



Nebraska Department of Environmental Quality

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WATER

Types of Permits

- NPDES Discharge Permits including Land Application
- NPP Discharge Permits
- NPDES Storm Water Permits
- NDEQ WWTF Construction Permits
- Other



NPDES Discharge Permits

- Required for any direct discharge
 - To waters of the state of Nebraska, or
 - Land application of wastewater
- Federal permit program
- EPA delegates authority to NDEQ
- NDEQ's Title 119 – Rules & Regs for issuance of NPDES permits



NPDES Discharge Permits (cont.)

- **Discharges** regulated include, but are not limited to:
 - **Cooling water**
 - **Reverse Osmosis or softener reject water**
 - **Process wastewaters**
 - **Co-products/off-test material that become wastewater (e.g. thin stillage)**
 - **Cleaning water**
 - **Sanitary Wastewater**
- **For Direct Discharge or land application**

NPDES Discharge Permits (cont)

- Establishes effluent limits
- Effluent limits may be categorical or water quality based (Title 119 or Title 117).
- Categorical limits directly from Title 119 and 40CFR406.
- Water Quality limits designed to maintain beneficial uses assigned to stream segment per surface water quality standards (Title 117).

NPDES Discharge Permits (cont)

- May also include limits on some pollutants necessary to protect ground water per Ground Water Quality Standards (Title 118).
- Requires sampling, testing, reporting, and record keeping.
- Issued for term not to exceed 5 years.
- Must have permit before discharging.
- Can only discharge waste streams identified in NPDES permit.

IMPORTANT NOTE!

- **As per Title 119, COMPLETE applications for an NPDES permit MUST be received 180 days prior to discharge!**
- **There is also a 30 day Public Comment period required prior to issuance.**
- **The NDEQ must review and consider public comments from notice or hearings which may require additional time before issuance**



Nebraska Pretreatment Permit (NPP)

- **Required if discharging to POTW, and you are a significant industrial user (SIU)**
 - 25,000 gallons per day or more flow, or
 - 5% or more of hydraulic capacity of POTW, or
 - 5% or more of organic treatment capacity of POTW.
 - **Falling within a Categorical Pretreatment Std. (Title 119)**
 - **Potential to adversely affect POTW.**
- **Limits are set to protect POTW.**
- **Regulated under NDEQ's Title 119.**



NPDES Construction Storm Water

Permit - 1 acre or more...

- Construction Storm Water Discharge Permit
 - Required for discharge of storm water during plant Construction.
- General Permit.
- Notice of Intent (NOI) required.
 - Requires development of a Storm Water Pollution Prevention Plan.
 - Authorization within 7 days of receipt of NOI.



