

Decision Summary RA20043

This document summarizes my reasons for issuing Approval RA20043 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA20043. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at 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.

1. Background

On September 10, 2020, Lucky Hill Dairy Ltd. (Lucky Hill) submitted a Part 1 application to the NRCB to expand an existing dairy CFO. The Part 2 application was submitted on September 10, 2020. On September 24, 2020, I deemed the application complete.

The proposed CFO expansion involves:

- Increasing livestock numbers from 220 to 350 milking cows (plus associated dries and replacements)
- Constructing a cow barn (121.9 m x 32.9 m)
- Constructing a liquid manure storage concrete tank (diameter of 48.8 m x 4.3 m deep)

Under AOPA, this type of application requires an approval. (This is one of several types of “permits” issued under AOPA. For an explanation of the different types and when each one applies, see www.nrcb.ca.)

a. Location

The existing CFO is located at SE 14-40-28 W4 in Lacombe County, roughly 10 km southwest of the City of Lacombe. The terrain is slightly undulating with a general slope to the northwest towards Gull Lake located more than 3 km away.

b. Existing permitted facilities

The CFO is currently permitted under NRCB Approval RA10033M. This approval allows the construction and operation of a dairy CFO with 220 milking cows (plus dries and replacements). The CFO’s existing permitted facilities are listed in an Appendix of Approval RA20043. On April 4, 2017 the NRCB issued Authorization RA17008, which permitted an expansion of the existing dairy barn. This construction has not happened; and therefore, Authorization RA17008 will be cancelled as part of this approval (see details in section 6 and Appendix C).

2. Notices to affected parties

Under section 19 of AOPA, the NRCB is required to notify (or direct 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:

- the municipality where the CFO is 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 individuals who own or reside on land within a specified distance from the CFO, depending on the size of the CFO

For this application, the distance is 1.0 miles. (The NRCB refers to this distance as the “affected party radius.”)

Municipalities that are affected parties are defined by the act to be “directly affected” and are entitled to provide evidence and written submissions. Lacombe County is an affected party (and therefore also a directly affected party) because the proposed CFO expansion is located within its boundaries.

All other parties who receive notice of the application may request to be considered “directly affected.” Under NRCB policy, all individuals who own or reside on land within the affected party radius are presumed to be “directly affected” if they submit a written response to the notice within the prescribed timeline. See NRCB Operational Policy 2016-7: *Approvals*, part 6.2.

Under section 20 of the act, all directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions regarding the application.

All directly affected parties are also entitled to request an NRCB board review of the approval officer’s decision on the approval application.

The NRCB published notice of the application in the Lacombe Express on September 24, 2020 and posted the full application on the NRCB website for public viewing. The NRCB also emailed referral letters and a copy of the complete application to Lacombe County, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), and Alberta Agriculture and Forestry (AF). Forty-nine courtesy letters were sent to people identified by Lacombe County as owning or residing on land within the affected party radius.

3. Responses from the municipality, referral agencies, and other directly affected parties.

I received responses from the county, AHS, AF, and AEP. No responses were received from individuals or other non-government parties.

Ms. Allison Noonan, planning services administrative assistant with Lacombe County, provided a written response on behalf of the county. As noted in section 2, Lacombe County is a directly affected party.

Ms. Noonan stated that the application is consistent with Lacombe County’s municipal development plan (MDP). The application’s consistency with Lacombe County’s MDP is addressed in appendix A, attached.

Ms. Noonan also indicated that the application meets the setbacks required by Lacombe County’s land use bylaw (LUB).

The NRCB also received a response from Ms. Pamela Kutuadu, an AHS environmental health officer/executive officer indicating that AHS has no concerns with this application. Ms. Kutuadu included in her response, that under the *Public Health Act*, it is recommended to test water wells that are used for human consumption twice a year for bacteria.

Ms. Laura Partridge, a senior water administration officer with AEP, sent an email, to the applicant and the NRCB, with information related to water licencing under the *Water Act*. The applicant is reminded that they need to obtain and maintain a water license in accordance with the *Water Act*.

Mr. Tom Pack, an inspector with AF, stated that he has no concerns with this application.

