents are directly affected.

The directly affected party raised concerns regarding the number of CFOs in the area; presence of water from the gravel pit, area of CFO site, availability of spreading land, previous manure application practices, and presence of garbage. These concerns are addressed in Appendix C.

## **8. Environmental risk of CFO facilities**

As part of my review of this application, I assessed the risk to the environment posed by the CFO's existing manure storage facilities and manure collection areas. I used the NRCB's environmental risk screening tool (ERST) to assist in my assessment of risk to surface water and groundwater (see NRCB Operational Policy 2016-7: Approvals, part 8.13). The tool provides for a numeric scoring of risks, which can fall within a low, moderate, or high risk range. (A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at [www.nrcb.ca](http://www.nrcb.ca).)

For the sake of efficiency, I first assessed the CFO's existing outdoor pens using the ERST. These appear to be the CFO's highest risk facilities, as the liners are not visible for inspection, and the facilities are uncovered (note that the EMS' would typically be considered higher risk facilities; however, since the applicant proposed to decommission them, they were not assessed as part of this application). The assessment found that these facilities pose a low potential risk to groundwater and surface water. Because these are the CFO's highest risk facilities, I presume that the CFO's other existing facilities also pose a low potential risk to both groundwater and surface water. From a review of other information gathered in the course of this application, I am satisfied that the screening provided by the ERST is adequate and that the presumption is not rebutted. A further assessment of the risks posed by these other facilities, using the ERST, is not necessary.

## **9. Variances**

The applicant applied for a variance of the requirement for a water well to be at least 100 m away from a manure storage facility/manure collection area. I determined that the existing dairy barn, which was constructed prior to 2002, is located within the required AOPA setback from two existing water wells. As explained in Appendix F, I am prepared to issue a variance to the 100 metre water well setback due to the wells' construction, and the unlikely risk of manure leaving the barn.

## **10. Exemptions**

I determined that the proposed addition to the dairy barn is located within the required AOPA setback from a water well. As explained in Appendix E, an exemption to the 100 metre water well is warranted due to the wells' construction, and unlikely risk of manure leaving the barn.

## **11. Other factors**

Because the approval application is consistent with the MDP land use provisions, and meets the requirements of AOPA and its regulations, I also considered other factors.

AOPA requires me to consider matters that would normally be considered if a development permit were being issued. The NRCB interprets this to include aspects such as property line and road setbacks related to the site of the CFO. (Grow North, RFR 2011-01 at page 2). Approval

officers are limited to what matters they can consider though as their regulatory authority is limited.

Ms. Allison Noonan also listed the setbacks required by Lacombe County's land use bylaw (LUB) and noted that the application meets these setbacks.

Finally, I considered the effects of the proposed expansion on the environment, the economy, and the community, and the appropriate use of land.

Consistent with NRCB policy (Approvals Policy 8.7.3), I presumed that the effects in the environment are acceptable because the application meets all of AOPA's technical requirements. In my view, this presumption is not rebutted and the directly affected party's concerns have been addressed.

I also presumed that the proposed expansion is an appropriate use of land because the application is consistent with the land use provisions of the municipal development plan (See NRCB Operational Policy 2016-7: Approvals, part 8.7.3.). In my view, this presumption is not rebutted because Lacombe County's response states that the application is consistent with their MDP.

## **12. Terms and conditions**

Approval RA20024 specifies the cumulative permitted livestock capacity as 180 dairy cows (plus associated dries and replacements), and 30 beef feeders. The approval permits the construction of the dairy barn expansion and the concrete liquid manure storage facility, and permits the use of the already constructed maternity/calf barn.

Approval RA20024 contains terms that the NRCB generally includes in all AOPA approvals, including terms stating that the applicant must follow AOPA requirements and must adhere to the project descriptions in their application and accompanying materials.

In addition to the terms described above, Approval RA20024 includes conditions that generally address construction deadlines, document submission and construction inspection, and decommissioning. For an explanation of the reasons for these conditions, see Appendix G.

## **13. Conclusion**

Approval RA20024 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA20024.

Rob Luymes' deemed registration is therefore superseded, and their content consolidated into this Approval RA20024, unless Approval RA20024 is held invalid following a review and decision by the NRCB's board members or by a court, in which case the deemed registration will remain in effect.