NPDES Industrial Storm Water Permit



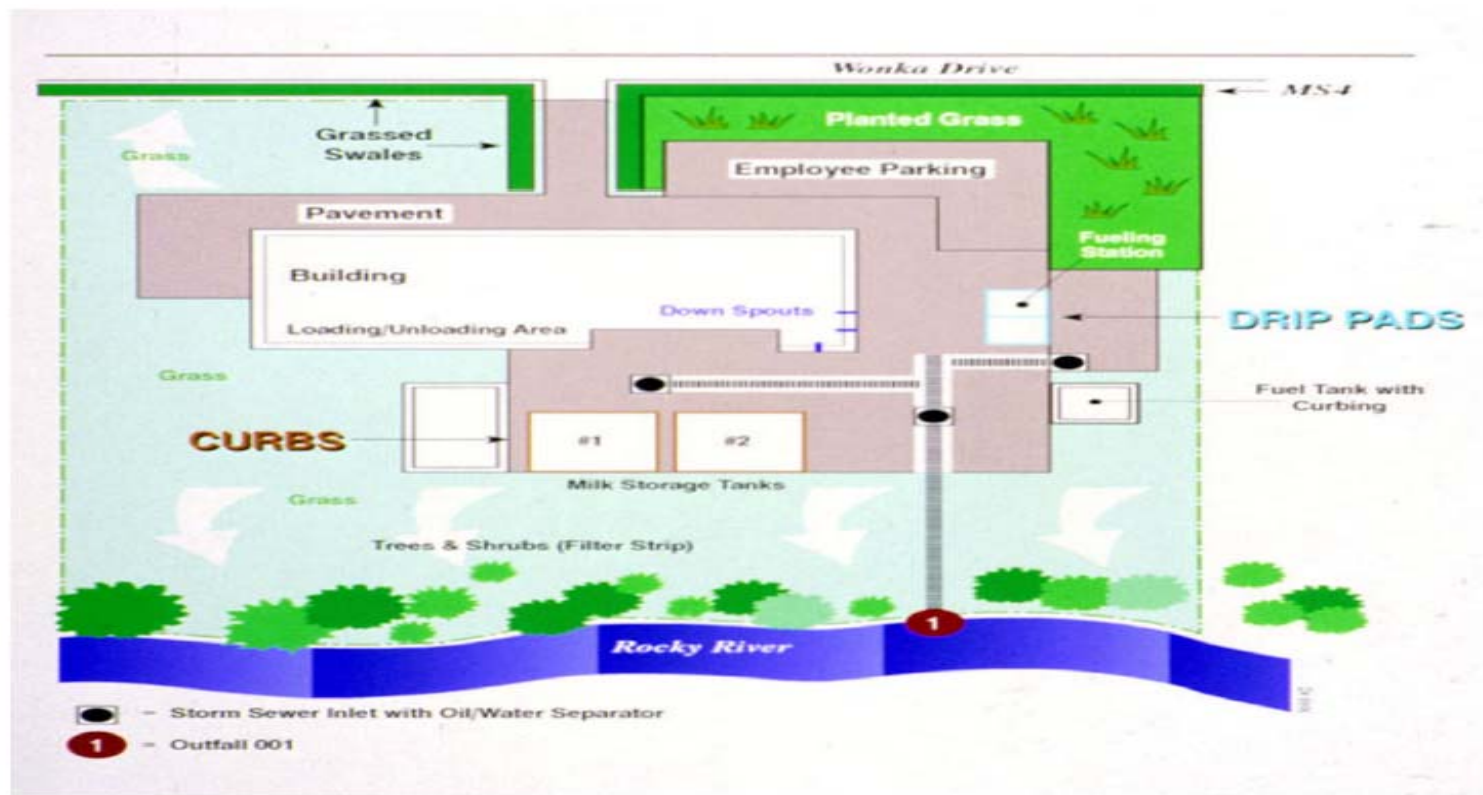
- Industrial Storm Water Discharge Permit
 - Required for discharge of storm water during plant operation.
- General Permit.
- Notice of Intent (NOI) required.
 - Requires development of a Storm Water Pollution Prevention Plan.
 - Authorization usually can be issued within 30 days of receipt of NOI.

NPDES Storm Water Permits (cont.)

NDEQ's Industrial and Construction Storm Water General Permits Require a Storm Water Pollution Prevention Plan including:

1. Facility Map or Diagram
 - Show drainage areas and outfalls
2. Identify Potential Pollutants in each area
3. Pollution Control Strategies or BMPs
 - May be structural or non-structural
4. Spill Prevention Control and Countermeasures
5. Employee Training
7. SWPPP Review and Update

Site Map



Who is Eligible for “No-Exposure” Certification?



- NPDES Phase II added the “No-Exposure Certification” (NEC) option for eligible Industrial operations.
- It is up to the applicant to determine whether their operation does not discharge storm water-borne pollutants from their site.
- In general, completely self-enclosed operations are more likely to get NEC, but by no means guaranteed.

Wet Mill Plants

- Corn processed by wet means into a variety of products including ethanol.
- Products and co-products may include:
 - Sweeteners
 - Starches
 - Plastics
 - Protein
 - Fiber
 - Oils
- More complex wastewater – subject to Wet Milling Subcategory Effluent Guidelines found in 40CFR406.10

Dry Mill Plants (Fuel Ethanol)

- Two differing design concepts
 - Discharge some process wastewaters
 - Biological treatment process required to treat high strength organic waste.
 - Pretreat and send to POTW
 - Treat and discharge to receiving waters
 - “Zero Discharge” plants
 - No process wastewater, but still have wastewater
 - Low organic strength waste
 - Physical and/or chemical treatment may be required
- Subcategory Effluent Guidelines found in 40CFR406.20.

“Zero Discharge” Plants

- Typical Wastewater Sources
 - Cooling water (heat, TRC, TDS)
 - Water treatment byproducts (conductivity/TDS)
 - Reverse osmosis reject
 - Softener backwash
 - Boiler blowdown (heat, TDS)
- Wastewater quality **strongly** dependent on quality of raw source water

“Combination” Plants

- Combine animal feeding operations with ethanol production.
- Waste materials may be subject to regulation under both Title 119 and Title 130 *Rules and Regulations Pertaining to Livestock Waste Control.*



Common Problems

- Lack sufficient time to obtain permits.
- Plant site selection decisions do not include raw water quality or wastewater disposal.
- Lack of planning for abnormal operating conditions, plant upsets, maintenance shutdowns.



