Evaluation Report Checklist – DRAFT

5/13/2022

Wisconsin DNR CAFO Engineering Program

The purpose of this document is to provide a checklist to assist in creating an evaluation report which demonstrates compliance with the evaluation requirements of s. NR 243.16, Wis. Adm. Code, and to streamline evaluation reviews. Using this checklist is not required; however, it provides items the reviewing CAFO engineer may use to assist in confirming or verifying the conclusions presented within evaluation report. This checklist is unnecessary to be submitted along with the evaluation.

Summary of Evaluation Report Requirements

In accordance with s. 243.16(1), Wis. Adm. Code, when submitting an evaluation for an existing reviewable facility or system, the evaluation shall include, at a minimum, the following information:

(a) A narrative providing general background and operational information on existing facilities and systems.

(b) Available post-construction documentation, including the date and materials of construction.

(c) For facilities or systems that are part of the production area, an assessment of the ability of the facility or system to meet the production area requirements in s. NR 243.13, the adequate storage requirement under s. NR 243.14 (9), and accepted management practices.

(d) An assessment of the ability of the facility or system to meet the applicable design requirements identified in s. NR 243.15.

(e) Any proposed actions to address issues identified as part of the evaluation.

An evaluation does not receive an approval or rejection. The evaluation assesses if the reviewable facility meets applicable ch. NR 243, Wis. Adm. Code requirements. The Department's review is to confirm or verify the conclusions made within the evaluation report based on the justifications provided.

The evaluation must be submitted or resubmitted in its entirety via the DNR's e-Permitting system at http://dnr.wi.gov/permits/water/. Questions concerning evaluations may be directed to:

Jeff Kreider (Jeff.Kreider@wisconsin.gov or 608-212-6547)

Bernie Michaud (Bernard.Michaud@wisconsin.gov or 608-512-2065).

Questions concerning timelines and permit issues are to be directed to the DNR CAFO Specialist responsible for the farm being evaluated. If reviewable storage facilities being evaluated are not empty, contact the DNR CAFO Specialist concerning how to move forward with the evaluation.

Checklist

Overall

- ☐ Provide a list of reviewable facilities being evaluated.
- ☐ Identify which of these reviewable facilities are being evaluated due to the permit schedule or enforcement action.
- ☐ If this is a revised evaluation, provide a cover letter that specifies which sections were revised. If all sections were updated, state that.
- ☐ For reviewable facilities that were constructed according to an NRCS Standard, provide the NRCS Standard and date for those facilities.
- ☐ Provide a site map(s) with all reviewable facilities labeled.
- ☐ Provide a map of the production area with 250-foot radius circles for each well.
- ☐ Provide background and operational information for each reviewable facility. How do the reviewable facilities function within the farm's operation? An operation and maintenance (O&M) plan may be used so long as it contains the necessary information.

- ☐ If available, provide test pits/soil boring logs for facility.
- ☐ Describe the potential for shallow bedrock, shallow groundwater and/or nearby sink holes (or other karst features) for the facilities, both past and present.
- ☐ If available, provide post-construction documents. If there are no post-construction documents or drawings, provide drawings that show the location, and present dimensions such as length, width, depth, bottom and top elevation and side slope, etc.
- ☐ Provide descriptive visual observations made for each reviewable facility.
- ☐ Provide photo documentation to support observations.
- ☐ Provide a conclusion of the assessment of each evaluated facility. Avoid the use of the words like "appear", "assumed", "believed", "extent practicable" or "extent possible" in these conclusions. If used, do so only in the context of a definitively stated evaluation conclusion.
- ☐ Conclusions are to refer to applicable NR 243 chapter, sections, or sub-sections and applicable NRCS Standards with the date of the standard.
- ☐ Provide proposed actions that will bring the reviewable facility into compliance with ch. NR 243. Provide a timeline when each of these actions will be completed.

