



Is Regionalization an Option?: Evaluating Regionalization for Potential New Public Water Systems

Approval

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Abbreviations

EPA	United States Environmental Protection Agency
FMT	Financial, Managerial, Technical
IOU	Investor Owned Utility
PWS	Public Water System
PUC	Public Utility Commission of Texas
SDWA	Safe Drinking Water Act
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
THSC	Texas Health and Safety Code
TWC	Texas Water Code
TWDB	Texas Water Development Board
WSC	Water Supply Corporation
WSD	Water Supply Division



Introduction

Building and operating a successful public water system (PWS) is not easy. To make sure drinking water is safe, and adequately treated, you must have—or have access to—these resources.

- A suitable and reliable water source—either already treated or that can be treated for safe human consumption.
- Financial, managerial, and technical (FMT) resources to,
 - design and build a system that can provide effective, reliable, and long-term service,
 - safely operate and maintain the system for your staff and customers, and
 - successfully manage a business critical to public health.
- The ability to read and understand the many, highly technical state and federal regulations associated with PWSs.

Recognizing the critical role these resources play in the success of a water system, Congress amended the Safe Drinking Water Act (SDWA) in 1996. These amendments require states to ensure that new community PWSs can fulfill all regulatory requirements.

In 1997, the 75th Texas Legislature (Senate Bill 1) made similar amendments to Chapter 341 of the Texas Health and Safety Code (THSC). Additional requirements are defined in Title 30 of the Texas Administrative Code (30 TAC) Chapter 290, Section (§) 290.39. Regionalization, a key goal of Senate Bill 1, was developed to optimize the use of existing FMT resources.

Along with other legislative changes, these regulatory requirements send a clear message. All proposed new PWSs must be able to operate efficiently and effectively for the long term. This can often be fulfilled by combining (regionalizing) existing and proposed new stand-alone PWSs. This is often more effective than creating a new stand-alone PWS.

The main goal of a regionalized water system is to improve the use of existing FMT resources and provide quality drinking water.

Statutory and Regulatory Authority

This guidance covers part of Senate Bill 1 (1997) and is intended to assist our Plan Review and Districts Program staff and the regulated community implement regionalization requirements outlined in Title 30 Texas Administrative Code (30 TAC) Chapters 290 and 291.

You can link to the official rules from the Texas Commission on Environmental Quality (TCEQ) website at: www.tceq.texas.gov. From the home page, under “Rules, Data, Forms, and Reporting” click on “Rules and Rulemaking.” On the “Rule and Rulemaking” page click on “Current Rules and Regulations” and then “Texas Administrative Code”. This takes you to the Secretary of State website and the official rules, including Chapter 290 and 291.

General Statutory Authority

THSC, Chapter 341, Subchapter C, requires that public drinking water be free from harmful substances and comply with standards established by either the TCEQ or United States



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Environmental Protection Agency (EPA). The TCEQ may adopt and enforce rules to implement the federal SDWA (42 U.S.C. Section 300f et seq.).

The Texas Water Code Chapter 13 establishes a comprehensive regulatory system that is adequate to the task of regulating retail public utilities to ensure that rates, operations, and services are just and reasonable to the consumers and to the retail public utilities.

Oversight in Texas

In Texas, the TCEQ Water Supply Division (WSD, “we”) is responsible for programs that oversee production, treatment, delivery, and protection of drinking water. WSD roles include

- overseeing production, treatment, quality, and delivery of public drinking,
- assessing and protecting public drinking water sources,
- offering technical assistance on operating and managing PWSs,
- review/approval of engineering plans for new or significantly modified PWSs or exceptions to TCEQ rules,
- assessing PWS FMT capabilities, and
- managing the Water District Database (WDD) and the Safe Drinking Water Information System (SDWIS).

This document outlines the steps needed to see if regionalization is a practical option for your development. This document is designed to

- help TCEQ staff and owners/operators of new water systems evaluate the possibility of regionalization,
- make sure that owners/operators of new proposed PWSs have the FMT capability for successful, long-term operation, and
- describe the information needed to evaluate regionalization as a practical option versus building a new stand-alone PWS .

A few important terms

Before going further, it will be helpful to define some important terms.

Types of water systems

water system—a system consists of a water source, water treatment plant, and the lines that distribute water to the consumer.

public water systems (PWS)—provide water to the public. There are three basic types of PWS:

community water system (C)—A PWS which has a potential to serve at least 15 residential service connections on a year-round basis or serves at least 25 residents on a year-round basis [30 TAC §290.38(15)]. Most municipalities meet this definition, so do some boarding schools and prisons.