February 5, 2021

(Original Signed)  
Lynn Stone  
Approval Officer

## **Appendices:**

- A. Consistency with the municipal development plan
- B. Determining directly affected party status
- C. Concerns raised by directly affected parties
- D. Responses from referral agencies
- E. Exemptions from water well setbacks
- F. Variances
- G. Explanation of conditions in Approval RA20024
- H. Determination of deemed permit status

## **APPENDIX A: Consistency with the municipal development plan**

Under section 20 of AOPA, an approval officer may only approve an application for an approval or amendment of an approval if the approval officer holds the opinion that the application is consistent with the “land use provisions” of the applicable municipal development plan (MDP).

This does not mean consistency with the entire MDP. In general, “land use provisions” cover MDP policies that provide generic directions about the acceptability of various land uses in specific areas.

Rob Luymes’ CFO is located in Lacombe County and is therefore subject to that county’s MDP. Lacombe County adopted the latest revision to this plan on July 9, 2020, under Bylaw #1238/17.

Sections 3.9 of the MDP relate to CFOs. Under section 3.9.1(a), the MDP prohibits “new” CFOs within 1.6 km (one mile) from several areas listed in that section.

Rob Luymes’ CFO is an existing CFO, and therefore it is not subject to these setbacks. Irrespective, the CFO is outside of these 1.6 km setbacks.

Additionally, section 3.9.1 states that “further restrictions on the development of confined feeding operations may apply as directed by an Intermunicipal Development Plan or other local plans approved by Council.” No intermunicipal or local plans apply to Rob Luymes’ CFO.

For these reasons, I conclude that the application is consistent with the land use provisions of Lacombe County’s MDP that I may consider.

In my view, the text of Lacombe County’s MDP also provides a clear intent to adopt land use provisions from the land use bylaw (LUB), in sections 1.3.4 and 3.3. Following the NRCB Operational Policy 2016-7: Approvals, part 8.2.3, I also consider Lacombe County’s Land Use Bylaw #1237/17. Under that bylaw, the subject land is currently zoned Agricultural “A” District. CFOs are not listed as either a permitted or discretionary use within that zoning category. However, section 3.2(2)(j) of the LUB states that CFOs do not require a development permit. I interpret this provision as meaning either that the county intended CFOs to have the same effective status as listed permitted uses, or that the county simply does not intend to address CFOs in its LUB (given that the NRCB’s permitting role since AOPA came into effect in 2002). In its response to this application, the county stated that the CFO is a permitted use, which is consistent with the first of these two interpretations. Under either interpretation, the CFO is not inconsistent with the LUB.

## APPENDIX B: Determining directly affected party status

Mr. Don Meindersma (SE 16-41-27 W4M) qualifies for directly affected party status because he submitted a response to the application and he owns or resides on land within the “affected party radius,” as specified in section 5(c) of the Agricultural Operation, Part 2 Matters Regulation (see NRCB Operational Policy 2016:7 – Approvals, part 6.2).

A person who is not specified in section 5 of the Part 2 Matters Regulation as an affected party can also qualify for directly affected party status. However, they have the burden to demonstrate they are directly affected by the application. Ms. Joan Olafson (NW 10-41-27 W4M) submitted a response to the application, and may fall under this category.

Under NRCB policy, a person has the burden of demonstrating that they are directly affected by an application. In order to meet their burden of proof, the person has to demonstrate all the following five elements (see NRCB Operational Policy 2016:7 – Approvals, part 6.3):

1. A plausible chain of causality exists between the proposed project and the effect asserted;
2. The effect would probably occur;
3. The effect could reasonably be expected to impact the party;
4. The effect would not be trivial; and
5. The effect falls within the NRCB regulatory mandate under AOPA.

Using these factors, I conclude that Ms. Olafson has not met the burden of proof to become a directly affected party. Her response included several general concerns: the number of CFOs in the area, fresh water supply, and nuisances.

The NRCB’s Board has directed approval officers to ignore the cumulative effects of proposed developments together with those of other existing CFOs in the area. In a 2011 decision, the board stated that the issue of cumulative effects is “not within the Board’s regulatory mandate. As a statutory decision maker, the Board takes its direction from the authorizing legislation. AOPA does not provide for cumulative effects assessment.” (*Zealand Farms*, RFR 2011-02 at 5). As this concern does not fall under AOPA, I conclude that it does not provide sufficient proof for Ms. Olafson to be a directly affected party.

