Authorization to Construct Guidance Document
NC DENR – DWQ – Construction Grants And Loans Section

The Authorization to Construct Process

"After an NPDES permit has been issued [by DWQ] ..., construction of wastewater treatment facilities or additions thereto shall not begin until final plans and specifications have been submitted to and an Authorization to Construct has been issued to the permittee…"[1]

Activities Requiring An ATC

- The construction of permitted treatment facilities.
- Any addition, deletion or modification of equipment, components or processes at an existing facility which has the potential to affect the treatment process.
  - Upgrade or Replacement of older equipment with equipment of a different capacity (other than what was originally permitted).
  - Installation of piping which may by-pass equipment, components or processes.

When to Submit

- Not before the establishment of effluent limits or not before a draft permit has been sent to public notice.
- At least 90 days prior to the start of construction or the awarding of any bids[2].
- For Publicly Owned Treatment Works (POTW), prior to exceeding 90% of the system's permitted hydraulic capacity.[3]

What to Submit

In addition to a properly completed application and all applicable information, for any system or component that does not have well-established treatment capabilities: assurance that the facility can comply with permit requirements. Supply performance data or pilot test data if available.

Where to Submit

Submit complete application package to:

NC Division of Water Quality
Construction Grants & Loans Section
1633 Mail Service Center
Raleigh, N.C 27699-1633
Attention: Daniel M. Blaisdell, P.E.

Questions regarding ATCs can be directed to Mr. Daniel M. Blaisdell, P.E., Assistant Chief, Engineering Branch, Construction Grants & Loans Section (919) 715-6211.

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[1] see 15 NCAC 2H .0138 (a).

[2] General Statutes 143-215.1.a.8

[3] see 2H .0223

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Design Requirements

For Treatment Works and Disposal Systems[1]:

- No bypass lines.
- Multiple pumps and blowers.
  - capable of handling flow with largest component out of service.
- Standby Power. At least one of the following:
  - dual source/dual feed or automatically activated stand-by power supply on-site for essential components.
  - history of power reliability (applies only to facilities discharging to Class C waters).
- Protection from 100-year flood.
- Meet all minimum buffer requirements listed in 2H.0219.
- Flow equalization of at least 25% of the permitted hydraulic capacity.
- Preparation of an operational management plan for complex components or unique processes.
- A 110-volt power source and potable water source (with back-flow prevention).
- Provide a minimum of 30 days on-site storage of residuals.

Reliability:

To ensure treatment reliability and flexibility for operational and maintenance activities, all new or hydraulically expanding facilities must meet duality/multiple component requirements for all major treatment components[2]. In addition, the DWQ encourages designing for dual-train treatments of approximately equal flow capability. As an example, the following processes require multiple components:

For primary treatment:
- bar screens for facilities with design flows > 1.0 MGD.
- primary clarifiers.

For biological treatment:
- aeration basins, nitrification basins, SBRs, RBCs, etc.
- extended aeration package plants with design flows >= 0.02 MGD.
- some Oxidation ditches.

For additional treatment:
- final clarifiers and tertiary filters.
- feed equipment for chlorine disinfection and dechlorination.
- contact basins for design flows > 0.1 MGD.
- UV lamp banks.

[1] see 2H .0219 (j) and 2H .0138 (b)

[2] see 2H .0124

Engineer's Certification

- The engineer must oversee construction.
- The engineer must certify that the facilities were constructed as approved by DWQ.
- The certification must be sent to DWQ prior to operation of the new or expanded facilities.
- The region must be notified 48 hours prior to operation of installed facilities.

Major Modifications Require:

- Full re-submittal of Plans and Specifications for review.
- Issuance of a modification of the previously issued ATC.