

## Decision Summary RA20004

This document summarizes my reasons for issuing Approval RA20004 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA20004. 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.

### 1. Background

On January 22, 2020, the Hutterian Brethren Church of Huxley (Huxley Colony) submitted a Part 1 application to the NRCB to construct a new dairy confined feeding operation (CFO) with 300 milking cows (plus dry cows and replacements). The Part 2 application was submitted on March 2, 2020. On March 11, 2020, I deemed the application complete.

The proposed CFO construction involves:

- Constructing a dairy barn (160 m x 35 m)
- Constructing a calf barn attached to the dairy barn (31.1 m x 29.7 m)
- Constructing a heifer barn (152.4 m x 21.3 m)
- Constructing an earthen liquid manure storage (EMS) (60 m x 60 m x 4.4 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](http://www.nrcb.ca).)

#### a. Location

The proposed CFO is located at NW 20-34-22 W4M in Kneehill County, roughly nine km east of the Town of Huxley, Alberta. The terrain is undulating sloping to the east.

### 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. Kneehill County is an affected party (and

therefore also a directly affected party) because the proposed CFO 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 Three Hills Capital on March 11, 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 Kneehill County, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), Alberta Agriculture and Forestry (AF), , and right of way – Crossroads Gas Co-op, Trident Energy (care of the Alberta Energy Regulator (AER)), and ATCO Electric. Eleven courtesy letters were sent to people identified by Kneehill 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, AEP, AF and AHS. No response was received from Crossroads Gas Co-op, AER, and ATCO Electric.

No responses were received from individuals or other non-government parties.

Ms. Barb Hazelton, the manager of planning and development with Kneehill County, provided a written response on behalf of Kneehill County. As noted in section 2, Kneehill County is a directly affected party.

Ms. Hazelton stated that the county (municipal planning commission) has no concerns with this application. Ms. Hazelton also listed the setbacks required by Kneehill County’s land use bylaw. The application’s consistency with Kneehill County’s municipal development plan (MDP), is addressed in Appendix A.

The NRCB also received a response from Mr. Keith Lee, an AHS executive officer / public health inspector. He had no concerns with the application.

A water administrator technologist at AEP sent an email to the applicant and the NRCB indicating that they need to apply for a water licence under the *Water Act*. The applicant is reminded that they need to obtain a water license in accordance with the *Water Act*, alternatively they need to secure an alternate water source in order to operate the CFO.

An AF inspector indicated that AF has no concerns with the application.

#### **4. Environmental risk screening of proposed facilities**

As part of my review of this application, I assessed the risk to surface water and groundwater posed by the CFO's proposed manure storage facilities. I used the NRCB's environmental risk screening tool for this purpose (see NRCB Operational Policy 2016-7: *Approvals*, part 8.13). The 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](http://www.nrcb.ca).)

My risk assessment found that all of the CFO's proposed facilities 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 is consistent with the land use provisions of Kneehill 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:

- 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 water wells, 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

In addition, I assessed the effects of the proposed CFO 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 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 RA20004 specifies the new permitted livestock capacity as 300 milking cows (plus dry cows and replacements), and permits the construction of a dairy barn with an attached calf barn, a heifer barn, and an EMS.

Approval RA20004 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 RA20004 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 EMS
- Require the concrete used to construct the liner of the manure collection and storage portion of the dairy barn to meet the specification for category B (liquid manure shallow pits) and category C (solid manure – wet), and for the attached calf barn and the heifer barn to meet the specification for category D (solid manure – dry) 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 Huxley Colony from placing manure or livestock in the dairy barn, the calf barn and heifer barn, and manure in the EMS, until the facilities have been inspected by the NRCB following their construction
- Require written confirmation from a qualified third party of the distance from the closest manure collection or storage facility to the nearest residence.

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

## 7. Conclusion

Approval RA20004 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA20004.

April 22, 2020

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

## Appendices:

- A. Consistency with the municipal development plan
- B. Explanation of conditions in Approval RA20004

## 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.”)

Huxley Colony’s proposed CFO is located in Kneehill County and is therefore subject to that county’s MDP. Kneehill County adopted the latest revision to this plan on July 18, 2017, under Bylaw #1735.