Ms. Olafson’s response discusses a general concern if the dairy operation will have access to sufficient water due to nearby industrial activities. She also commented that these industrial activities also have nuisance factors (noise, dust, fumes) that compound with a dairy site. Ms. Olafson does not describe any specific effects that she would experience as a result of the proposed expansion. Without any stated effects, I am unable to assess the likelihood of the effects occurring, how they may impact Ms. Olafson, and if the effects would be more than trivial. Therefore, I conclude that this stated concern does not provide sufficient proof for Ms. Olafson to be a directly affected party.

In summary, I have determined that Mr. Meindersma is a directly affected party, and Ms. Olafson is not a directly affected party.

## APPENDIX C: Concerns raised by directly affected party

### Concerns from directly affected party

The directly affected party raised the following concerns:

- High intensity of intensive livestock operations already in the immediate area
- Effects of industrial activity in area
- Close vicinity to open water in adjacent gravel pit
- CFO is on a small parcel of land
- Site is on a gravel seam, currently being mined
- Lack of spreading land
- Past manure spreading practices
- Site garbage/debris
- “Pressure on water”

1. **Amount of CFOs already in the immediate area/industrial activities** – the respondent listed several beef, poultry, and dairy operations in the nearby area. He also describes nearby gravel, gas, and oil activities.

#### Approval officer’s conclusions

AOPA does not expressly authorize approval officers to consider the cumulative effects of proposed developments together with those of other existing CFOs, or other activities in the area. The effects of CFO density in a given area are complex and difficult to assess. The NRCB’s board members have directed approval officers to ignore this factor in their permitting decisions. For example, in a 2011 decision, the board stated that the issue of cumulative effects is “not within the Board’s regulatory mandate. As a statutory decision maker, the Board takes its direction from the authorizing legislation. AOPA does not provide for cumulative effects assessment.” (*Zealand Farms*, RFR 2011-02 at 5). In the absence of statutory guidance and without clear direction from the Board, the NRCB does not have a mandate to set acceptable thresholds for, or to manage, cumulative effects.

2. **Open water in adjacent gravel pit** – the respondent described the open water in an adjacent gravel pit, located less than 100 metres away.

#### Approval officer’s conclusions

During my site visits, I observed the nearby gravel pits. The excavation associated with the extraction of gravel has resulted in exposed groundwater. The exposed groundwater is located approximately 271 m south of the nearest MSF. I have estimated that the elevation difference between the CFO site and the exposed groundwater is 20-25 metres.

During the application process, Approval Officers assess CFO facilities for the potential risks to groundwater and surface water. Exposed groundwater is a unique situation that does not neatly fit as strictly groundwater or surface water. Accordingly, I considered the exposed groundwater to be both groundwater and surface water. This consideration was made to ensure that the most conservative assessment of the potential risks was taken.

My assessment found that all of the existing and proposed CFO facilities pose a low risk to both groundwater and surface water, including the exposed groundwater. A large factor in this assessment is that, with the exception of the outdoor pens, all of the facilities have

concrete liners in indoor facilities. I was able to visually assess these liners and found that they were in acceptable condition. The presence of concrete liners, combined with the nature of being under covered facilities, minimizes the risk of manure flowing either down to groundwater or leaving a facility to reach surface water. The outdoor pens are on the opposite end of the CFO site (north) and as such are farther away from the exposed groundwater. The pens contain solid manure, rather than liquid, and have a combination of concrete and earthen liners. Given the distance and construction of the pens, I determined that they pose a low risk to ground and surface water.

- 3. CFO land parcel size** – the respondent indicated that the CFO site on a 40 acre parcel of land.

**Approval officer's conclusions**

AOPA does not provide any requirements for the amount of land a CFO is developed on.

- 4. CFO is on a gravel seam** – the respondent indicates that the current gravel pit, and future extractions, will put pressure on barn development.

**Approval officer's conclusions**

AOPA does not expressly prohibit CFO sites where gravel seams exist. As stated previously, the new and existing CFO facilities were assessed under the ERST tool. This assessment takes into account the soil lithology, including the gravel seams. The risk assessment found that the facilities pose a low risk to ground and surface water.