4. Environmental risk screening of existing and proposed facilities

When reviewing a new approval application for an existing CFO, NRCB approval officers normally assess the CFO's existing buildings, structures, and other facilities, using the NRCB's environmental risk screening tool to determine the level of risk they pose to surface water and groundwater. This tool provides for a numeric scoring of risks, which can fall within either 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.) However, if those risks have previously been assessed, the approval officer will not conduct a new assessment unless site changes are identified that require a new assessment, or the assessment was done with a previous version of the risk screening tool and requires updating. See NRCB Operational Policy 2016-7: *Approvals*, part 8.13.

In this case, the risks posed by Lucky Hill's existing CFO facilities were assessed in 2017. According to that assessment, the facilities posed a low risk to surface water and groundwater.

The circumstances have not changed since that assessment was done. As a result, a new assessment of the risks posed by the CFO's existing facilities is not required.

I also assessed the proposed new cow barn and liquid manure storage concrete tank, using the NRCB's risk screening tool, and determined that they pose a low risk to groundwater and surface water.

5. Other factors considered

The application meets all relevant AOPA requirements, with the terms and conditions summarized in part 6.

In addition, the proposed CFO 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.)

With respect to the act's technical requirements, the proposed CFO 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 of manure storage facilities

I also determined that the proposed cow barn is located within the required AOPA setback from

two existing water wells. However, as explained in Appendix B, this barn warrants an exemption from the 100 metre water well setback due to the wells' construction and location upslope from the barn.

Additionally, I assessed the effects of the proposed CFO expansion on the environment. Consistent with NRCB policy, I determined that these effects are acceptable because the application meets all of AOPA's technical requirements. I also determined that the application's effects on the economy and community are acceptable, and that the proposed CFO expansion is an appropriate use of land. Under NRCB policy, these determinations are based on the application's consistency with the municipal development plan. (See NRCB Operational Policy 2016-7: *Approvals*, part 8.7.3.)

6. Terms and conditions

Approval RA20043 specifies the new permitted livestock capacity as 350 milking cows (plus dries and replacements), and permits the construction of the cow barn and the liquid manure storage concrete tank.

Approval RA20043 also 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 RA20043 includes conditions that:

- Set a deadline of November 30, 2023 for the approved construction to be completed
- Require submission of an engineer's completion report for the construction of the liquid manure storage concrete tank
- Require the concrete used to construct the liner of the manure collection and storage portion of the cow barn to meet the specification for category C (solid manure – wet) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas"
- Require written confirmation from a qualified third party that the concrete used for the manure collection and storage areas meets the required specifications.
- Prohibit Lucky Hill from placing manure or livestock in the cow barn, or placing manure in the liquid manure storage concrete tank until the facilities have been inspected by the NRCB following their construction

For an explanation of the reasons for these conditions, see Appendix C.

a. Conditions carried forward from previously issued permits

For clarity, and pursuant to NRCB policy, I consolidated the existing Approval RA10033M with Approval RA20043 (see NRCB Operational Policy 2016-7: *Approvals*, part 10.5). Consolidating permits generally involves carrying forward all relevant terms and conditions in the existing permits into the new permit, with any necessary changes or deletions of those terms and conditions, and then cancelling all existing permits once the new permit is issued. This consolidation is carried out under section 23 of AOPA, which enables approval officers to amend AOPA permits on their own motion.

Therefore, in addition to containing the new terms and conditions summarized above, Approval RA20043 includes all existing terms and conditions from Approval RA10033M. Construction conditions that have been met are identified and included in an Appendix to Approval RA20043.

Pursuant to section 29 of AOPA (Permit cancellation), I have determined that Authorization RA17008 should be cancelled and therefore, not consolidated into Approval RA20043. My reasons for cancelling this authorization are provided in Appendix C.

7. Conclusion

Approval RA20043 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA20043.

Approval RA10033M and Authorization RA17008 are therefore cancelled, unless Approval RA20043 is held invalid following a review and decision by the NRCB's board members or by a court, in which case Approval RA10033M will remain in effect.

