

DIVISION OF DRINKING WATER POLICY/PROCEDURE

Title:	Water System Physical Capacity in ERUs	Number: A.15
References:		
Contact:	Tim Blake	
Effective Date:	March 3, 1998	
Supersedes:	NA	
Approved:	<i>Director, Division of Drinking Water</i>	

Drinking water policies are written descriptions of the approach taken by the Program to implement a statute, regulation, court order, or other agency order, and may include the Program's current practice, procedure, or method of action based on that approach. Any generally applicable directives or criteria that provide the basis for imposing penalties or sanctions, or for granting or denying Program approvals, must either be in statute or established in a rule.

POLICY

A water system's physical capacity shall be defined in equivalent residential units (ERUs). Department of Health (DOH) Division of Drinking Water (Division) staff will use ERUs for review and approval of system design and tracking of physical capacity, in addition to or in lieu of number of active service connections and for determining system adequacy. The Division shall request that water system engineering submittals identify physical capacity in ERUs.

Implementation of this policy will be phased-in to be consistent with provisions of chapter 246-290 WAC, the Division's Group A Public Water System Design Manual, and the implementation strategy of this policy.

PURPOSE

This policy applies to the Division, local government, and all public water systems. The Division must evaluate and determine the capability of a system to safely and reliably supply water for the system's intended uses. This evaluation and determination of a system's physical capacity is a basic element of initial review and approval of a water system design under chapter 246-290 WAC, determining system adequacy under chapter 246-294 WAC, and is part of ongoing assessment of a system's capability to supply water.

The purpose of this policy is to define a common term (the ERU) in order to better evaluate and express residential, commercial/industrial, and other water demands relative to a water system's physical capacity, and describe the process for implementing this definition. As part of determining physical capacity for water system plans and engineering reports, water systems and their engineers shall define water system demands and engineering design capacity in terms of both (1) the number

of residential, commercial/industrial, and other services, and (2) ERUs. Division staff will consistently use this terminology, and will assist water system owners/operators and engineers to implement this definition in their submittals.

BACKGROUND

With the passage of the Growth Management Act, local health jurisdictions are relying more heavily on DOH to determine the adequacy of a water system when a particular building permit or land-use proposal is under consideration. There has been no single DOH guideline for a statewide approach for determining the maximum allowable number of service connections (physical capacity) for a particular water system. Each of the Division's regional offices has independently developed and implemented an approach to determine a system's physical capacity. The results from these approaches have been entered into the DOH data base and used as a factor in determining the adequacy of water systems.

PROCEDURE

The procedure described in this policy is divided into the following seven steps:

1. Definitions
2. Responsibilities under self determination
3. Identifying a system's physical capacity
4. Process for updating a water system's physical capacity
5. Use in operating permits
6. Local governments
7. Effective date and Phase-in

1. DEFINITIONS

"Physical capacity" is the ability of a water system to provide water to its intended recipients or end-users. It is expressed in service connections and ERUs.

"Equivalent Residential Unit" (ERU) is a system-specific unit of measure used to express the amount of water consumed by a typical full-time single-family residence. Calculation of ERUs is addressed in DOH Guidance, which is referenced in Section 3 of this policy. **Note:** For most small systems, their number of ERUs will be their number of service connections. However, if a system has non-residential water users, calculations will be more complex and DOH guidelines should be consulted.

2. RESPONSIBILITIES UNDER SELF DETERMINATION

Owners. Owners of public water systems will be responsible for assuring that **"physical capacity"** ERU calculations are properly completed and provided to DOH.

Professional engineer. The system owner's professional engineer (PE) working on the system's water system plan (WSP), project report (PR) or Construction Completion Report (CCR) will be expected to calculate **"physical capacity"** ERUs.

Department of Health. DOH may evaluate and confirm a system's "*physical capacity*" ERUs during review and approval of a WSP, PR and CCR. It will also provide sufficient guidance for calculating ERUs and use ERUs in making adequacy determinations.

Where the owner's professional engineer submits a physical capacity analysis for approval that is not based on ERUs, Division staff may provide guidance and assistance to the consultant in the conversion to ERUs. Where sufficient information exists in the submittal and the owner's engineer chooses to not calculate ERUs, Division staff may perform the conversion calculations. If requested, Division staff should supply an estimate of the additional time and associated fee for Division staff to perform the conversion calculations. Any review/approval fee charged by the Division shall reflect the additional service of the conversion calculations.

3. **IDENTIFYING A SYSTEM'S PHYSICAL CAPACITY**

Where to include the physical capacity determination. A specific section of the system's WSP, or project report (PR) if a WSP is not required, shall contain the system's "*physical capacity*" determination.