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nontransient noncommunity water system (NTNC)—A PWS that is not a community water system and regularly serves at least 25 of the same persons at least six months out of the year [30 TAC §290.38(58)]. Many factories, schools, camps, recreational vehicle parks with long-term residents, and other businesses are NTNCs. Businesses that purchase and redistribute potable water may fall under the regulations for PWSs if the utility that provides them with water does not have sanitary control over their facilities [30 TAC 290.102(a)]

transient noncommunity water system (TNC)—A PWS that is not a community water system and serves at least 25 persons at least 60 days out of the year. [Title 30 TAC §290.38(84)] Parks, recreation parks, convenience stores, and other businesses often are TNCs.

Types of service providers

retail public utility—any city, county, district, river authority, investor-owned utility, or water supply corporation that charges a fee to directly provide water service to consumers.

Note: “Utility” may appear to be the broader term, but, as defined in the law, “retail public utility” includes “utility.”

utility—a utility owned by a person, partnership, corporation, or “affected county” that charges a fee to directly provide water service to consumers. Also called “investor-owned utility (IOU),” “water” or “public utility.”

water supply corporation (WSC)—a nonprofit corporation organized under state law [Texas Water Code (TWC) Chapter 67] to provide water service.

Other terms

certificate of convenience and necessity (CCN)—a Public Utility Commission (PUC) document that defines a retail public utility service area. For information on CCNs contact the PUC.

What is regionalization?

PWSs face an ever-increasing demand on their resources to stay in compliance with federal and state regulations. Regionalization promotes affordable, long-term supplies of safe, quality drinking water across Texas. This is accomplished by consolidating PWS resources into larger service providers for areas or regions.

In general, regionalization includes but is not limited to,

- large-scale regionalization—typically an existing water system or systems capable of providing service to a large part of the population over a broad geographic area.
- small-scale regionalization—systems lying outside the service area of a larger regional system forming an areawide system.
- simple regionalization—requesting service and connecting to a viable neighboring system.

Regional or areawide water systems can offer timely, cost-effective solutions for providing quality service. We encourage owners or operators of proposed PWSs to be proactive by



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joining a sound neighboring system. Typically, existing PWSs with enough FMT capacity can provide quality drinking water at a lower cost than a new stand-alone system.

In applying this guidance our objective is to decrease the number of Texans being served by systems unable to provide continuous and adequate service.

If formation of a regional system is the least expensive long-term solution for providing quality service, we require those proposing a new system form a regional system or request service from an existing area provider instead.

What is TCEQ's regionalization guidance?

Our guidance is that regionalization is feasible unless one of the following three special cases applies to your proposed system:

1. No other systems are reasonably close to your planned system.
2. You have requested service from neighboring systems, and your request has been denied.
3. You can successfully demonstrate that you have the resources to be granted an exception based on costs, affordable rates, and FMT capabilities when compared to an existing system.

If you wish to construct or operate a new PWS, even if you are not required to obtain a CCN to operate, you must consider regionalization. If you request approval to create a new system, you must provide us with supporting information in enough detail to determine if a special case applies.

Do you need a CCN? If your proposed PWS will be owned privately or by a WSC and you plan to charge your customers a fee for service, then you must also obtain a CCN. Contact the PUC for information on obtaining a CCN.

How does a regional water system work?

The structure and operation of any regional system depends on individual situations. A regional or areawide PWS can be any one of the following:

- instead of creating a new PWS, work with or get service from an existing PWS;
- one owner and one large system serving several different communities or subdivisions;
- one owner and several isolated systems, each providing service to one or more communities or subdivisions;
- several owners, each with individual systems operated through central management or operations;
- several owners, each with a stand-alone PWS, but all served by a central wholesale provider; or
- the existence of permanent emergency interconnections.



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Any retail public utility can be a regional provider if they meet the necessary requirements defined by 30 TAC §290.38-47. Typically, a regional or areawide provider is a community water system.

Does this policy apply to me?

If you are planning to build a new PWS this guidance applies to you. Entities regulated by the TCEQ—including owners/operators of proposed new PWSs must consider being part of a regional or areawide system during the planning process.

What does this mean? You must either connect to a sound existing system or demonstrate the ability to operate a viable, stand-alone PWS.

You must see if regionalization is possible before sending us your engineering plans, specifications, and business plan. There are three basic outcomes to a regionalization evaluation,

1. **Regionalization is not possible**—submit your engineering plans including regionalization information. See the “Is regionalization always required?” section for detailed information.
2. **Regionalization is possible**—submit your engineering plans including regionalization information.

Note: If regionalization is possible and you apply to construct a stand-alone system, we will not approve your application.