AOPA sets out requirements designed to protect both surface water and groundwater. This proposed expansion meets those requirements.

- 5. Lack of spread land/past manure spreading practices** – the respondent raised concern that the applicant uses the same spreading land as nearby dairies. He expressed concerns about the impact of manure, and stated that nitrate levels are elevated in surrounding wells. He also discussed manure application logs for the previous years.

**Approval officer's conclusions**

In response to the claims, the applicant submitted a written statement to me to better explain their manure management practices.

In his response, Mr. Luymes states that the other 50-cow dairy nearby is owned by a family member. The two farms work together for manure application, and nutrient management. As such, Mr. Luymes has access to his land (as listed in the Technical Document RA20024), as well as the land of the associated farm. He also has access to additional rented land that was not included in the application.

Mr. Luymes detailed their manure management practices including soil testing, application rates, incorporation methods, and agronomy practices. I find that the applicant's manure practices are appropriate, and that it is reasonable that two related CFOs would work together. Mr. Luymes has also met AOPA's manure spreading land access requirements for this application.

There is no requirement under AOPA that land is limited to only receive manure from one specific CFO site. AOPA does; however; include limits regarding the nutrient loading on land used for manure spreading. It also requires that land used for manure spreading is tested

regularly and that records are maintained. The applicant has been made aware of these requirements. If a member of the public has concerns regarding a CFO, including spreading activity and nutrient lands, they may contact the NRCB through its toll free response line (1-866-383-6722). An NRCB inspector will follow up on the concern.

The respondent claims that nitrate levels are elevated in surrounding wells. Based on this limited information, I am unable to further assess this. However, anyone who has concerns about their water wells should discuss this further with Alberta Health Services, Environmental Public Health. AHS will test drinking water to ensure that it is safe for human consumption. AHS-Environmental Public Health can be reached at 1-833-415-9179.

- 6. Site debris** – the respondent indicated that plastic, feed bags, and other debris has ended out in nearby fields

**Approval officer's conclusions**

The presence of garbage in adjacent fields is outside of the NRCB's mandate. However, the NRCB encourages that any issues that may arise can be resolved through good communication between neighbours and the CFO operator. However, if a member of the public has concerns regarding a CFO, including whether or not the operation is complying with AOPA, they may contact the NRCB through its toll free response line (1-866-383-6722). An NRCB inspector will follow up on the concern, or may direct the caller to the appropriate agency.

- 7. Pressure on water** – the respondent indicated that the CFO expansion would increase pressure on the area's water. I understood this to mean that the respondent was concerned about sufficient groundwater supply.

**Approval officer's conclusions**

Alberta Environment and Parks (AEP) is responsible for licensing the use of groundwater and surface water in the province. The water licensing process includes an opportunity for neighbours to provide input. Therefore, for efficiency and to avoid inconsistent regulation, NRCB approval officers generally do not consider water supply concerns when reviewing AOPA permit applications, other than ensuring that applicants sign one of the water licensing declarations listed in the Part 2 application form. This declaration is in Technical Document RA20024. In this case, the applicant signed a declaration indicating that he was uncertain if additional licensing was required, but he assumed the risk of ensuring that he had access to sufficient licensed water for the CFO.

As part of this application process, AEP received a copy of this application. A senior water administration officer with AEP responded to our letter. She indicated that additional water licensing is required for this CFO. The applicant is reminded that they must abide by these requirements.

A copy of this decision will be forwarded to AEP for its information.

## **APPENDIX D: Responses from referral agencies and right of way holders**

### **a. Alberta Health Services (AHS)**

In their response, an AHS public health officer stated that the AHS has no objections to the application.

### **b. Alberta Environment and Parks (AEP)**

In their response, an AEP water administration officer stated that additional water licensing is required. The response also stated that the applicant needed to ensure that water wells are constructed to a licensable standard. The response provided a number of links to assist the applicant in obtaining adequate licensing. The applicant is reminded that they are required to abide by these regulations.

No responses were received from AF, or the right of way holder.