Statutory requirements and available guidance. Chapter 246-290 WAC contains the requirements for WSPs, PRs and CCRs. The Planning Handbook provides guidance on how to address "*physical capacity*" in WSPs. The standards, as described in chapter 246-290 WAC, and the water system design manual, provide the basis and methodology for calculating ERUs.

4. **PROCESS FOR UPDATING PHYSICAL CAPACITY**

Non-Satellite Management Agency (SMA) systems with less than 500 ERUs.

DOH tracking. DOH will track the existing "*physical capacity*" for systems serving fewer than 500 active residential services that are not owned by a DOH-approved SMA. DOH will obtain data from the WSP, PR and CCR for each project that increases a system's "*physical capacity*." This includes CCRs from systems that DOH permits to construct projects identified in their plan without approval. (Please refer to Division policy titled "Alternative Review and Approval of Distribution Related Projects" for information about construction without DOH approval.)

Phase-in. Existing systems serving fewer than 500 active residential services that are not owned by a DOH-approved SMA will be phased into the "*physical capacity*" process (refer to section 7 Phase-in).

Systems with approved WSPs that have at least 500 active residential services and approved SMAs.

DOH tracking. A water system that serves 500 or more active residential services or an SMA that has an approved WSP will still need to address physical capacity in its WSP. However, DOH will NOT track the system by a specific ERU number for operating

permit purposes. Rather, DOH will list the system as "unspecified," which means it may proceed to add ERUs in accordance with its WSP (self-tracking).

Changing a physical capacity determination. A purveyor may change a water system's physical capacity ONLY under the following conditions:

- (a) The purveyor has updated the system's ERU calculations for their existing facilities in a WSP or PR; and/or
- (b) DOH has acknowledged CCRs submitted by the purveyor in accordance with chapter 246-290 WAC.

5. USE IN OPERATING PERMITS

Physical capacity relationship to operating permit status. The Division's data system (DWAIN) will compare "*physical capacity*" as calculated by owners/engineers in DOH-approved submittals against the existing number of active service connections, expressed as ERUs, for systems not owned by a SMA and serving fewer than 500 active residential services. These numbers appear on the system's Water Facility Inventory form (WFI). If the number of existing active ERUs is greater than "*physical capacity*" ERUs, DOH will issue the owner a RED operating permit. (Please refer to the Division's policy titled "Adequacy Responses for Group A Water Systems" for the relationship between a RED operating permit, building permits and lending institution requests.)

Updating the WFI. The WFI and the operating permit are DOH's tools to consolidate information on public water systems (including a system's "*physical capacity*" and current number of active service connections, expressed as ERUs). The current number of existing active service connections, expressed as ERUs, is defined on the WFI form.

A purveyor may annually update active residential and non-residential services. However, the manner in which the corresponding active ERUs are updated depends on whether the services are residential or non-residential.

- (a) **ERUs that correspond to active residential services.** When a purveyor updates the number of active residential services on a WFI, DOH will simultaneously update the corresponding active ERUs on a one-to-one basis;
- (b) **ERUs that correspond to multi-family residential and non-residential services.** When a purveyor updates the number of active multi-family and/or non-residential services DOH may require engineering documents that recalculate ERUs based on the change in water use. The ERUs that correspond to multi-family and/or non-residential services would then be updated by DOH after approval of the engineering documents. The standards as described in chapter 246-290 WAC and the water system design manual provide the methodology for calculating ERUs.

6. LOCAL GOVERNMENTS

To ensure that property for which building permits are requested, or subdivisions or other development is proposed, is adequately served water, each county will be expected to have the affected water system issue a letter indicating it will commit the necessary amount of water to serve the proposed ERU demand. Division staff will work with local governments to explain the ERU concept and implement its usage in local government permitting decisions.

7. **EFFECTIVE DATE and PHASE-IN**

This policy will be implemented in several phases according to the completed “ERU Policy Implementation Plan.”

Systems with at least 500 active residential services with approved WSPs, and SMA-owned systems. DOH will address systems serving 500 or more active residential services with approved WSPs, and systems owned by an approved SMA, during their routine WSP update process.

Systems with over 500 active residential services without approved WSPs, and Non-SMA systems with less than 500 active residential services. DOH will prioritize and phase in existing systems serving over 500 active residential services without approved WSPs, or serving fewer than 500 services and not owned by an approved SMA as follows:

- (1) For systems that have experienced problems, DOH will require a WSP or PR on a case by case basis;
- (2) For systems that have not experienced problems, DOH will continue to use previous approvals and capacity calculations;
- (3) DOH will re-evaluate "*physical capacity*" for existing systems whenever a WSP, PR or CCR is submitted.

A system may at any time voluntarily submit a WSP or PR with updated calculations to adjust their ERU numbers.