3. **Regionalization is possible and you decide a special case applies**—TCEQ must review and approve your special case request before you can submit your engineering plans and related documents. See the “Is regionalization always required?” section for detailed information.

Does regionalization apply to existing systems?

A similar regionalization review may apply to the owners/operators of any existing PWS that cannot provide safe drinking water because of FMT issues. We handle these situations on a case-by-case basis.

We offer free on-site FMT assistance through a contract with water professionals to help existing PWSs comply with regulations. We can help prevent and address FMT problems, perform consolidation and capacity assessments, and provide technical training. Additional information on PWS FMT assistance is located online at:

www.tceq.texas.gov/drinkingwater/fmt.

Who has a role in evaluating regionalization?

Those proposing a new PWS, existing water systems, and the TCEQ all have a role in regionalization.



What is your role?

If you plan to build a new PWS, you must follow the rules outlined by 30 TAC §290.39(c) thru (g). The *TCEQ Public Water System Plan Review Submittal Form* (TCEQ-10233) lists all required materials needed for a new PWS plan review.

We must approve your engineering plans, specifications, and business plan before you begin building a new water system [30 TAC §290.39(c)].

Information on starting a new PWS and submitting your engineering plans, specifications, and business plan is available at: www.tceq.texas.gov. From the TCEQ homepage, enter “Establishing a New Public Water System” in the search box. Select the first link to go to the webpage for new public water systems.

An important part of the planning process includes considering the possibility of regionalization versus building a stand-alone system.

What is the role of existing water systems?

Existing water systems must provide prompt responses to requests for service. They must treat all applicants fairly, charge reasonable application fees, and charge cost-based fees for providing water to those requesting service.

What is the TCEQ’s role?

Through programs in the WSD, we are responsible for making sure PWSs supply safe drinking water, are financially stable, and technically sound. We also promote the use of regional and areawide PWSs.

To meet these responsibilities, we review engineering plans, specifications, and business plans for all proposed new PWSs. This includes considering the possibility of regionalization for all new proposed water systems and help existing PWSs who might need consolidation assessments and assistance.

Where do I start?

First, you must read this document to understand TCEQ’s regionalization requirements.

Second, you must identify and locate all neighboring water systems within a certain distance of your service area [30 TAC 290.39(c)(1)] for a non-community PWS or 290.39(f)(2) for a community PWS.

State law considers a PWS to be “reasonably close” if it lies

- within a municipality’s extraterritorial jurisdiction (ETJ),
- within 0.5 mile of a district’s corporate boundary, or other political subdivision providing the same service, or
- within 0.5 mile of a certificated service area boundary of any other water service provider for a new noncommunity water system and 2 miles for a new community water system needing a CCN.



Locating nearby systems

First, you must identify and locate all neighboring systems. There are online resources available to assist with this task. These resources are summarized in Table 1. Online records contain most information about nearby systems, **but it is your responsibility to make sure the information is complete, accurate, and current.**

Here are a few tips that can make your research more productive:

- Go online to get the most recent information, starting with the resources in Table 1.
- You might have to do local research—perhaps even some fieldwork—to complete this task.
- Drive the area. Systems must have identification at all plant sites. Locate the systems you found using the online resources.
- Talk to the operators of any systems in the area and find out who they serve or who operates other nearby systems.
- Review online information for service areas. Contact each system’s owner or operator to find the limit of its service area. Don’t assume that the physical system limit is the same as the service area limit.
- Contact county offices to find out about subdivision plats on file. Each city should also have this information for areas inside that city’s extraterritorial jurisdiction (ETJ). Start by searching the city or county websites. Most have this information available online.

Table 1. Online resources for identifying and locating nearby water systems

Provided by	Online Resource	Available Information
PUC	CCN Map Viewer	Find the water service provider for a specific address or property.
TCEQ	Water Districts Map Viewer	Find water district boundaries
TCEQ	Source Water Assessment Viewer	Find and identify PWS water sources
TCEQ	Texas Drinking Water Watch	Search for PWSs by county, system type, primary water source, and drinking water quality data
TCEQ	Water Districts Database (WDD)	Search for district names, addresses, counties, maps of service areas
TWDB	Water Service Boundary Map Viewer	Map water service areas for all community PWS in Texas
Counties and Cities	Subdivision plats/property information	Access subdivision plat maps. Information available varies by city/county.

Is regionalization always required?

If an existing system can offer the least expensive long-term solution for providing quality service, we require that you connect to that system.