## APPENDIX E: Exemptions from wells setbacks

### Water Well Considerations

The proposed dairy barn expansion is to be located less than 100 m from two water wells. I have confirmed that water well ID 274582 and ID 274579 are located approximately 17 m and 66 m respectively, from it during a site visit. This is in conflict with the section 7(1)(b) of the *Standards and Administration Regulation* (SAR). Section 7(2) allows for exemptions if, before construction, the applicant can demonstrate that the aquifer into which the water well is drilled is not likely to be contaminated by the manure storage facility (MSF)/manure collection area (MCA), or if required by an approval officer a groundwater monitoring program is implemented.

Under the regulation, one basis for granting an exemption is if the approval officer implements a groundwater monitoring program of the water well(s) in question.

One basis for granting an exemption is if the “aquifer into which the well is drilled is not likely to be contaminated” by the proposed MSF or MCA.

Section 7(2) of the SAR states that the 100 m setback to a water well does not apply if the facility (MSF/MCA) is not likely to contaminate the aquifer into which the water well is drilled and if required by an approval officer, a groundwater monitoring program is implemented.

The potential risks of direct aquifer contamination from the MSF/MCA are presumed to be low if the applicant’s proposed MSF/MCA meets AOPA’s technical requirements to control runoff and leakage. Approval officers also assess whether the water well itself could act as a conduit for aquifer contamination.

In this case, I felt the following factors were relevant to determine the risk of aquifer contamination via each of the water wells:

- a. How the well was constructed
- b. Whether the well is being properly maintained
- c. The distance between the well and the proposed MSF/MCA
- d. Whether the well is up- or down-gradient from the MSF/MCA and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures

Each of the two water wells were evaluated separately for an exemption.

These presumptions and considerations are based on NRCB Operational Policy 2016-7: Approvals, part 8.7.1.

Water well ID 274582:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water well located approximately 17 m E of the dairy barn is likely AEP water well ID #274582. This well is reported to have been installed in 1986 and has a perforated or screened zone from 21.34 m to 60.96 m below ground level across stratigraphy. The well casing extends approximately 3 feet above ground, and has sufficient ground mounding. This well is used for stock purposes. I note that in my conversations with the applicant, the water well is only used presently to

support the barns and pens. The well's log identifies protective layer or layers from ground surface to 18.9 m below ground level. The well has a driven seal from ground surface to 20.73 m below ground level (across the gravel and till layers). The well appeared to be in good condition at the time of my site inspection. The well is of unknown gradient to the CFO and MSF.

Water well ID 274579:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water well located approximately 66 m E of the dairy barn is likely AEP water well ID #274579. This well is reported to have been installed in 1979 and has a perforated or screened zone from 39.62 m to 59.44 m below ground level across stratigraphy. The well casing extends approximately 3 feet above ground, and has sufficient ground mounding. This well is used for domestic and stock purposes. I note that in my conversations with the applicant, the water well is only used presently to support the houses and pens. The well's log identifies protective layer or layers from ground surface to 18.59 m below ground level. The well has a driven seal from ground surface to 21.34 m below ground level (across the gravel layers). The well appeared to be in good condition at the time of my site inspection, and is housed underneath the deck. The well is of unknown gradient to the CFO and MSF.

The NRCB has developed a "water well exemption screening tool," based on the factors listed above, to help approval officers assess the groundwater risks associated with a nearby water well.<sup>1</sup>

In this case, the results of the water well exemption screening tool suggest that an exemption for both wells is likely as seen in Technical Document RA20024.

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1. A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at [www.nrcb.ca](http://www.nrcb.ca).

## APPENDIX F: Variances

The existing dairy barn is located less than 100 m from two water wells. I have confirmed that two water wells are located approximately 17 m and 66 m from it during a site visit. This is in conflict with the section 7(1)(b) of the Standards and Administration Regulation (SAR).

Approval officers must not grant variances or exemptions lightly or in the absence of substantive evidence they will produce equivalent levels of protection (see Decision 03-04, *AAA Cattle Ltd.* p 24).

### Water Well Considerations

On October 14, 2020 the CFO operator requested a variance to the water well setback requirement on the grounds that the barn is constructed with concrete, and that the well is in good repair.

In this case, the facility is grandfathered (deemed to have a permit) but may cause a risk to the environment. I therefore need to either deny the application or alternatively consider if a variance is warranted under AOPA's section 17(1). It is my opinion that considering a variance is appropriate in this case.

