

# Wireless Storage Tank Remote Level Monitoring Solution

Precision Digital PDW90 and PD6001  
Paired with the Magnetrol R86



## Moderator



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## Presenter



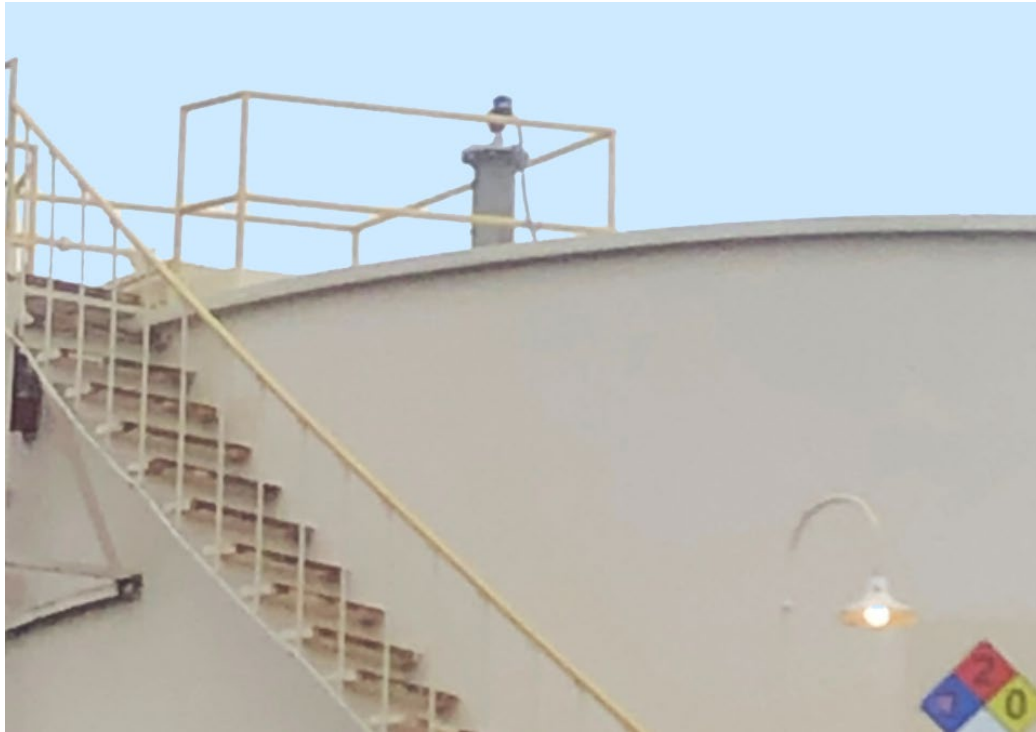
**Mark Mackinnon**  
Sr. Account Manager

Mark Mackinnon is a Senior Account Manager at Precision Digital. He has worked for over 30 years at companies that provide instrumentation solutions for municipal and industrial applications. Mark has extensive experience in specifying and applying a wide variety of process control instruments.

Poll Question

Have you ever sold a Precision Digital meter with a Magnetrol transmitter? If so, which meters?

# Wireless Storage Tank Remote Level Monitoring



## Summary

- Precision Digital PDW90 wireless system allows remote readout of storage tank levels from the control room.
- The storage tank levels are being measured by Magnetrol R86 radar level transmitters.
- The PDW90 field units wirelessly transmit storage tank level measurements to two Precision Digital PD6001 meters in the control room, which all help with inventory management and overfill indication.

# Featured Products

## Precision Digital



**PDW90 Industrial  
Wireless System**



**PD6001 ProVu  
Feet & Inches  
Meter**

## Transmitter



**Magnetrol R86  
Radar Level  
Transmitter**

## Solution Key Features

- Wireless bridge of process signal to DCS
- Rugged NEMA 4X, IP 68 wireless enclosure
- Reliable 900 MHz FHSS signal
- 1 mile line-of-sight outdoor transmission
- Tank level readout in feet and inches
- Two SPDT relays for high or level alarms



**PDA10 Wireless  
Survey Toolkit**



## Application

- A power utility has unmanned turbine peaking stations that use oil as a fuel.
- The oil is stored in two large tanks that have Magnetrol R86 radar transmitters measuring their level.
- A readout of the storage tank levels was needed at the control room for inventory management and to make purchasing decisions.
- Relays were also required for high and low level alarms.

## Challenges

- The storage tanks were several hundred feet from the control room.
- It would be cost prohibitive and labor intensive to run conduit and wiring out to the storage tanks.
- A wireless solution was desired despite several obstacles between the tanks and the control room.

# Solution - Transmitter

Magnetrol R86 Radar level transmitters were installed in custom made standpipes.

- The custom-made standpipe allows plant personnel to manually check the level and compare it with the reading of the radar transmitter.
- During refilling a manual check was also needed for custody transfer purposes.
- The R86 radar transmitter measures fuel oil level in this 32 feet tall storage tank.
- The 4-20 mA signal is routed to the PDW field unit for wireless transmission to the control room.



# Solution – Wireless System

PDW field units wirelessly transmit storage tank level measurements to two PD6001-6R5 meters in the control room.

- This system has allowed the utility to obtain accurate level readings at the DCS without the expense of running conduit and wires between the storage tanks and the control room.
- Rugged NEMA 4X, IP68 enclosures allow mounting of the PDW field units close the storage tanks.
- Reliable 900 MHz signal is received at the control room despite obstacles throughout the peaking station.





# Solution – Wireless Survey

The PDA10 wireless survey toolkit offers a simple way to test signal strength or to troubleshoot connectivity issues in wireless installations

- A wireless survey using Precision Digital PDA10 wireless survey toolkit proved that the 900 MHz signal was reliable between the storage tanks and the control room.



## Solution - Display

This 22' 8 3/16" reading on the PD6001-6R5 was verified by manual readings taken at the storage tank, giving them confidence to use this for inventory management and to schedule oil deliveries.

- In addition, a relay in each PD6001-6R5 meter was connected to a light to provide an overfill indication.



Poll Question

What do you think is the most useful feature on the PDC meter for this application?



## Questions?

If you have any questions or would like to discuss an application, then feel free to reach out to us.



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