Our guidance is that regionalization is possible unless one of these three special cases applies [30 TAC §290.39(c)]:



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1. There are no existing PWSs within 0.5 miles of your planned NTNC and TNC service area, or 2.0 miles for a community system; or an existing PWS cannot provide the level of service you require. For example, TNC or NTNC systems cannot provide service to a residential development requiring a community system. However, a community system that charges for water can provide service to all PWS types.
2. You requested service from neighboring PWSs, and your request was denied. Requesting service consists of completing the appropriate applications and paying fees if applicable.
3. Your proposed stand-alone system can provide any of the following more successfully than an existing system (documentation is required including the cost of service from the existing system):
 - lower costs,
 - lower rates,
 - better FMT,
 - a more reliable water source, and
 - better-quality drinking water.

To be granted approval to construct a stand-alone system you must provide information to support that at least one of these three situations applies.

Note: If service is available and you want to apply for an exception, you must send us the documentation, request for exception, and receive approval **before** submitting your engineering plans, specifications, and business plan. For Case 3 you may only submit your engineering plans and related documents after the TCEQ's formal review process.

Engineering plans, specifications, and related documents must be prepared under the direction of a licensed professional engineer.

See Flowchart 1 for an overview of this process. If you need a CCN see Flowchart 2.

Do any special cases apply to your proposed new PWS?

After identifying neighboring PWSs you need to see if any of the following three cases apply.

- **Case 1:** No public water systems within 0.5 miles for proposed new NTNC or TNC systems; 2.0 miles for proposed new community systems.
- **Case 2:** Your service request has been denied.
- **Case 3:** Cost, affordability, and capability.

Case 1: No public water systems within 0.5 mile (NTNC, TNC) or 2.0 miles (community)

If there are existing PWSs within a 0.5 mile/2.0-mile radius of your service area you must formally apply for service from the existing systems. See **Case 2**.



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If there are no existing PWSs within the required distance of your service area you may submit your engineering plans, specifications, and business plan for a stand-alone system.

Case 2: Your service request has been denied

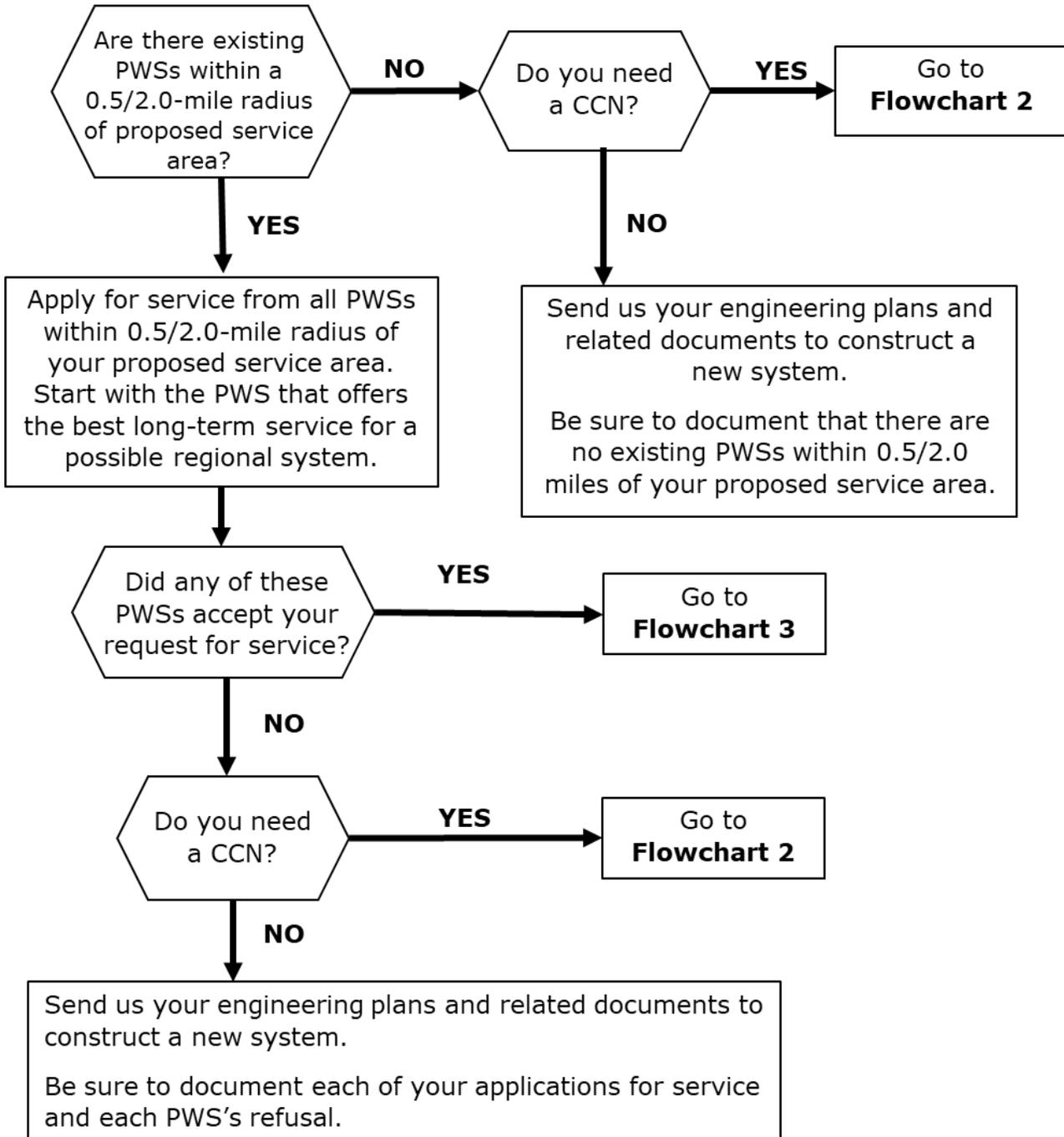
Have you formally applied for service from suitable existing systems?