Waste Storage Ponds

- ☐ Field verify and compare to the post-construction report (if available) and include on drawings.
  - ☐ Top lengths and widths.
  - ☐ Depth or floor elevation. If not a flat concrete floor, measurements are taken from a variety of locations and shown on a drawing or map.
  - ☐ Depth of solids/liquids that cannot be removed. If not a flat geomembrane or concrete floor, measurements are taken from a variety of locations and shown on a drawing or map.
  - ☐ Interior side slopes. Measurements are taken from a variety of locations and shown on a drawing or map.
  - ☐ Embankment width.
- ☐ Depth of liquid manure in each storage pond at time of observation.
- ☐ Note outfall locations and, if not a concrete or geomembrane liner, assess if scour protection is adequate to protect the liner.
- ☐ Provide storage volumes and elevations for the total and Maximum Operating Level (MOL).
- ☐ Provide photo documentation of Margin of Safety (MOS) and (MOL) marker, locations on a drawing, and elevations. If under barn storage, the markers depths start from the bottom of the floor.
- ☐ Provide documentation such as soil investigation logs demonstrating separation distances between the facility's bottom elevation to bedrock and subsurface saturation.
- ☐ Identify and visually verify the type of liner (in-place earth, clay, HDPE, concrete with waterstop, concrete-soil composite) for each waste storage pond.
- ☐ For in-place earth and clay liners, describe the condition of interior embankments and bottom if visible (rutting, channels, erosion, vegetation, etc.) Provide details of observations along with photo documentation.
- ☐ Conduct permeability measurements and verify liner thickness for earthen lined ponds taken at approximately 150-foot intervals around the top perimeter and collected at approximately the bottom of the top one-third of the pond's total depth. For example: a 15' deep pond, samples collected at 5 vertical feet below the top of berm.
- ☐ For concrete liners, describe the condition of the interior embankment and bottom, including cracks, spalling, and condition of joints. Identify the location, extent, and width (e.g., hairline, 1/32, 1/8, etc.) of cracks. Provide details of observations along with photo documentation.

- ☐ For geomembrane liners, describe the condition of the interior embankment and bottom if visible, including cracks, tears, cuts, bubbles, creases, etc. Provide details of observations along with photo documentation.
- ☐ It's strongly recommended to empty the pond to pond's floor to conduct visual observations. This may require a cofferdam on the pond's floor.
- ☐ If the floor cannot be observed and you believe the liner floor meets NRCS 313 and s. NR 243.15(3), provide justifications for your conclusion.
- ☐ Soils analysis providing P200 and PIs if applicable for all liner types except concrete with waterstop.
- ☐ For manure storages constructed after July 1, 2007, assess the design and construction of the facility according to the design requirements of NRCS 313 (12/05) or later version of the standard.
- ☐ If the storage contains at least 10% process wastewater, the storage must also meet ch. NR 213.
  - ☐ Provide test pits for separation requirements, a minimum of 5' below bottom of liner.

Feed Storage and Solids Stacking Areas

- ☐ Field verify the storage's length and width or area.
- ☐ Provide documentation such as soil investigation logs indicating the separation distance between the facility's bottom elevation to bedrock and subsurface saturation.
- ☐ Soils analysis providing P200 and PIs when applicable to soil, clay, and concrete composite liners.
- ☐ Identify and visually verify the type of liner (soil, clay, HDPE, concrete with waterstop, concrete-soil composite) for each feed storage area. This may require cores from within feed storage area.
- ☐ For concrete liners, describe the condition of the surface, including cracks, spalling, and condition of joints. Identify the location, extent, and width (e.g., hairline, 1/32, 1/8, etc.) of cracks. Provide details of observations along with photo documentation.
- ☐ Identify and verify presence and location of drain tiles and whether they are functional. Photo document the outfall if possible.
- ☐ Describe how the production area requirements of NR 243.13 are met. If there is an associated runoff control system, this may also have to be evaluated as described below.
- ☐ If feed bags are utilized.
  - ☐ For haylage, describe the practices to collect leachate, bag maintenance, spilled feed clean-up, etc. along with the O&M plan.
  - ☐ For corn silage bags, the area is treated as if it were a feed pad with a drive over pile or feed bunker.

Production Area Runoff Controls

- ☐ Runoff Control System.
  - ☐ Describe how the system operates.
  - ☐ Provide documentation such as soil investigation logs indicating the separation distance between the facility's bottom elevation to bedrock and subsurface saturation where required by design standards.
  - ☐ Describe the condition of system components, such as flow spreaders, reception tanks, waste transfer pipes, waste transfer channels, and the VTA (concentrated flow paths, burned-out vegetation, grass thickness). Provide photo documentation.
  - ☐ If the system includes a liquid waste storage, provide an assessment of the ability of those components to meet waste storage design requirements, as described above.
  - ☐ If the system includes waste transfer components, provide an assessment of the ability of those components to meet waste transfer design requirements, as described below.
- ☐ If runoff controls provide for containment of a 25-year/24-hour runoff event from the source area, provide documentation that this is achieved.

