**Checklist for Submitting a Request for Alternative Capacity Requirements (ACR)**

**Alternative Pressure Maintenance Methods in lieu of Elevated Storage Tanks**

**Greater than 2,500 connections**

**General:**

This checklist may be used by a public water system (PWS) that serve more than 2,500 connections, which are requesting an alternate capacity requirement (ACR) to use alternative maintenance methods (such as pressure tanks and emergency power) in lieu of providing elevated storage, as described in Title 30 Texas Administrative Code (30 TAC) Subchapter D, Section 290.45: Minimum Water System Capacity Requirements. Specifically, 30 TAC §290.45(g)(5) requires documentation sufficient to assure the alternate method of pressure maintenance is capable of providing a safe and uninterrupted supply of water under pressure to the distribution system during all demand conditions. PWSs requesting an ACR to use alternate pressure maintenance methods must provide the following information for TCEQ review:

* Include all data required in the TCEQ’s Checklist to Request an ACR. This checklist can be obtained at the following web address:

<https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/ACR_Checklist.pdf>

* Provide an inventory of water production (well water, purchased water, etc.), storage, pressure, booster pump, and emergency power, capacities of the facilities in the existing distribution system and the ultimate distribution system.
* Signed and sealed professional engineer’s (P.E.) statement (45(g)(5)(A)(i)) certifying that:
	+ **Hydropneumatic tanks** are sized, designed, and capable of maintaining pressures at a minimum of **35 pounds per square inch (psi)** throughout the distribution system at flow rates of at least **1.5 gallons per minute (gpm) per connection;** and
	+ **Emergency power facilities** are capable of providing **the greater of the** **average daily demand or 0.35 gpm per connection** while maintaining distribution pressures at **35+ psi** and emergency power facilities powering production and treatment facilities are capable of providing at least **0.35 gpm per connection** to storage.
* The P.E. must conduct and submit results from a hydraulic analysis of the system under the following scenarios:
	+ **Normal operating conditions scenario (Utilize 1.5 gpm per connection or greater. If the PWS’s MDD is higher than 1.5 gpm/conn, use the MDD)** which verify that pressures greater than or equal to 35 psi are maintained
		- For the existing number of connections in the distribution system
		- For the ultimate number of connections in the distribution system
	+ **Emergency conditions scenario (Utilize average daily demand or 0.35 gpm per connection,** whichever is greater, AND supply at least 0.35 gpm per connection to storage**)** which verify that the system’s pressures of at least 35 psi are maintained
		- For the existing number of connections in the distribution system
		- For the ultimate number of connections in the distribution system
* The P.E. must conduct and submit results from each hydraulic analysis of the system under peak conditions per 30 TAC §290.45(g)(5)(A)(ii):
	+ **Hydraulic model for time lag scenario (Utilize peak demand such as the MDD or at 1.5 gpm per connection)** which demonstrate that the system’s pressures of at least 20 psi are maintained during loss of power. The time lag is between the loss of the normal power supply and the commencement of emergency power.
		- Provide the minimum pressure that will be maintained within the distribution system during this time lag.
			* For the existing number of connections in the distribution system
			* For the ultimate number of connections in the distribution system
* All hydraulic models mentioned above must be calibrated by field testing or the ACR request will be denied pending verification the hydraulic models commiserate with actual operating conditions. Provide a discussion describing the methods of calibration, the potential sources of error identified by the hydraulic modeler for which adjustments were made, and any assumptions included in the models. The American Water Works Association M32- *Computer Modeling of water Distribution Systems* and other literature are available for reference for calibrating hydraulic models.
* For existing systems, the P.E. must submit **continuous pressure chart records** of distribution pressures maintained during the previous **three years** of past power failures, if available 45(g)(5)(A)(iii).
* Provide an Emergency Response Plan (ERP) detailing procedures to be followed and individuals to be contacted in the event of power loss per 30 TAC §290.45(g)(5)(D).
* Provide a statement documenting compliance with the following requirements of 30 TAC §290.45(g)(5)(B):
	+ Emergency power facilities must be maintained and provided with necessary appurtenances to assure immediate and dependable operation in case of normal power interruption.
		- The facilities must be serviced and maintained in accordance with Level 2 maintenance requirements National Fire Protection Association (NFPA 110 Standard) and the manufacturers’ recommendations.
		- The switching gear must be capable of bringing generators on-line without pressures dropping below 20 psi during power interruption.
		- The minimum on-site fuel storage capacity shall be determined by the fuel demand of the emergency power facilities and the frequency of fuel delivery. An amount of fuel equal to that required to operate the facilities under-load for a period of at least eight hours is always maintained on-site.
		- Residential rated mufflers or other means of effective noise suppression must be provided on each emergency power motor.

**PWSs that are subject to the Public Safety Standards** defined in 30 §290.46(x)-(y)**:**

If the PWS is subject to the “fire flow ordinance requirements” defined under 30 TAC §290.46(x)-(y), as “Public Safety Standards,” the PWS must meet the fire flow capacities in addition to the minimum requirements specified in 30 TAC §290.45. Any water system requesting to use an ACR must demonstrate to the satisfaction of the executive director that approving the request will not compromise the public health or result in a degradation of service or water quality and comply with the requirements found in 30 TAC §290.46(x) and (y). Please contact a member of the Technical Review and Oversight Team to discuss the documentation needed for the required hydraulic modeling analyses.