You must apply for service from existing systems by submitting a formal “request for service” application and by paying any associated fees [30 TAC §290.39(c)(1)].

You must contact each existing system that sells water to get their “request for service” application. You must document that you made every reasonable attempt to request service from all nearby systems that sell water. If you do not receive a response within a reasonable amount of time, you are responsible for following up.

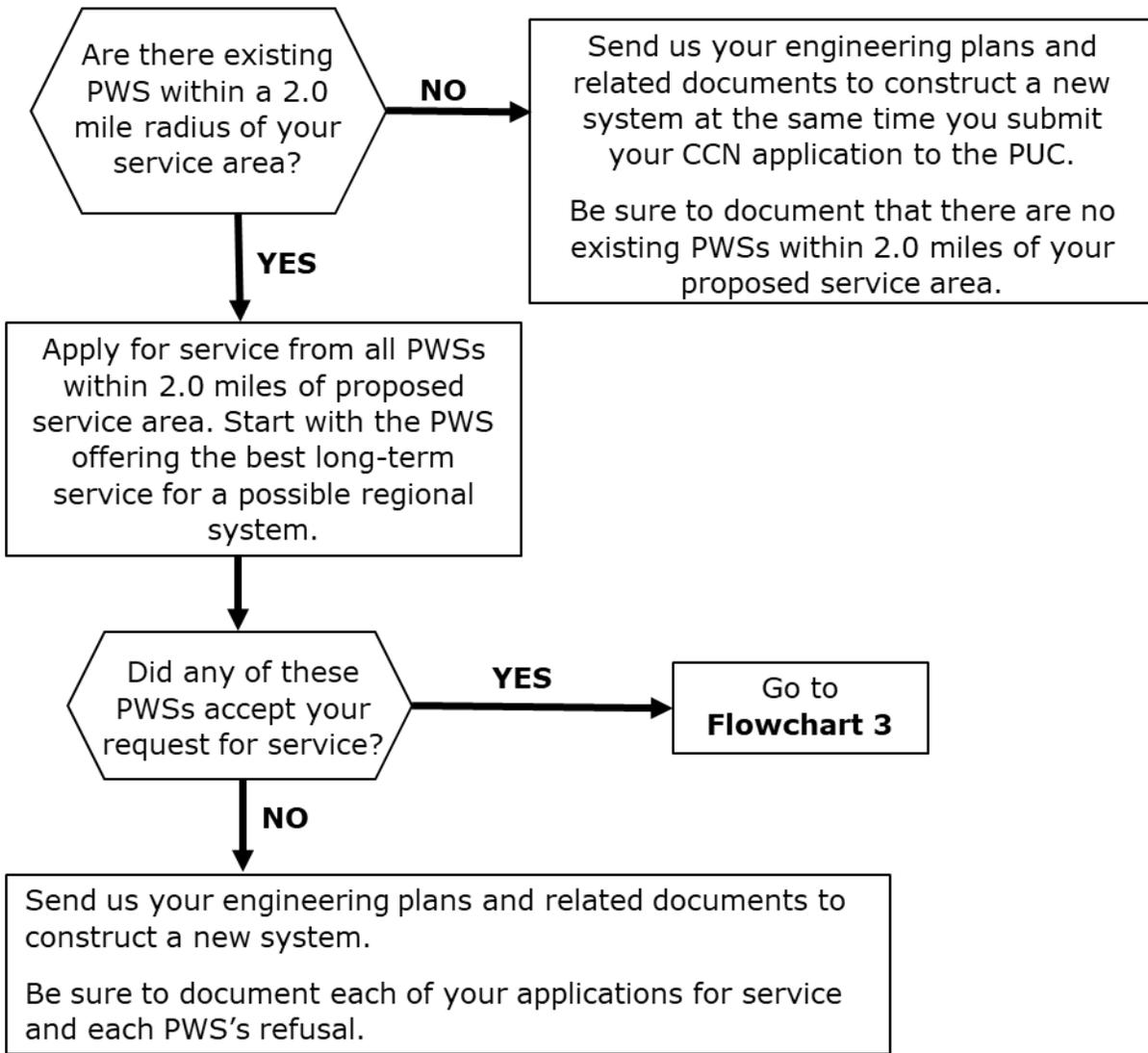


Flowchart 1. First steps for considering a regional water system





Flowchart 2. Steps to forming a water system if you need a CCN



Note: If more than one existing system can provide service, we recommend establishing regional service with the one capable of the best long-term service.

See the *Evaluating cost, affordability, and capability of the existing system* section for information on finding the best system.

Was your request(s) for service approved?

If your request was approved, you must work with that system to obtain service unless you can demonstrate that Case 3 applies.

Was your request(s) for service denied?

If your request was not approved you may send your engineering plans and related documents for a stand-alone system. However, you must include a copy of all applications requesting service and all correspondence from all existing systems with your submission.



Case 3: Cost, affordability, and capability

Can you successfully show that an exception applies based on cost, affordability, and capability of the existing system?

