

Supplement to the Engineering Alternatives Analysis (EAA) Guidance Document for Proposed New Discharges under NPDES General Permit NCG600000 Only

North Carolina Division of Water Resources

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In order for an NPDES application for a new or expanding discharge to be approved, an **Engineering Alternatives Analysis (EAA)** must be included and provide complete justification for the direct discharge to surface waters as the most environmentally sound alternative selected from all reasonably cost-effective options [per 15A NCAC 02H .0105(c)(2)].

The EAA Guidance Document was designed primarily for domestic wastewater discharges. The Division recognizes that wastewater disposal alternatives may be limited for some non-domestic wastewater scenarios, such as Seafood Packing/Rinsing operations and Aquatic Animal Operations, where a full alternatives evaluation may not be warranted.

In order to address this, the Division has prepared this Supplemental Guidance for applicants proposing a new discharge and seeking coverage under the state NPDES General Permit NCG600000. If there is a question as to whether an alternative may be eliminated, contact the NPDES Unit staff.

STEP 1. Please evaluate the following alternatives and include your responses as part of your application.

➤ Connection to Existing Wastewater Treatment System:

- Are there existing sewer lines within a 5-mile radius of your facility that can accept the wastewater?
 - If there is an existing sewer, please provide a letter from the municipal or private wastewater treatment plant (WWTP) stating either their acceptance or denial of the proposed facility's connection to the sewer system.
 - If an existing sewerage system **will accept** the wastewater, evaluate the piping/pumps/resources necessary to connect to the existing wastewater treatment plant and provide the cost estimate.
 - If the existing sewerage system **will NOT** accept the wastewater; OR, if there is not a sewer system within a 5-mile radius of your facility, you can consider this alternative technologically infeasible.

➤ Direct Discharge to Surface Waters:

- Please Note: No new or expanding discharge of oxygen-consuming waste will be allowed to surface waters of North Carolina if both the summer 7Q10 and 30Q2 streamflows are estimated to be zero. [15A NCAC 02B .0206(d)]
- Provide a description of the proposed wastewater treatment facilities, including a diagram of the major components and a cost estimate.
- Provide a map of the facility (site plan) with the outfall clearly marked and the path to the receiving stream.

- Is the discharge outfall located on the facility's property, or will the wastewater discharge flow path enter another landowner's property?
 - If the discharge is on your property, no easement agreements are required.
 - If the discharge crosses onto another landowner's property, you must obtain an easement agreement with the other landowner(s) to ensure there is no issue of hydrologic trespass. This easement agreement must be provided with the application. If an agreement cannot be obtained, then you will need to consider an alternative discharge location.

- The applicant **does not** need to evaluate the following alternatives:
 - Land Application
 - While land application might be a feasible alternative in rural areas, it would not be a feasible alternative in more developed, urban areas where there is no land available for wastewater application. In addition, the wastewater produced from these facilities would be unsuitable for land application due to the volume of discharge from aquatic animal operations, and/or type of wastestream produced. Therefore, the Land Application alternative is considered infeasible, unless the applicant has an extensive property, for proposed dischargers seeking coverage under the NPDES General Permit NCG600000.
 - Wastewater Reuse
 - The design of reclaimed water systems must meet the treatment and design requirements specified in 15A NCAC 02U. The cost of implementing the necessary treatment technology is often cost-prohibitive for these types of facilities, therefore the Wastewater Reuse alternative is considered infeasible for proposed dischargers seeking coverage under the NPDES General Permit NCG600000.

STEP 2. Compare the cost estimated for the two alternatives, Connection to an Existing Wastewater Treatment System and Direct Discharge.

This cost analysis (also known as a Present Value Cost Analysis or PVCA) should include all monetary costs associated with construction, startup, and annual operation and maintenance of a facility. Costs can be summarized in paragraph format or a table. If you need further guidance on how to perform a cost analysis, please see **STEP 4. Evaluate economic feasibility of alternatives** of the main **Engineering Alternatives Analysis (EAA) Guidance Document**, available on the DEQ website at the following link: <https://www.deq.nc.gov/about/divisions/water-resources/water-quality-permitting/npdes-wastewater/permitting-process>