Problem Avoidance

- PLAN AHEAD / APPLY FOR PERMITS EARLY!
- Better Planning in Site Selection.
 - Raw water quality affects wastewater quality.
 - Location and waste load capacity of receiving stream.
- Bring in professionals. Hire experienced wastewater consultants.
- Prepare a plant operation plan that includes how to handle abnormal situations.



Other Required Permits

- Wastewater Facility Construction Permit
- Onsite Wastewater Construction and Operating Permits
- Underground Injection Control Authorization or Permit

Wastewater Facility Construction Permit

- Required PRIOR to beginning construction of any Wastewater Works
- Regulated under Title 123.
- Must be designed by Nebraska registered Professional Engineer.
- No fee. No public notice.
- 30-day review period plus additional time if resubmittal is required due to comments.

Wastewater Facility Construction Permit

- Wastewater Works includes items such as:
 - Collection piping.
 - Biological, chemical, or physical treatment processes.
 - Holding tanks and ponds.
 - Pump Stations.
 - Outfall Pipe.
 - Flow monitoring and sampling equipment.

Wastewater Facility Construction Permit

- Complexity of wastewater facilities can be highly variable.
 - Process: Wet mill vs. dry mill.
 - Reuse of process waste streams in plant.
 - Co-located processes.
 - Discharge permit conditions/Receiving environment.
- **Keys to success**: Hire competent, experienced, wastewater engineer, and plan ahead.

Wastewater Operator Certification

- Must have a designated operator.
- Wastewater facility evaluated on point system to determine complexity.
- If point threshold is exceeded, need to have certified operator.
- Operator certification program regulated under NDEQ Title 197.

Onsite Wastewater Construction and Operating Permit

- “Onsite” systems include septic systems, holding tanks, and small lagoons.
- Intended for sanitary (bathroom) wastes.
- Regulated under Title 124.
- “Typical” onsite system can be installed by a Nebraska certified installer under “Authorization by Rule” without a permit.
- All onsite systems must be registered by the certified installer (\$50 fee) after installation.

Onsite Wastewater Construction and Operating Permit

Permit application required when

- Wastewater flow is 1000 gpd or more,
- Any non-domestic wastewater, or
- System can't meet prescriptive requirements in Title 124.

Onsite Wastewater Construction and Operating Permit

- When a construction permit is required, design and application (no fee) must be prepared by a Nebraska Registered Professional Engineer.
- Allow 30-60 days prior to construction.
- No public notice/comment period.
- Operation Manual may be required.
- Operating permit issued after system is registered.
- No fee or expiration date for operating permit.

Underground Injection Control Authorization/Permit

- Required for septic systems if:
 - More than 1,000 gallons per day flow.
 - Serves more than 20 persons per day.
 - Receives any non-domestic wastewater.
- Regulated under Title 122.
- Authorization or Permit?

Underground Injection Control Authorization/Permit

- Authorization.
 - Majority of systems issued authorization.
 - Allow 30-day review period.
 - No Fee. No Public Notice.
- Permit.
 - Required if monitoring is deemed necessary.
 - Allow 60-day review period.
 - \$500 permit fee.
 - Requires public notice.

AIR QUALITY Permitting Programs

- Two Major Permitting Programs
 - Construction Permit Program
 - Operating Permit Program

Permitting Programs

- Construction Permit Program
 - Purpose
 - Criteria

Permitting Programs

- Construction Permit Program, cont.
 - Purpose
 - Allow construction of an emission unit
 - Prevent impacts on the ambient air quality
 - Establish operational requirements
 - Establish enforceable requirements on the emission unit

Permitting Programs

- Construction Permit Program, cont.
 - Criteria
 - Two classifications
 - Federal Sources - Prevention of Significant Deterioration (PSD)
 - State Sources

Permitting Programs

- Construction Permit Program, cont.
 - Criteria
 - Federal Sources - Prevention of Significant Deterioration (PSD)
 - 100 tpy for 28 source categories
 - 250 tpy for all other sources