To evaluate the possibility of regional or areawide system, you must consider the relationship of these interconnected factors:

- regionalization costs compared to the projected value of the completed development;
- affordability of the rates; and
- FMT capabilities of the existing system.

These factors are used as a screening process. You may qualify for this exception even if only one of these factors applies.

If you qualify for Case 3, you may submit your engineering plans, specifications, business plan for a stand-alone system. However, you must also give us documentation to support Case 3 and formally apply for an exception.

See the “Analyzing costs, affordability, and capabilities of the existing system” section for guidance analyzing these factors.

Analyzing cost, affordability, and capability of the existing system

Use this information along with Flowchart 3 to see if an exception can be granted based on either cost, affordability (rates), or system capabilities.

This part of the document shows how an exception based on the following interconnected factors might be granted:

- **Factor 1:** Compare regionalization costs to projected development value
- **Factor 2:** Consider rate affordability
- **Factor 3:** Consider existing system FMT capabilities

These factors are used as a screening process. You may qualify for an exception if you meet one or more of these factors.

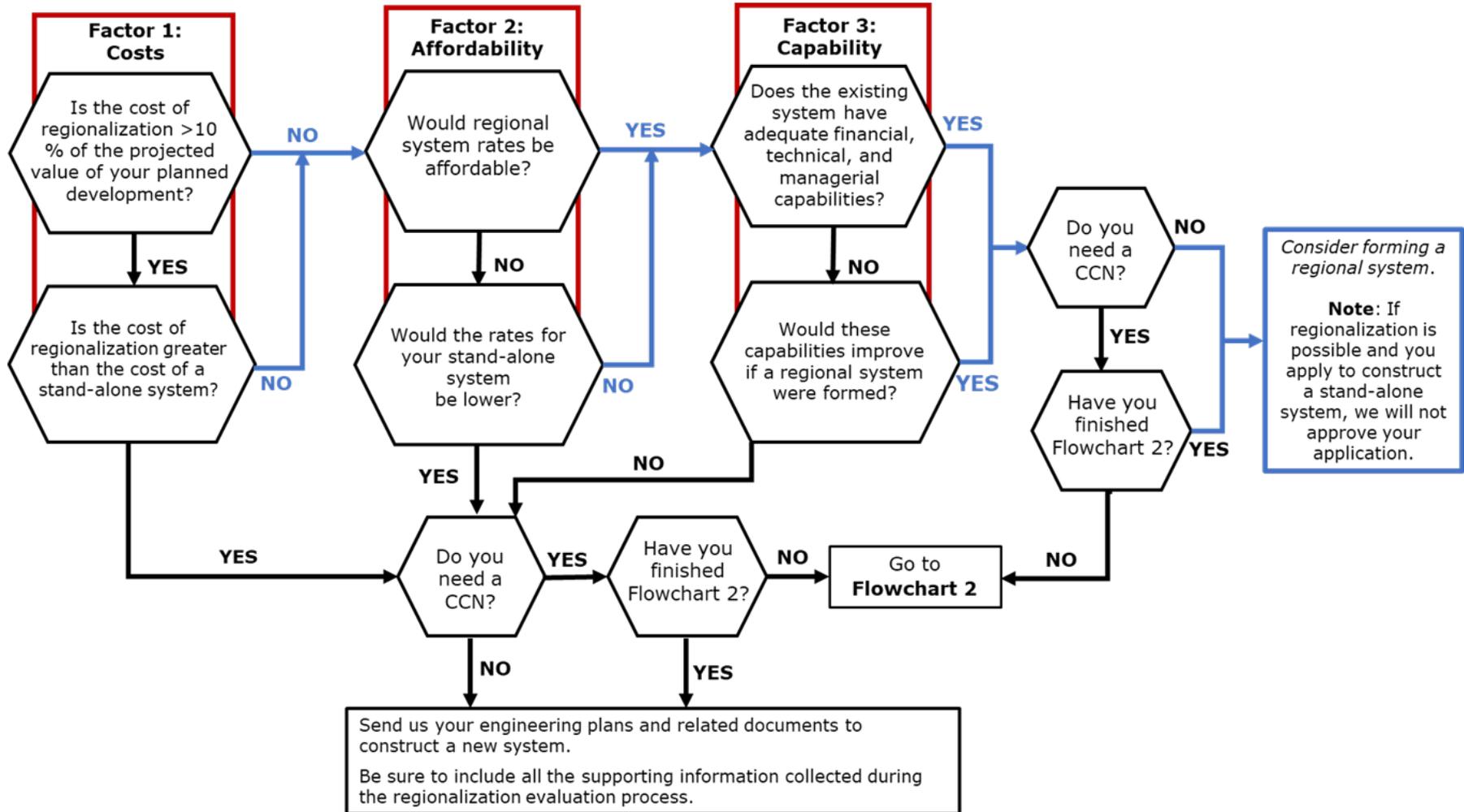
Note: We are not trying to limit the possible factors you may use to support an exception. If you can document other factors not mentioned here, we will consider them, as appropriate.