December 4, 2020

(Original Signed)
Francisco Echegaray, P.Ag.
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Exemptions from water well setbacks and monitoring requirements
- C. Explanation of conditions in Approval RA20043

APPENDIX A: Consistency with the municipal development plan

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

The NRCB interprets the term “land use provisions” as covering MDP policies that provide generic directions about the acceptability of various land uses in specific areas and that do not call for discretionary judgements relating to the acceptability of a given confined feeding operation (CFO) development. (See NRCB Operational Policy 2016-7: *Approvals*, part 8.2.5.) Under this interpretation, the term “land use provisions” also excludes MDP policies that impose procedural requirements. In addition, section 20(1.1) of the act precludes approval officers from considering MDP provisions “respecting tests or conditions related to the construction of or the site” of a CFO or manure storage facility, or regarding the land application of manure. (These types of MDP provisions are commonly referred to as MDP “tests or conditions.”)

Lucky Hill’s 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. As relevant here:

Section 3.3.1 states that “All lands in the County shall be deemed to be agricultural lands unless otherwise designated by the Municipal Development Plan, an approved statutory or non-statutory plan, the Land Use Bylaw, or provincial legislation.”

I consider this section to be a procedural in nature and not a valid land use provision. However, it does provide insight for the interpretation of the remaining portions of the MDP and land use bylaw (LUB).

Section 3.9.1 of the county’s MDP states that the “County shall provide input on applications for confined feeding operations to the Natural Resources Conservation Board (NRCB) under the *Agricultural Operations Practices Act*. The county’s support is subject to the following:

- a) No new confined feeding operation shall be permitted less than 1.6 kilometres (1 mile) from the boundary of:
 - i) a town, village, summer village or hamlet;
 - ii) an area developed or designated for multi-lot residential use; or
 - iii) a provincial or municipal park or recreation area, or other area used or intended to be used for a recreational facility development, except that where provincial regulations require a larger setback distance, that distance shall apply.

Further restriction on the development of confined feeding operations may apply as directed by an Intermunicipal Development Plan or other local plan approved by Council.”

Lucky Hill’s application is for an expansion of an existing CFO; regardless, the CFO is located outside any of these 1.6 km setbacks.

As for section 3.9.1’s reference to intermunicipal development plans (IDP) or other plans approved by the county’s council, this CFO is not located within land identified as part of an IDP or any other plans.

For these reasons, I conclude that the application is consistent with the land use provisions of Lacombe County's MDP. This conclusion is consistent with the county's written response to the application.

In my view, under sections 1.3.4 and 3.3, the MDP clearly intends to incorporate Lacombe County's LUB #1237/17 (see NRCB Operational Policy 2016-7: *Approvals*, part 8.2.3). Accordingly, I considered the LUB.

Under that bylaw, the subject land is currently zoned as 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). Under either interpretation, the proposed CFO does not conflict with the LUB.

APPENDIX B: Exemption from water well setbacks

According to the application, two water wells are located within 100 metres of the proposed cow barn. I have confirmed this information by a site visit and measurement from aerial photography.

Because of this proximity, the applicant's proposed cow barn conflicts with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) within 100 metres of water wells.¹ However, the regulation allows approval officers to grant an exemption from this prohibition. I must therefore consider whether an exemption is appropriate in this instance.

Under the regulation, the test for granting an exemption is whether the "aquifer into which the well is drilled is not likely to be contaminated" by the proposed MSF. (According to the regulation, when granting an exemption, an approval officer may require the applicant to implement a "groundwater monitoring program.")

The regulation also makes it clear that the applicant has the burden of proving that an exemption is warranted.

In considering whether an applicant has met that burden, approval officers presume that the risks of direct aquifer contamination from the MSF are low if the applicant's proposed MSF meets AOPA's technical requirements to control runoff and leakage. However, when determining whether an MSF that meets AOPA's technical requirements should be exempted from the 100 metre water well setback requirement, approval officers also assess whether water wells that are less than 100 metres from the MSF could act as conduits for aquifer contamination.

