

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

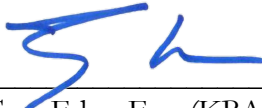
In the Matter of:

ELECTRONIC APPLICATION OF NORTHERN KENTUCKY)
WATER DISTRICT FOR A CERTIFICATE OF PUBLIC) **CASE NO. 2024-00025**
CONVENIENCE AND NECESSITY TO CONSTRUCT A 0.50 MG)
WATER STORAGE TANK)

RESPONSE TO COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Comes now the Northern Kentucky Water District ("NKWD") and submits its responses to the Commission Staff's First Request for Information dated March 18, 2024.

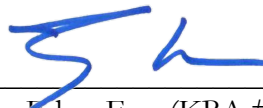
RESPECTFULLY SUBMITTED:



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CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that this document was submitted electronically to the Public Service Commission on March 25, 2024 and that there are currently no parties that the Public Service Commission has excused from participation by electronic means in this proceeding.



Tom Edge, Esq. (KBA #95534)

NORTHERN KENTUCKY WATER DISTRICT

Response to Commission Staff's First Request for Information

CASE NO. 2024-00025

WITNESS –Amy Stoffer, Vice President of Engineering, Production & Water Quality

Q.1. State why the 500,000 gallon tank is needed if the area has been served without a water storage tank since 2019.

A.1. The Great Lakes - Upper Mississippi River Boards of State and Provincial Public Health and Environmental Managers *Recommended Standards for Water Works* 2012 edition (i.e. Ten States Standards) section 7.0.1.a. states:

The minimum storage capacity (or equivalent capacity) for systems not providing fire protection shall be equal to the average daily consumption. This requirement may be reduced when the source and treatment facilities have sufficient capacity with standby power to supplement peak demands of the system.

The system storage provided by the proposed tank is needed to meet average daily storage requirements outlined in the Ten States Standards. The estimated average daily water demand for the Taylor Mill pressure zone based on water meter sales is 500,000 gallons per day. Building a new 500,000 gallon tank in Taylor Mill will ensure the area can be adequately served in an emergency. Additionally, elevated storage provides a buffer against pressure variations that can occur due to rapid increases or decreases in water demand in the area.

NORTHERN KENTUCKY WATER DISTRICT

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Q.2. State how Northern Kentucky District has been supplying adequate pressure and quantity of water to the area without a water storage tank, and why the water storage tank is a better alternative than the method Northern Kentucky District has been using to supply the zone for the last five years.

A.2. The Taylor Mill area is being served the same way it was before the removal of the 300,000 gallon tank from service, through the adjacent 1040 pressure zone using a 10-inch pressure reducing valve (i.e. the Sandman regulator). In addition, a backup connection through a pressure regulator from the adjacent 1080 pressure zone (i.e. the Sipple Drive regulator) is also available to supply water to the Taylor Mill zone in the event water cannot be delivered through the Sandman 1040 pressure regulator. The 1040 and 1080 pressure zones have 5 million gallons of elevated storage plus 10 million gallons of ground storage through pumping stations with backup power generators that can supply water to the Taylor Mill area. Based on evolving customer demands in the system, additional storage within the Taylor Mill area is needed to meet Ten States Standards.

Prior to removing the tank from service, maintaining a minimum target pressure of 35 psi in the system required extremely strict tolerances for water level in the standpipe. The usable storage in the tank was limited to about one-third of its total volume (i.e. only 117,500 gallons was available). The pressure regulator supplying the standpipe had to be carefully monitored and adjusted to ensure the tank did not get too low or overflow. Normal fluctuations in regulator settings made it challenging to reliably meet minimum pressure requirements at all times. Therefore, NKWD determined delivering a higher pressure to the Taylor Mill area in advance of building the replacement tank, which will be built at a higher elevation resulting in a higher pressure, would be beneficial.

To accomplish this goal, the pressure settings of the two regulators serving the Taylor Mill area have been slowly increased over multiple years in an effort to minimize the number of water main breaks and corresponding water loss that can happen when increasing system pressure. Once the pressure regulators were set to a point where the water in the standpipe was at the tank's overflow level, the standpipe was taken out of service.

Once the new elevated 500,000 gallon tank is placed in service, the Sandman 1040 pressure regulator will no longer be needed. Elevated storage buffers pressure variations in the system better than pressure regulating valves alone. The newly combined area will be supplied by two existing elevated storage tanks plus the new tank in Taylor Mill, and the Sipple Drive 1080 pressure regulator will remain as a backup supply connection. Having multiple tanks in a pressure zone is helpful for providing storage when tanks are taken out of service for maintenance.

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Q.3. Refer to the Application, Exhibit A-3, confirm that GRW recommended retiring the previous standpipe.

A.3. NKWD states that its Application, Exhibit A-3, labeled page 4-31, Description designation 20-02 states as follows:

20-02 Retire TM Standpipe Build Elevated 1040 Tank

The tank was last coated in 2006 and would be due to be repainted around 2021. In order to increase pressure in Taylor Mill, it is recommended the existing standpipe be retired and a new elevated tank be constructed in its place. The system would be served directly from the 1040 pressure zone by removing the Sandman PRV. The new tank would be about 175 feet tall and should be in the same general vicinity as the existing standpipe. The recommended volume is not confirmed but is estimated to be about 500,000 gallons.

NKWD further states the Asset Management Plan was completed and recommended by a joint team of engineering firms GRW and Malcom Pirnie (now called Arcadis).

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Q.4. Refer to the Application, Exhibit A-3, state the cause for the need of increased pressure in the Taylor Mill zone.

A.4. Some areas of the Taylor Mill pressure zone are in excess of 880 feet ground elevation. It was necessary to keep the standpipe level to a hydraulic gradient of 960 feet or higher (i.e. only using the top 50 feet of a 140-foot-tall tank) to keep system pressures above a target level of 35 psi.

Hydraulic modeling and pressure monitoring in the area indicated pressures were 35 psi or higher except when fluctuations in water usage or pressure regulator settings caused the pressure to drop to around 30 psi. To maintain at least 20 psi during emergencies meant the standpipe had to have at least 56 feet of water in it (i.e. about 206,000 gallons or 60% of its volume could be used).

Building a new elevated storage tank with an overflow elevation 30 feet higher will add approximately 13 psi of pressure to the zone to help meet minimum pressure requirements and will provide 500,000 gallons of usable storage.

NORTHERN KENTUCKY WATER DISTRICT

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CASE NO. 2024-00025

WITNESS – Stacey Kampsen, Vice President of Finance and Support Services

Q.5. State when Northern Kentucky District intends to issue bonds to refinance the future Bond Anticipation Note.

A.5. NKWD states that it currently anticipates issuing the future Bond Anticipation Note some time in 2025. Bonds to refinance the future Bond Anticipation Note are anticipated to be issued some time in 2027.

NORTHERN KENTUCKY WATER DISTRICT

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Q.6. State the expected terms of the Bond Anticipation Note.

A.6. NKWD expects that the bond anticipation note may be issued with an interest rate of 3.00 – 3.25%. The maturity date will be no later than 2 years from the date of issuance. The actual terms of the Bond Anticipation Note cannot be determined until the bonds are sold. The assumptions made are based on current market conditions and the best estimate of NKWD's financial advisor.