Quality and Reliability since 1882
Madison Water Utility
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**MEMORANDUM**

Date: September 27, 2023

To: Water Utility Board

From: Dan Rodefeld, Operations Manager

Subject: Monthly Operations Report

**BACKGROUND**

Board governance policy require that Madison residents will receive water which is consistent in its availability and quality. Accordingly, residents will:

a. Experience minimal unplanned service interruptions
b. Receive adequate notice of planned service interruptions
c. Receive adequate notice of planned maintenance work that would significantly reduce water flow or pressure, and/or cause water discoloration

The Operations Section of the Utility strives hard to meet or exceed the expectations laid out above. The attached Monthly Operations Report for September 2023 reflecting these efforts is attached.

**Monthly Field Operations Picture Contest**

There were no photo submissions for this month's contest. However, a picture taken by Marcus Pearson, Utility's Public Information Officer, is included on page 2. Details of the picture are given below:

1. Nature of Work: Middle School Science Class Tour
2. Location: UW14 - 5130 University Avenue
3. Date/Time of the work involved: September - 2023
4. Crew: Marcus Pearson

The story behind the picture: A group of Middle School students from Spring Harbor Middle School toured Madison Water Utility's unit Well 14 as a part of their Science curriculum focused on water. One of our system's oldest, most reliable wells, Well 14 was drilled in 1960 and operates year-round. The well primarily serves west side neighborhoods, including: Spring Harbor, Old Middleton Greenway, Sunset Village, Regent, and the Village of Shorewood Hills.

Well 14 has a pumping capacity of 2450 gallons per minute; however, the pump typically delivers about 1440 gallons per minute through the use of a variable frequency drive. A variable frequency drive – in its most simplistic description – is a type of motor controller that drives an electric motor by varying the frequency and voltage of its power supply. This allows the Utility to control how much energy is used and in turn, how much water is pumped from the well at any given time, depending on necessity. This variable frequency drive significantly aids the Utility's conservation efforts.

As mentioned, the well has a pumping capacity of 2450 gallons per minute, which is equal to about 10 tons per minute. Objects that weigh 10 tons: an African elephant, a sperm whale, a small aircraft, and a large dump truck. The well essentially pulls the weight of one of these objects every single minute. That requires a lot of energy! This is why the variable frequency drive is so beneficial, as it allows us to save energy by varying how much energy is used. Not only does it save the Utility tons of money (pun intended), it helps the environment.

**ATTACHMENTS:**

**A.** Monthly Operations Report – September 2023