As noted above, approval officers must not grant variances lightly or in the absence of substantive evidence. In this case, I have used the same tools that I would normally use to determine if an exemption is warranted. I consider the water well exemption framework as useful for assessing the degree of protection for the water well in relation to a manure storage facility (MSF) / manure collection area (MCA). In this case I presume that the risks of direct aquifer contamination from the MSF/MCA are low if the MSF meets (or otherwise meets) AOPA's technical requirements to control runoff and leakage. However, when determining whether a MSF/MCA that otherwise meets AOPA's technical requirements provides the same or greater protection and safety as provided for by the regulations, I also assess whether water wells themselves could act as conduits for aquifer contamination.

One indicator that a variance provides the same or greater protection and safety is if the aquifer into which the well is drilled is not likely to be contaminated by the proposed MSF or MCA.

The potential risks of direct aquifer contamination from the MSF/MCA are presumed to be low if the applicant's proposed MSF/MCA meets AOPA's technical requirements to control runoff and leakage. Approval officers may also assess whether the water well itself could act as a conduit for aquifer contamination.

In this case, I felt the following factors were relevant to determine the protection of the aquifer in relation to the water well (delete factors if not applicable):

- a. How the well was constructed
- b. Whether the well is being properly maintained
- c. The distance between the well and the proposed MSF/MCA
- d. Whether the well is up- or down-gradient from the MSF/MCA and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures

Each of the two water wells were evaluated separately for a variance.

Water well ID #274582:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water well located approximately 17 m E of the dairy barn is likely AEP water well ID #274582. This well is reported to have been installed in 1986 and has a perforated or screened zone from 21.34 m to 60.96 m below ground level across stratigraphy. The well casing extends approximately 3 feet above ground, and has sufficient ground mounding. This well is used for stock purposes. I note that in my conversations with the applicant, the water well is only used presently to support the barns and pens. The well's log identifies protective layer or layers from ground surface to 18.9 m below ground level. The well has a driven seal from ground surface to 20.73 m below ground level (across the gravel and till layers). The well appeared to be in good condition at the time of my site inspection. The well is of unknown gradient to the CFO and MSF.

Water well ID #274579:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water well located approximately 66 m E of the dairy barn is likely AEP water well ID #274579. This well is reported to have been installed in 1979 and has a perforated or screened zone from 39.62 m to 59.44 m below ground level across stratigraphy. The well casing extends approximately 3 feet above ground, and has sufficient ground mounding. This well is used for domestic and stock purposes. I note that in my conversations with the applicant, the water well is only used presently to support the houses and pens. The well's log identifies protective layer or layers from ground surface to 18.59 m below ground level. The well has a driven seal from ground surface to 21.34 m below ground level (across the gravel layers). The well appeared to be in good condition at the time of my site inspection, and is housed underneath the deck. The well is of unknown gradient to the CFO and MSF.

The NRCB has developed a "water well exemption screening tool," based on the factors listed above, to help approval officers assess the groundwater risks associated with a nearby water well<sup>2</sup>. This tool is useful in gauging the level of protection of groundwater.

Because we use the water well exemption screening tool to determine if a water well is going to be impacted when an exemption is considered. The water well exemption screening tool indicates that there is a low potential for groundwater to be impacted by the MSF/MCA. It is my opinion that in this case, the water well provides an equivalent level of protection if an exemption was considered.

Based on the above information it is my assessment that varying the 100 m setback rule for the dairy barn would offer the same degree of protection and safety as that provided for by the regulations for the following reasons:

1. The barn is under cover; as such, it is extremely unlikely that run off would leave the facility
2. The barn is constructed of concrete, a high quality liner. A site inspection determined

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2. A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at [www.nrcb.ca](http://www.nrcb.ca).

- that the liner was in suitable condition.
3. Both wells have sufficient above ground casings, and are well mounded and in good condition
  4. Both wells have driven seals from surface to approximately 20 m below grade.

Based on the above, I am prepared to grant a variance to the 100 m water well setback requirement for the existing dairy barn.