As relevant here:

Policy 11 of the MDP states that “no new or expansions of existing confined feeding operations (CFOs) will be allowed in the following areas:

- (i) In hazard lands or environmentally sensitive lands as defined by the province,
- (ii) Within 1.6 kilometres (1 mile) of any hamlet or grouped Country Residential development, or
- (iii) Within 1.6 kilometres (1 mile) of an urban fringe area or an Inter-municipal Development Plan boundary

Huxley Colony’s proposed CFO is not located within any of these setbacks or exclusion zones.

For these reasons, I conclude that the application is consistent with the land use provisions of Kneehill County’s MDP. The county’s response supports my conclusion.

In my view, under the sections for Agriculture, and for Plan Implementation and Monitoring, the MDP clearly intends to incorporate Kneehill County’s Land Use Bylaw (LUB) #1773 (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 agriculture district. CFOs are not specifically listed within the land use bylaw as permitted or discretionary use. Ordinarily, a land use that is not listed as either permitted or discretionary in a district is meant to be prohibited in that district. However, I interpret this omission of CFOs as reflecting the county’s intent not to address CFOs in its LUB (given the NRCB’s permitting role since AOPA came into effect in 2002).

For these reasons, I conclude that the proposed CFO is not inconsistent with the LUB.

## APPENDIX B: Explanation of conditions in Approval RA20004

Approval RA20004 includes several conditions, discussed below:

### a. Groundwater protection requirements

Huxley Colony proposes to provide groundwater protection from their EMS using a naturally occurring protective layer. Section 9 of AOPA's Standards and Administration Regulation specifies a maximum hydraulic conductivity for this type of protective layer in order to minimize leakage.

Huxley Colony measured the hydraulic conductivity of the proposed protective layer by removing a relatively undisturbed soil sample during borehole drilling (using a Shelby tube) and testing the hydraulic conductivity of that sample in a lab.

Lab measurements of hydraulic conductivity are made in a precisely controlled setting and are typically based on a small soil sample. Therefore, the NRCB generally multiplies lab-measured hydraulic conductivity values by a factor of 10 to reflect the potential variability in actual protective layer materials and conditions that can reasonably be expected to be achieved in the field.

Example: Hydraulic conductivity = k  
Lab k =  $1 \times 10^{-9}$  cm/sec  
Expected field k =  $10 \times (1 \times 10^{-9}$  cm/sec) =  $1 \times 10^{-8}$  cm/sec

The regulations provide that the actual hydraulic conductivity of a 10 metre thick naturally occurring protective layer must not be more than  $1 \times 10^{-6}$  cm/sec.

In this case, the lab measurement for hydraulic conductivity was  $1.67 \times 10^{-8}$  cm/sec. With the required ten-fold modification, the expected field value is  $1.67 \times 10^{-7}$  cm/sec. This expected value is below the maximum value in the regulations. Therefore, the proposed layer meets the hydraulic conductivity requirement as set out in the regulations.

To provide additional assurance that the as-built EMS adequately protects groundwater, Approval RA20004 includes a condition requiring Huxley Colony to provide an engineer's completion report certifying that the EMS was constructed according to the proposed procedures and design specifications.

### b. Construction Deadline

Huxley Colony proposes to complete construction of the proposed new dairy facilities by November 30, 2023. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of November 30, 2023 is included as a condition in Approval RA20004.

### c. 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 RA20004 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the dairy barn 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."

- the concrete used to construct the liner of the manure collection and storage portion of the calf barn and the heifer barn to meet the specification for category D (solid manure – dry) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”
- Huxley Colony to provide written confirmation, signed by a qualified third party, that the concrete used for the manure collection and storage areas meet the required specifications.

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 RA20004 includes conditions stating that Huxley Colony shall not place livestock or manure in the manure storage portions of the new dairy barn, the attached calf barn and the heifer barn, and manure in the newly constructed EMS, until NRCB personnel have inspected them and confirmed in writing that they meet the approval requirements.

**d. Distance to neighboring residences**

Huxley Colony is constructing a new CFO on a piece of land that has no constructed buildings. In order to ensure that the colony builds the CFO facilities while maintaining the distance to neighboring residences, a condition will be included in the approval requiring Huxley Colony to provide documentation, from a qualified third party, of the distance from the closest manure collection or storage facility to the nearest neighbouring residence.