Factor 1: Compare regionalization costs to projected development value

Compare the cost of regionalization to your projected development value. Basically, this is the ratio of the cost to get service from an existing system versus the estimated development value at completion.



Flowchart 3. Should a Case 3 exception be granted?





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regionalization cost—includes (1) up-front costs of getting service from an existing system, (2) costs associated with constructing a delivery system and connections for new customers, and (3) potential costs associated with delays in construction.

estimated development value at completion—includes the estimated value of all lots, homes, commercial and industrial improvements, developed reserves, and undeveloped land, assuming the installation of a stand-alone system.

To propose an exception based on these regionalization costs, you must meet these criteria:

Criterion 1: Regionalization costs are greater than 10 percent of projected development value.

Criterion 2: Regionalization costs are greater than those of a stand-alone system

What is the cost of regionalization?

Up-front costs of getting service

When an existing water system extends new service, they can charge *connection fees* to the person requesting service. It doesn't matter if the person is a residential customer or a developer needing multiple connections.

Examples of connection fees include:

- **tap fees**—costs of tapping the main line—installing the tap, service line, meter, and meter box to a customer's property line.
- **deposit**—a bond-type arrangement that can be applied to unpaid charges. This may be a membership fee that a new customer pays the service provider.
- **system development charges** (also commonly referred to as *impact fees, system capacity charges, system buy-in charges, and system investment fee front-end charges*)—fees charged to customers by a service provider to generate funds to finance major system improvements needed to serve new customers. The theory is that these charges allow growth to pay for itself. These charges may range from several hundred to thousands of dollars.
- **extension fees**—the costs of extending lines or increasing capacity in existing lines to transport water to new customers. Extension fees may include any related engineering fees and the cost of the extension.

System development charges and extension fees have the most impact on new development. In the past, many water systems took on debt to fund infrastructure for growth. Currently, a larger number of water systems charge these fees to cover new infrastructure.

Water systems may require developers to pay for infrastructure instead of taking on additional debt that increases customer rates or taxes. Connection fees are start-up costs that should be included in the sale of lots. These fees may be greater than the short-term cost to install a stand-alone system to serve the new proposed subdivision. However, in



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making your decision, you should consider long-term costs and responsibilities (FMT) associated with operating the system.

Depending on the service provider's extension policy, you may be able to recover some, if not all, of the potential costs associated with getting service. You must include any money you can recover into your cost calculations.

Time frame for receiving service

A neighboring system may be prepared to provide service to your development but not immediately. You should consider the economic impact of a service delay.

For example, the existing system may have to increase capacity to accommodate your request. They may already have a prioritized construction schedule or are coordinating service with other applicants.

Delays in getting service may impact your projected construction schedule. Delays in construction may increase your overall project cost. If construction delays affect your development, you must show how this will increase your project costs. Compare any cost increases to the estimated project value at completion.