- ☐ If runoff controls do not provide for containment of a 25-year/24-hour runoff event.
  - ☐ Provide locations and areas of contaminated runoff sources.
  - ☐ Provide runoff/leachate volumes collected.
  - ☐ Provide an analysis of where the uncontained runoff flows to, including uncollected runoff leaving a VTA.
  - ☐ Describe downslope concentrated flow paths including cropped fields, grass waterways, areas with drain tiles, ditches, intermittent streams, perennial streams, ponds, lakes, wetlands, enclosed depressions, sinkholes, other karst features, and areas susceptible to groundwater contamination as defined in s. NR 151, Wis. Adm. Code. Provide air photo/topographic mapping and on the ground photographs.
  - ☐ Provide visual evidence of, or a lack of, channelized flow downslope from the runoff control system, including burned out vegetation and feed and manure debris. Provide photo documentation.
  - ☐ Provide an assessment that the system meets the production area requirements of s. NR 243.13 demonstrating that: the runoff does not cause an exceedance of surface water (including wetlands) or groundwater quality standards, the runoff complies with the livestock performance standards and prohibitions prescribed in ch. NR 151, and no runoff pollutant discharge reaches navigable water during any runoff event.

Waste Transfer Systems

- ☐ Reception Tanks, Catch Basins and Channels.
  - ☐ Describe dimensions and materials of components.
  - ☐ Provide documentation such as soil investigation logs demonstrating the separation distance between the facility's bottom elevation to bedrock and subsurface saturation.
  - ☐ Describe the condition of the concrete, including cracks, spalling, and condition of joints. Identify the location, extent, and width (e.g., hairline, 1/32, 1/8, etc.) of cracks. Clean portions of tanks and channels for visual observations. Provide details of observations along with photo documentation.
- ☐ Pipes
  - ☐ Provide pipe material description, diameter, and approximate length.
  - ☐ Provide pump manufacturer and power where applicable.
  - ☐ Provide locations and condition of valves and other appurtenances.
  - ☐ Where visible, provide photo documentation of pipes, pumps, and valves.
  - ☐ If available, provide calculated operating pressure and pipe pressure rating.
- ☐ Describe the condition of connections within manholes and reception tanks between waste transfer components, including pipe and channel connections into tanks/catch basins. Include observations of potential leakage.
- ☐ For waste transfer systems constructed after July 1, 2007, assess the design and construction of the facility according to the design requirements of NRCS 634 (12/05) or later standard.
- ☐ Portions of a reviewable facility may not be viewable. In these situations, provide a detailed description or drawing that specifies areas not observed.

Days of Storage

Provide the following. This should be a standalone packet that can be updated when changes are made and easily resubmitted when necessary.

- ☐ For each waste storage facility, provide:
  - ☐ The waste storage facility side slope ratios, depth, bottom or top surface areas or the length and width of either the bottom or top.

- ☐ Depth of solids and liquids unable to be removed. This can be zero if all solids and liquids can be removed.

☐ Provide tables and/or spreadsheets that include storage volume calculations and all inputs to the waste storage facilities:
- ☐ Total and Maximum Operating Level (MOL) volumes and MOL depth.
- ☐ Include either:
  - ☐ Manure hauling logs that include <u>five years</u> of documentation from SnapPlus and supporting documentation.

OR

  - ☐ Manure generation, bedding, number of animals for each animal type, the animal type, and wash water.
  - ☐ Area or dimensions of each feed storage area and total tons of feed stored. Also, identify if any runoff flows directly into a waste storage facility.
  - ☐ If there is a first flush collection system, identify the depth of runoff collection provided.
  - ☐ Area or dimensions of each animal/feed lot and stacking pads. Also, identify if any runoff flows directly into a waste storage facility.
  - ☐ Area of aprons, roads, etc. that contribute to runoff that is collected in a liquid manure waste storage pond. Also, identify if any runoff flows directly into a waste storage facility.
  - ☐ Area or dimensions of each liquid manure storage top surface and the net precipitation.

☐ Ensure that the provided calculations include the 25-year / 24-hour storm event on exposed liquid waste storages and all surfaces which have 25-yr runoff collection. This is used in calculating the MOL elevation and volume.

☐ Ensure that days of storage volumes are based on the MOL volume.

☐ Provide the maximum number of animals during any 180-day period.

☐ Process wastewater being stored in process wastewater only waste storage ponds are not included in days of storage calculations. However, this information needs to be included so that the Department knows that this waste is being accounted for.

Waste Storage Markers:

a. A 25-year/24-hour storm event <u>falling onto</u> a waste storage pond is stored above MOL.
b. A 25-year/24-hour storm event <u>falling onto</u> collected runoff areas are stored above MOL.
c. For under barn waste storages without runoff collection, a + b above equals zero. Therefore, the MOL is at the same elevation as the MOS.