

**R309-500. Facility Design and Operation: Plan Review, Operation and Maintenance Requirements.**

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## **R309-500. Facility Design and Operation: Plan Review, Operation and Maintenance Requirements.**

### ***R309-500-1. Purpose.***

The purpose of this rule is to describe plan review procedures and requirements, clarify projects requiring review, and inspection requirements for drinking water projects. It is intended to be applied in conjunction with rules R309-500 through R309-550. Collectively, these rules govern the design, construction, operation and maintenance of public drinking water system facilities. These rules are intended to assure that such facilities are reliably capable of supplying adequate quantities of water which consistently meet applicable drinking water quality requirements and do not pose a threat to public health.

### ***R309-500-2. Authority.***

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104(1)(a)(ii) of the Utah Code and in accordance with 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

### ***R309-500-3. Definitions.***

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

### ***R309-500-4. General.***

#### **(1) Construction of New Facilities and Modification of Existing Facilities.**

- (a) Plans, specifications, and other data pertinent to new facilities, or existing facilities of public drinking water systems not previously reviewed, shall be submitted to the Director for review for conformance with rules R309-500 through R309-550. All submittals shall be from the public water system or its agent.
- (b) The Director has the authority to grant an exception to R309-500 through R309-550 per R309-105-6(2)(b).
- (c) A public water system may not begin construction of a public drinking water project without Plan Approval unless it meets the requirements of R309-500-7.

(d) A public water system may not begin operation of a drinking water facility without an Operating Permit unless it meets the requirements of R309-500-7.

## **(2) Minimum Quantity and Quality Requirements for Existing Facilities.**

All existing public drinking water systems shall be capable of reliably delivering water that meets current drinking water minimum quantity and quality requirements. The Director may require modification of existing systems in accordance with R309-500 through R309-550 when such modifications are needed to reliably achieve minimum quantity and quality requirements.

## **(3) Operation and Maintenance.**

Public drinking water system facilities shall be operated and maintained in a manner that protects public health. As a minimum, operation and maintenance procedures described in R309-500 through R309-550 shall be met.

### ***R309-500-5. Public Drinking Water Project***

#### **(1) Definition.**

A public drinking water project is any of the following:

- (a) Construction of, addition to, or modification of a public drinking water facility that may affect the quality or quantity of water delivered.
- (b) Any activity that may affect the quality or quantity of water delivered by an existing public drinking water system including:
  - (i) the interior re-coating or re-lining of any raw or drinking water storage tank, or water storage chamber within any treatment facility,
  - (ii) the in-situ re-lining of any pipeline,
  - (iii) a change or addition of a water treatment process,
  - (iv) the re-development of any spring or well source,
  - (v) replacement of a well pump with one of different capacity,
  - (vi) deepening a well,

(vii) well rehabilitation or cleaning using a chemical other than a disinfectant previously approved for drinking water use, and

(viii) replacement of pipeline not due to on-going operation and maintenance.

## **(2) On-going Operation and Maintenance Procedures.**

On-going operation and maintenance procedures are not considered public drinking water projects and, accordingly, are not subject to the project notification, plan approval and operating permit requirements of this rule. However, these activities shall be carried out in accordance with all requirements contained in R309-500 through R309-550 and specifically the design, construction, disinfection, flushing, and bacteriological sampling and testing requirements before the facilities are placed back into service. The following activities are considered to be on-going operation and maintenance procedures:

(a) pipeline leak repair,

(b) replacement of deteriorated pipeline where the new pipeline segment is the same size as the old pipeline or the new segment is upgraded to meet the minimum pipeline sizes required by R309-550-5(4) or larger sizes as determined by a hydraulic analysis in accordance with R309-550-5(3),

(c) tapping existing water mains with corporation stops to make connection to new service laterals to individual structures,

(d) distribution pipeline additions where the pipeline size is the same as the main supplying the addition or the pipeline addition meets the minimum pipeline sizes required by R309-550-5(4) or larger sizes as determined by a hydraulic analysis in accordance with R309-550-5(3), the length is less than 500 feet, and contiguous segments of new pipe total less than 1000 feet in any fiscal year,

(e) entry into a drinking water storage facility for the purposes of inspection, cleaning and maintenance,

(f) replacement of equipment or pipeline appurtenances with the same type, size and rated capacity (fire hydrants, valves, pressure regulators, meters, service laterals, chemical feeders and booster pumps including deep well pumps), and

(g) mechanical well rehabilitation or cleaning using a disinfectant previously approved for drinking water use.

## **R309-500-6. Plan Approval Procedure.**

### **(1) Project Notification.**

The Division shall be notified prior to the construction of any "public drinking water project" as defined in R309-500-5(1) above. The notification may be prior to or simultaneous with submission of construction plans and specifications as required by R309-500-6(2) below. Notification shall be made on a form provided by the Division.

***Guidance: In addition to the Project Notification Form, new public water systems should submit a New Public Water System Supplemental Form to the Director.***

### **(2) Pre-Construction Requirements.**

All of the following shall be accomplished before construction of any public drinking water project begins:

(a) Plans and specifications for a public drinking water project shall be submitted to the Division at least 30 days prior to the date on which Plan Approval is required.

***Guidance: Review of complicated projects, especially water treatment facilities, may require more than 30 days and should be submitted well in advance of the date on which approval is required.***

(b) Required submittals may include engineering reports, hydraulic analyses of the existing system and additions, local requirements for fire flow and duration, proximity of sewers and other utilities, water consumption data, supporting information, evidence of rights-of-way and reference to any previously submitted master plans pertinent to the project, a description of a program for keeping existing water works facilities in operation during construction so as to minimize interruption of service, etc.