## **APPENDIX G: Explanation of conditions in Approval RA20024**

Approval RA20024 includes several conditions, discussed below:

### **a. Construction Deadline**

Rob Luymes proposes to complete construction of the proposed dairy barn expansion and new concrete liquid manure storage tank by an unstated time in 2022. In my opinion, providing two full construction seasons is reasonable for the proposed scope of work. The deadline of November 30, 2022 is included as a condition in Approval RA20024.

### **b. Post-construction inspection and review**

The NRCB's general practice is to include conditions in new or amended permits to ensure that the new or expanded facilities are constructed according to the required design specifications. Accordingly, Approval RA20024 includes conditions requiring:

- a. the concrete used to construct the liner of the manure collection and storage portion of the dairy barn expansion to meet the specification for category B (liquid manure shallow pits), and category C (solid manure – wet) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”
- b. Rob Luymes to provide documentation to confirm the specifications of the concrete used to construct the manure storage and collection portions of the dairy barn expansion.
- c. a completion report, stamped by a professional engineer, certifying that the manure storage and collection portions of the concrete liquid manure storage facility have been constructed in accordance with the proposed design. At a minimum the report must confirm that the facility is constructed in the approved location; the dimensions of the tank; depth below ground; the specifications of the concrete used; the thickness of the concrete walls and slabs; the type of water stop; and, the size and spacing of reinforcement.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, and to reduce risk to the operator, these inspections must occur before livestock or manure are placed in the newly constructed facilities. Approval RA20024 includes a condition stating that Rob Luymes shall not place livestock or manure in the manure storage or collection portions of the dairy barn expansion, or manure in the concrete liquid manure storage facility until NRCB personnel have inspected the barn expansion and concrete liquid manure storage facility, and confirmed in writing that they meet the approval requirements.

### **c. Decommissioning of existing EMS**

The applicant has proposed to decommission the existing EMS. The EMS must be decommissioned within 1 year of the completion of the concrete liquid manure storage facility, and must be done in accordance with Technical Guideline Agdex 096-90 “Closure of Manure Storage Facilities and Manure Collection Areas”.

## APPENDIX H: Determination of deemed permit status

Rob Luymes claims that its CFO is grandfathered (that is, it has a “deemed” permit) under section 18.1 of AOPA. I am treating that as a request for a determination of deemed permit status. Under section 11(1) of the Administrative Procedures Regulation under AOPA, because I am cross-appointed as an NRCB inspector, I conducted an investigation into the deemed permit status of the CFO/MSF.

The investigation was to determine the capacity of the CFO that was in place on January 1, 2002.

The CFO is not covered by a municipal development permit (or permit issued under the *Public Health Act*) issued before AOPA came into effect on January 1, 2002. However, under section 18.1(1)(a) of AOPA, the CFO may still hold a deemed permit if:

- a. the CFO “existed” on January 1, 2002; and,
- b. the CFO facilities were at a size that was at or greater than the permit threshold sizes under AOPA. (See NRCB Operational Policy 2016-6: *Public Notice on Grandfathering Decisions*, part 1.)

To determine whether the CFO meets these two criteria, the NRCB must consider, among other things:

- a. What facilities existed at the site on January 1, 2002, including their dimensions, types of physical structures and other physical characteristics
- b. How each of those facilities was being used on January 1, 2002

I found that the livestock type and capacity of the structures could reliably be determined by viewing historical aerial photos and records of the owner or operator. However, since notice was already being provided for the proposed expansion, I included a grandfathering determination in the scope of this application. As noted previously in this summary, notice was provided to Lacombe County, referral agencies, neighbours in a 0.5 mile radius, and was placed in the Lacombe Express newspaper on November 26, 2020.

I did not receive any submissions relating to grandfathering.

During a site visit, I observed that a maternity barn/calf barn was constructed after 2002, and did not have an NRCB permit. This is considered unauthorized construction. The applicant chose to permit that facility in conjunction with this application. He has since provided written documentation from a third party as evidence that the concrete liner meets AOPA requirements.

Under section 18.1(2)(a) of AOPA, if a CFO existed on January 1, 2002, the CFO’s deemed capacity is its physical capacity to confine livestock on January 1, 2002.

Based on these findings, the CFO is considered to have a deemed registration and a deemed capacity of 70 dairy cows (plus dries and replacements) and 25 beef feeders.