Approval officers assess the following factors to determine the risk of aquifer contamination via the water well:

- How the well was constructed
- Whether the well is being properly maintained
- The distance between the well and the proposed MSF
- The estimated water well pumping rate
- Whether the well is up- or down-gradient from the MSF and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures

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

In addition, 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 and to decide whether an exemption from the 100 metre setback to a well is warranted.² This tool consists of a two-stage risk screening process; each stage provides a numeric risk "score" based on the information inputted into the tool. The first stage focuses on the well's construction. If the well scores less than 10 at this stage, the tool suggests granting a

¹ Standards and Administration Regulation, Alta. Reg. 267/2001, section 7(1)(b).

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

setback exemption for the subject facility. If the well scores above 28, the tool recommends denying the exemption. Scores between 10 and 28 require applying the second stage of the screening process, which focuses on the gradient and other factors bearing on the risk of manure runoff or leachate reaching the water well. If the risk score at this stage is over 20, the tool suggests denying the setback exemption to the subject well.

The two wells in question (WW ID# 274005 and 274007) are located 60 and 80 m and upslope from the proposed cow barn and the direction of groundwater flow from the MSF is away from the wells.

The total depth of well ID# 274005 is 42.7 metres. The water well drilling report indicates that the well was drilled in 1981, has a driven seal from surface to 27 metres, and the depth to open interval starts at 27.4 metres. Information on the subsurface lithology of the well shows 2.5 metres of clay and 4.8 metres of shale layers covering a sandstone layer.

The total depth of the second water well (ID# 274007) is 45.7 metres. The water well drilling report indicates that the well was drilled in 1987, has a driven seal from surface to 15.6 metres below ground, and the depth to open interval is 33.6 metres. Information on the subsurface lithology of the well shows 6.4 metres of clay covering a sandstone layer.

I identified the uppermost groundwater resource to be at a depth of 9.8 metres.

Water wells ID #s 274005 and 274007 scored 14 and 24, respectively, in the first stage, of the risk screening process describe above. The wells scored 5 each, in the second stage of the risk screening process. Based on these risk scores, an exemption from the 100 metre setback to these wells is warranted.

A groundwater monitoring program is not required.

APPENDIX C: Explanation of conditions in Approval RA20043

Approval RA20043 includes several conditions, discussed below, and carries forward a number of conditions from Approval RA10033M.

1. New conditions in Approval RA20043

a. Construction Deadline

Lucky Hill proposes to complete construction of the proposed new cow barn and liquid manure storage concrete tank by July 1, 2021, less than one construction season after this approval is issued. In my opinion, a construction schedule that allows at least three construction seasons is more practical and realistic for the proposed development. Therefore, a deadline of November 30, 2023 is included as a condition in Approval RA20043.

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 RA20043 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the cow barn to meet the specification for category C (solid manure – wet) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.” Lucky Hill shall provide written confirmation, signed by a qualified third party, that the concrete used for the manure collection and storage area, inside the cow barn, meets the required specifications.
- a completion report, stamped by a professional engineer, certifying that the liquid manure storage concrete tank has been constructed in accordance with the proposed design in the Richards Consulting & Associated Limited report submitted with the application and the site plan provided. At a minimum the report must confirm that the facility is constructed in the approved location; the specifications of the concrete used; the thickness of the concrete walls and slabs; the type of water stop; the size and spacing of reinforcement; and that the leak detection system under the concrete tank has been installed.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, these inspections must occur before livestock or manure are placed in the newly constructed facilities. Approval RA20043 includes conditions stating that Lucky Hill shall not place livestock or manure in the manure storage portions of the new cow barn, or place manure in the liquid manure storage concrete tank until NRCB personnel have inspected these facilities and confirmed in writing that they meet the approval requirements.

2. Permit Cancellation

On April 4, 2017 the NRCB issued Authorization RA17008, which permitted the expansion of the existing dairy barn prior to November 30, 2018. This construction has not happened.

The NRCB's *construction deadline* policy (Operational Policy 2015-1) states that when construction completion deadlines have lapsed, and the permit holders notify the approval officer that they no longer want to construct the facility, then the approval officer should cancel the permit.

As the permit holders have indicated that they are not constructing the expansion under Authorization RA17008, I am cancelling Authorization RA17008 under section 29(1)(a) of AOPA.