Impact on sales

As the cost of regionalization increases, it is necessary to look at the impact on the development in an area. These costs impact future property owners through increases in lot prices, water rates, ad valorem taxes, or all three. Lot sales could be impacted if these are relatively high for a new development in comparison to existing development in the area.

What is the projected development value?

The projected development value includes the estimated value of all lots, homes, commercial and industrial improvements, developed reserves, and undeveloped land at completion, assuming the installation of a stand-alone system.

Use present-day unit values to determine the current value of all existing property and the value added by future property improvements. This should include all property to be served by the proposed new system.

Factor 2: Consider rate affordability

Rate affordability considers the consumers' ability to pay. Before proposing an exception based on unaffordable rates you must estimate the rates for a regionalized system and your proposed stand-alone system.

To propose an exception to regionalization due to unaffordable existing provider rates, you must meet both Criterion 1 and Criterion 2. You must show us that regionalized system rates are not affordable (see Criterion 1) and the proposed new system rates are affordable (see Criterion 2). However, our staff may review additional factors in determining rate affordability.



Criterion 1: Regionalization rates are not affordable

Criterion 1 explains how to calculate the affordability of existing water system rates.

To see if rates are unaffordable, calculate a “household cost factor” (HCF) [Texas Water Development Board (TWDB) rule Title 31 TAC §371.24(b)]. If existing system rates have a HCF greater than one percent the rates may not be affordable.

The consumption level used in the rate calculation is based on per capita indoor water use.

HCF

To calculate the HCF for water services follow these five steps:

1. Calculate the *average monthly household usage* using the following equation.

$$\text{average number of persons per household} \times 2,325 \text{ gallons} = \text{average monthly household usage}$$

2. Calculate a monthly bill based on this usage and your rate structure.
3. Multiply this monthly bill by 12 to get the average yearly water bill.
4. Look up the current *adjusted median household income* (AMHI) for your area.
5. Add the *average yearly water bill* to the *average cost of any taxes, surcharges, or other fees* you plan to use to subsidize your system. Divide this value by the current AMHI to get the *Household CostFactor (HCF)*. Use the following equation.

$$\text{average yearly water bill} + \text{average other fees/current AMHI} = \text{HCF}$$

Criterion 2: Rates of a stand-alone system would be lower than regionalized system rates

You must calculate the rates needed to fully recover the proposed new water system costs. If the stand-alone rates are higher than existing system rates, we will consider the existing system rates affordable. In this situation we will not approve your exception even if the HCF shows that existing system rates are unaffordable.

Factor 3: Consider existing system FMT capabilities

Review the FMT capabilities to see if the existing system has the

- financial resources to fund improvements for long-term service,
- managerial resources to support operations and plan for emergencies, and
- technical expertise to provide consistent service in compliance with our rules.

Use the following factors to evaluate the existing system’s FMT capabilities. We will also consider other factors as appropriate.



Indicators of financial capability

- Rates are reviewed on a regular basis.
- Rate structure is appropriate to customer base.
- Debt coverage ratio is adequate.
- System is current on debt payments.
- All fees to regulatory agencies and laboratories paid on a timely basis.
- System has appropriate insurance coverage.
- Annual audit is conducted if system is a public entity or WSC.
- System has operating reserve accounts or access to funds as needed.
- System has adequate working capital ratio.
- System has a high rate of customer account collections.
- System has written policies for collection and termination of service.
- Collection policies are enforced.
- System has low number of disconnects due to failure to pay bill.

Indicators of managerial capability

- System is aware of their organization type and has legal authority to operate.
- System has an operating budget.
- System has written standard operating procedures.
- Customers always have access to water system personnel in case of emergency.
- Records are maintained and updated on a regular basis.
- Budget is used to determine rates.
- System has adequate water supply.
- System has written emergency plans.
- System has conveyable title to water-producing assets.
- Governing board can conduct meetings and make decisions. A quorum is usually present, and there is a majority vote for most major operating decisions.
- Every connection is metered.
- Customers are billed on consistent billing cycles based on meter readings.
- System owners or board has current CCN (if required).
- System has an approved drought contingency plan.
- System has an employee handbook or policies.



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Indicators of technical capability

- Licensed operator is on site or available to operate the system.
- All operators are licensed.
- Operators have the appropriate certifications for the size of the system.
- System staff can identify oldest piece of equipment and the most vulnerable part of the system.
- Process control and preventive maintenance are performed and documented.
- System calculates unaccounted-for water and does not have excessive amounts.
- System does not have a history of noncompliance with regulatory requirements.