Permitting Programs

- Construction Permit Program, cont.
 - Criteria
 - State Sources
 - 15 tpy for PM10
 - 40 tpy for SOx, NOx, and VOC
 - 50 tpy for CO
 - 0.6 tpy for lead
 - 2.5 tpy for any single HAP and 10 tpy for all HAPs combined

Permitting Programs

- Construction Permit Program, cont.
 - Emissions thresholds for when screen modeling is required
 - $PM_{10} = 3$ lbs/hr
 - $SO_2 = 9$ lbs/hr
 - $NO_2 = 9$ lbs/hr
 - $CO = 11$ lbs/hr
 - $Pb = 0.1$ lbs/hr

Permitting Programs

- Operating Permit Program
 - Purpose
 - Criteria
 - Types of Permits

Permitting Programs

- Operating Permit Program, cont.
 - PURPOSE
 - “One Stop Shopping”
 - Make compliance determination easier
 - Public awareness

Permitting Programs

- Operating Permit Program, cont.
 - CRITERIA
 - Three permit classifications
 - Class I Permits
 - Class II Permits
 - » Synthetic Minor
 - » Minor
 - Low Emitter
 - Natural Minor (No permit required)

Permitting Programs

- Operating Permit Program, cont.
 - CLASS I PERMITS:
Sources with a Potential-to-Emit (PTE), or actual emissions, that exceed the allowable emissions thresholds
 - 100 tons-per-year (tpy) for any air pollutant except for Hazardous Air Pollutants (HAPs)
 - HAPs - 10 tpy for any one HAP and 25 tpy for any combination of HAPs
 - Lead - 5 tpy

Permitting Programs

- Operating Permit Program, cont.
 - CLASS II PERMITS
 - Synthetic Minors
 - Minors

Permitting Programs

- Operating Permit Program, cont.
 - CLASS II PERMITS
 - Synthetic Minors:
Those sources that meet the Class I thresholds when uncontrolled, but, have taken federally enforceable limits to keep their PTE/actual emissions below the Class I thresholds

Permitting Programs

- Operating Permit Program, cont.
 - CLASS II PERMITS
 - Minors:
Sources with PTE less than the Class I thresholds, but, actual emissions greater than 50 percent of the Class I thresholds

Permitting Programs

- Operating Permit Program, cont.
 - LOW EMITTERS
 - Low Emitter Program
 - Those sources that meet the Class I levels when uncontrolled, but, have actual emissions less than 50 percent of the Class I thresholds

Permitting Programs

- Operating Permit Program, cont.
 - Low Emitter Program
 - Advantages
 - Less recordkeeping - only that needed to demonstrate status
 - No routine reporting - only upon request
 - No operating permit - permit by rule
 - Disadvantages
 - Less flexibility

Permitting Programs

- Operating Permit Program, cont.
 - NATURAL MINORS (No Permit Required)
 - Sources with PTE below Class I thresholds and actual emissions below 50 percent of the Class I thresholds.

Permitting Programs

- Operating Permit Program, cont.

- TYPES OF PERMITS

- General
 - Individual

Permitting Programs

- Operating Permit Program, cont.
 - Types of Permits - General
 - One permit that covers several sources
 - Permit conditions generally the same for all sources covered by the permit
 - Covered sources must meet the applicability criteria for coverage
 - Public notice for the permit, not on a source by source basis
 - Less costly for the Department to process

Permitting Programs

- Operating Permit Program, cont.
 - Types of Permits - Individual
 - Written for a specific source at a specific location
 - Address the needs of the source in question
 - Must go through a 30-day public notice for each permit
 - Longer to process
 - More costly

Other Requirements?

- SARA Title III/Emergency Planning & Community Right to Know Act
- Hazardous Waste Management
- Spill Prevention, Control, and Countermeasures Plan (EPA)
- Risk Management Plan
- Toxic Release Inventory

Contacts:

- NPDES/NPP Permits
 - Donna Garden
 - 402-471-1367
- WWTF Construction Permits
 - Charles Duerschner
 - 402-471-4206
- Hazardous Wastes
 - Jim Harford
 - 402-471-8308
- Onsite Wastewater Permits
 - Gary Buttermore
 - 402-471-8283
- Air Compliance
 - Melissa Ellis
 - 402-471-6624
- Construction Air Permit Hotline
 - 877-834-0474
- Environmental Assistance
 - Hugh Stirts
 - 402-471-8697

NDEQ Web Site

- www.deq.state.ne.us