(c) Plans and specifications submitted shall be complete and sufficiently detailed for actual construction. Plans and specifications shall also adequately identify and address any conflicts or interferences.

***Guidance: It is recommended that an inspector familiar with these rules be retained to observe all construction.***

(d) Drawings that are illegible or of unusual size will not be accepted for review.

(e) The plans and specifications shall be stamped and signed by a professional engineer licensed by the state of Utah.

(f) If construction or the ordering of substantial equipment has not commenced within one year of Plan Approval, a renewal of the Plan Approval shall be obtained prior to proceeding with construction.

### **(3) Changes to Approved Plans or Specifications.**

(a) Changes to approved plans or specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes, or the quality of water to be delivered, shall be reported to the Division before the start of construction.

(b) The Division may require revised plans and specifications be submitted for review. If required, revised plans or specifications shall be submitted to the Division in time to permit review and approval before the start of construction affected by the changes.

### ***R309-500-7. Approval of Standard Installation Drawings and Specifications for Water Transmission and Distribution Lines.***

(1) A public water system with approved standard installation drawings and specifications may install water transmission and distribution lines up to and including 16 inches in diameter and is not required to:

(a) submit project notification, plans, or specifications or obtain Plan Approval per R309-500-6;

(b) obtain an Operating Permit per R309-500-9; or

(c) submit a certification of hydraulic modeling per R309-511.

(2) To obtain or renew approved standard installation drawings and specifications, a public water system shall submit to the Director:

(a) an application form;

(b) standard installation drawings and specifications meeting the requirements of R309-550 for construction of water transmission and distribution lines;

(c) the name and license number of a professional engineer designated to oversee design of the water system;

(d) the name and license number of a professional engineer designated to oversee hydraulic analysis of the water system; and

- (e) a statement from the designated water system contact acknowledging that:
  - (i) a hydraulic analysis will be completed for each water line project to assure compliance with minimum sizing, pressure, and flow requirements;
  - (ii) flushing, disinfection, and coliform sampling will be completed according to ANSI/AWWA standards for each water line before use; and
  - (iii) as-built or record drawings will be maintained for each water line constructed.

(3) Approved standard installation drawings and specifications are valid for construction of water transmission and distribution lines for the five-year period specified in the approval.

(4) Before or upon the expiration of approved standard installation drawings and specifications, a public water system may submit an application to renew the approval.

(5) A public water system that installs water transmission and distribution lines with approved standard installation drawings and specifications shall:

- (a) construct each water line according to plans and specifications stamped and signed by a professional engineer licensed by the state of Utah;
- (b) notify the Director of a change in approved standard installation drawings and specifications, a change in the designated water system contact, or a change in the designated professional engineer for system design or hydraulic analysis;
- (c) obtain Plan Approval for each booster pump installed as part of a water line; and
- (d) obtain an exception prior to construction for any requirement in R309-500 through R309-550 that cannot be met.

### ***R309-500-8. Inspection during Construction.***

Staff from the Division, the Department of Environmental Quality, or the local health department, after reasonable notice and presentation of credentials, may make visits to the work site to assure compliance with these rules.

### ***R309-500-9. Operating Permit.***

- (1) The Division shall be informed when a public drinking water project, or a well-defined phase thereof, is at or near completion.
- (2) The new or modified facility shall not be placed into service until an Operating Permit is issued by the Director unless it meets the requirements of R309-500-7.
- (3) The Operating Permit will not be issued until all of the following items are submitted and found to be acceptable for all projects.
  - (a) Certification of Rule Conformance by a professional engineer that all conditions of Plan Approval were accomplished and if applicable, changes made during construction were in conformance with rules R309-500 through 550,
  - (b) as-built or record drawings incorporating all changes to approved plans and specifications, unless no changes are made from previously submitted and approved plans during construction,
  - (c) confirmation that a copy of the as-built or record drawings has been received by the water system owner,
  - (d) evidence of proper flushing and disinfection in accordance with the appropriate ANSI/AWWA Standard,
  - (e) where appropriate, water quality data,  
  
***Guidance: Water quality data for finished and raw water samples will be required as evidence of effective performance of new or modified water treatment plants prior to issuing an Operating Permit.***
  - (f) all other documentation which may have been required during the plan review process, and
  - (g) confirmation that the water system owner has been provided with an Operation and Maintenance manual for the new facility if applicable.
- (4) Distribution lines (not including in-line booster pump stations) requiring Plan Approval may be placed into service prior to submittal of all of the above items and receipt of an Operating Permit if the public water system has received items (3)(a) and (3)(d).

### ***R309-500-10. Waste and Wastewater Disposal.***

Approval of plans and specifications may require evidence showing that the methods of waste and wastewater disposal have been approved or accepted by the Utah Division of Water Quality, the local health agency, or the local authority for:

(1) new drinking water facilities, including discharges from treatment facilities, discharges related to construction, etc., and

(2) new drinking water facilities serving proposed developments.

### ***R309-500-11. Fee Schedule.***

The Division is authorized to assess fees according to the Department of Environmental Quality fee schedule.

### ***R309-500-12. Other Permits.***

Local, county, federal, and other state authorities may impose different, more stringent, or additional requirements for public drinking water projects. Water systems may be required to comply with other permitting requirements before beginning construction of drinking water projects or placing new facilities into service.

KEY: drinking water, plan review, operation and maintenance requirements, permits

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