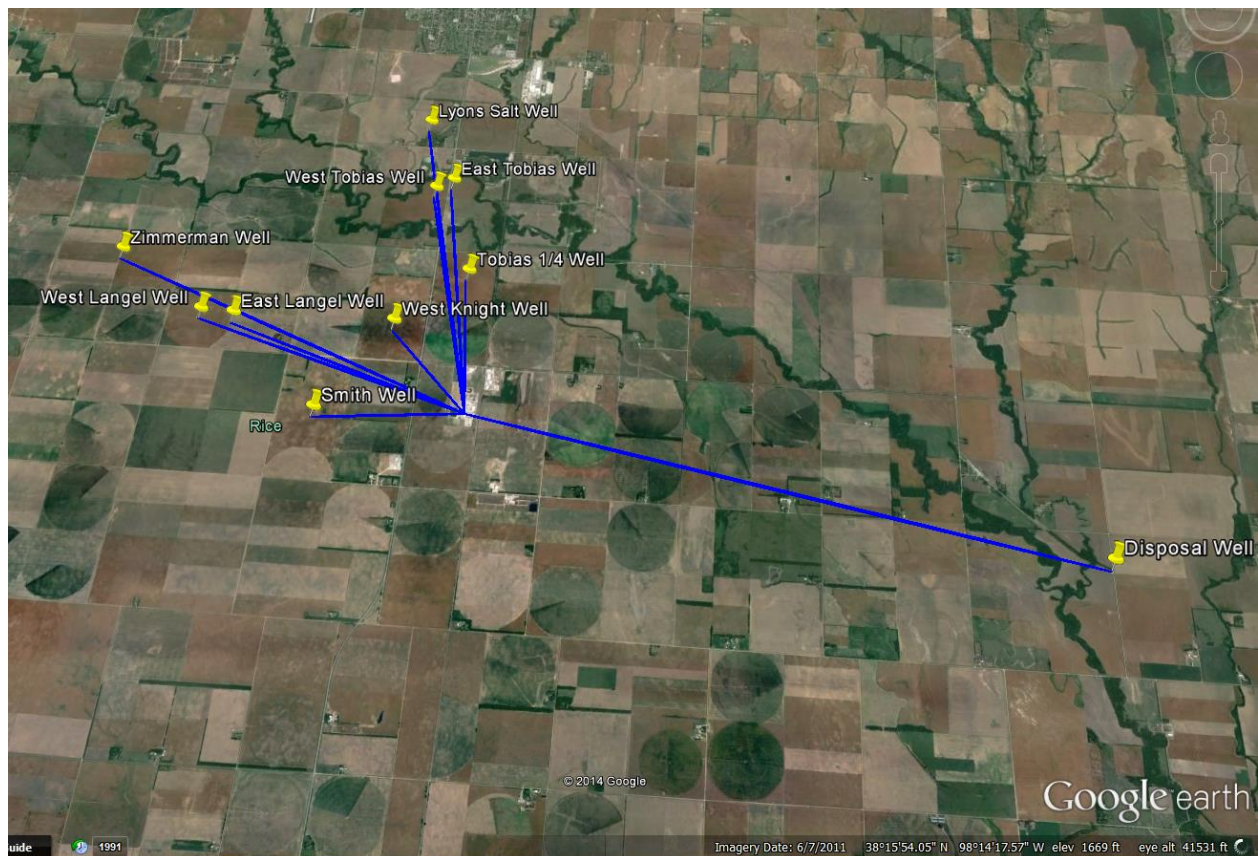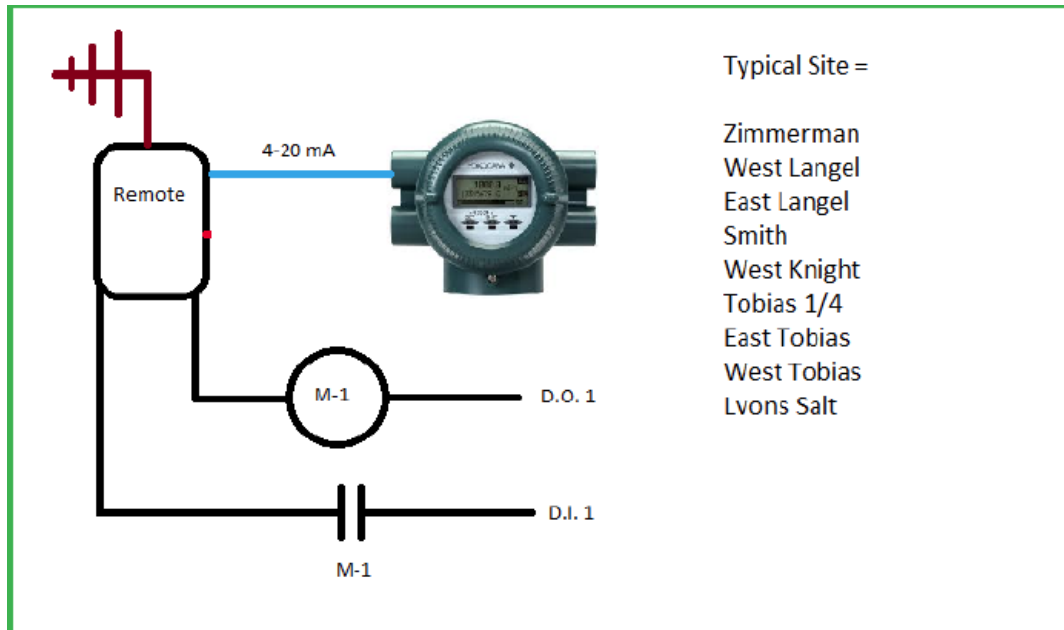## Remote Well Monitoring

