



## U. S. Army Corps of Engineers Treated Water Disposal Checklist

Installation Name \_\_\_\_\_  
Site Name / I.D. \_\_\_\_\_  
Evaluation Team \_\_\_\_\_  
Site Visit Date \_\_\_\_\_

This checklist is designed to facilitate the evaluation of options for treated water disposal. It is divided into the following sections:

- 1) Evaluation team composition
- 2) Typical treatment objectives
- 3) References
- 4) Data collection requirements
- 5) Adequacy of operations and maintenance
- 6) Alternatives for possible cost savings
- 7) Supplemental notes and data.

The checklist provides suggestions for information gathering, and space has been provided to record data and notes from the site visit. Supplementary notes, if required, should be numbered to correspond to the appropriate checklist sections.

### 1) Evaluation Team Composition

The following disciplines should be included in the evaluation team for treated water disposal.

- Process Engineer (site visit, treatment system evaluation)
- Regulatory Specialist (regulatory requirements)
- Cost Engineer (cost of alternatives)

### 2) Typical Treatment Objectives

Verify that the objectives behind the current method of disposal are clear and still valid.

### 3) References

Coordinate this checklist with the environmental monitoring checklist, and checklists for the applicable treatment processes.

### 4) Data Collection Requirements

Record the following information about the treated water streams being discharged. Record the appropriate units with each value.

a) Sketch process flow diagram (PFD), including valves and instrument locations, on the back of this sheet or on a separate sheet.

b) Record the nameplate information from any mechanical equipment associated with the treated water discharge for future reference. Use additional sheets as necessary.

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c) Discharge requirements

Contaminant	Permitted Limit (specify units)	Sampling Frequency (specify units)

d) How were the discharge requirements derived (e.g., water quality based, technology based, or other)? If not required by permit, how were the discharge limits developed? What parties or individuals were responsible for deriving the limits?

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e) Are the permit discharge requirements typically met? How many exceedances have there been since start-up, and which parameter(s) were exceeded?

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f) Is Whole Effluent Toxicity (WET) testing required? What is the indicator species, and has passing WET testing been a problem?

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### 5) Adequacy of Operations and Maintenance

a) Verify that the discharged effluent is being sampled and analyzed in accordance with the sampling and analysis plan designed to assure compliance with current permits and regulations. Determine if any additional monitoring is needed to assure compliance. Is an increase or decrease in process monitoring (not permit monitoring) appropriate?

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b) Verify that all controls and alarms are working. Are there provisions to notify an operator of a malfunction when the treatment unit is unattended? (e.g., sensors in injection well vaults should be tested to ensure operators are notified if well vaults flood.)

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**6) Alternatives for Possible Cost Savings.**

Other options may be available for disposal of treated water. The following questions may help determine if an alternate method should be used.

**6.1) General Alternatives**

**a)** Compare the existing treatment methods to the alternatives considered in the Feasibility Study (FS), along with any applicable innovative methods, to determine if the existing treatment is still optimal. Are any of the alternative methods more appropriate after considering the economics of the treatment process change?

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**b)** Are there treated water reuse options that have not been previously considered?

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**c)** Consult with hydrogeologists to determine if the groundwater treatment volume can be decreased because of changes in groundwater flows or contaminant concentrations subsequent to treatment startup. *(e.g., perhaps the ground water gradient can be maintained with a smaller flow rate, or the plume is migrating more slowly due to natural attenuation in the aquifer).*

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**d)** If treated water is being injected in the aquifer, determine if any proposed changes in treatment will impact the injection performance.

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**e)** Can the volume of contaminated water being treated be decreased through recycling, or by using partially treated water for some processes? *(If it has not already been implemented, re-use of decontamination water should be considered.)*

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**f)** Can the treated water be surface discharged to a nearby stream, a sanitary sewer, or transported off-site because of changed conditions, such as: decreased flow rates, decreased contaminant concentrations, or changes in the POTW's acceptance criteria? *(An NPDES permit is typically required for release into streams or other surface waters.)*

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**6.2) Surface discharge**

**a)** Does the discharge have a NPDES (or equivalent) discharge permit? Have there been any permit excursions or Notices-of-Violation (NOVs) in the past twelve months?

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b) Are any permit changes anticipated when the permit is renewed ?

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c) Review the current permit to formulate potential changes to request when the permit is renewed by the issuing agency. Determine if a decrease in the parameters monitored or monitoring frequency is appropriate. If toxicity testing is currently required, determine if the test species and the dilution ratio are appropriate.

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**7) Supplemental Notes and Data**

There are \_\_\_\_\_ pages of supplemental notes and data attached to this checklist.