Industry: Oil & Gas
Product: M1115NL (DAWN – Wireless I/O Radios with enclosures)

Introduction

The site consists of (10) remote wells with one central location that will collect all the data and have it available via Modbus TCP into the plant's DCS. Each well site has (1) 4-20 madc input from a flow meter, along with (1) DO signal to start the pump and (1) DI to read back the pump status. There is AC power available at each site. A path study was done before based on the GPS coordinates given for each site.

Typical well site for each location

Typical Site =

Zimmerman
West Langel
East Langel
Smith
West Knight
Tobias 1/4
East Tobias
West Tobias
Lvons Salt

Benefits

- The M1115NL meshing radios accept up to (4) analog 4-20 madc signals and (8) DI/DO per remote radio.
- The 900 MHz signal should have no problem covering the distance of up to 5 miles.
- The meshing radios are self-healing and can be used as either I/O radios or repeaters or both.
- Yagi antennas will be used at the well sites and an Omni at the DCS site. This will allow remote monitoring over long distances and to other remote sites which could be relocated at a later time.
- The M1280ED enclosure will be used for all remote sites because they are exposed to the elements.

Requirements

- To gather (1) 4-20 madc inputs from the remote flow meters and (1) DI status of the pump, transmit wirelessly to the gateway DCS site where Modus TCP will be used.
- The main DCS site will gather the flow and DI status from each site. It will also send out commands to run the pumps at each site via a DO at each location.
- Each remote site has 120 VAC power available.
- A 25 to 35 ft. pole will need to be installed at each location to mount the antennas.

Solution

The M1115NL meshing radios will work well because all sites are LOS and a path study was done before hand. The meshing will allow each site to connect automatically through any other site to get back to the gateway radio located at the DCS site.

Conclusion

This will give the customer the best solution for the cost, based on the requirements of the wireless system. The system will be scalable in the future for any remote sites added.

Yokogawa has a proven track record of delivering reliable, scalable and open technologies for a century. DAWN wireless solutions address the specific challenges of the industrial automation industry while lowering cost of ownership for our end users and maximizing their return on investment.

FROST & SULLIVAN

2014 BEST PRACTICES AWARD

GLOBAL WIRELESS SOLUTIONS
ENABLING TECHNOLOGY LEADERSHIP AWARD