

This presentation may contain language  
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# Entering the Twilight Zone



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# How Did We Get From This



*This scene is a dramatization based on real events and may contain fictional elements*



# To This?



*Not a Dramatization*

# Issues

- Long history of animosity between ops and engineering
- Projects completed without operations buy off
- Operations cowboying up and doing work without engineering
- Burned through 4 Engineers
- Something needed to change



# Mixed Up the Engineering Status Quo

- Hired a Junior Level Female Engineer not scared to fight
- Don't include anyone from operations on the interview panel
- Threw her into the operations group with no warning or discussion of shared expectations
- Assigned a pump station project to the group



Real Engineer engaging in real Engineering



# Result



# Mixed up the operations team

- Hired a new supervisor with little input from operations staff, really shook things up
- Hired a new lead that worked with the new supervisor
- Didn't promote the internal candidate
- Magically the lead operator and engineer got along (it was required to happen)



Real Operations Lead really Leading



# Result



Pump Station was completed, start up was ROUGH, project was hard fought and expensive



# When at first you don't succeed – Try again!



- Had discussions regarding common goals and roles and responsibilities
- Engineer began attending weekly meeting
- Tried another project, this time a reservoir, less mechanical parts

WM 975 Reservoir - Preconstruction



# Results



Ugly Reservoir, but start up was smooth and we made some good changes and some bad compromises



# We are on a role – So why not mix it up AGAIN!

- Two of the operators left
- Supervisor became Water Division Manager
- Lead became the construction supervisor
- Engineer stayed in the same place
- New supervisor was hired with very different philosophies
- New Lead was hired





# Next Phase



- Very heavy on supervisor, lead, and engineer interaction
- Weekly meetings were cancelled but oddly it worked
- Completed smaller projects installing standby power at pump stations, landscaping etc. and one large project
- Started large initiatives like a new SCADA system
- The supervisor quit

# Hired Another New Supervisor and Then Another New Supervisor

- Multiple new supervisors were hired and left
- New operators were hired that were willing to change, learn and get work done
- There were difficult days where work stopped
- There were great days when we jumped into the modern era of water delivery
- Each small change got us closer and closer to being a team
- And then...



One modern upgrade – we started to use check valves



# Hired a New Supervisor – He's Back!

- Strong leadership – it brings the weather
- Focused on how to build on work already done not on making changes
- Listened when whole group said Tuesday morning meetings are sacred
- Highlighted operator focus



Operators operating

# Process – What process?

- SOP –

- Includes guidelines for how projects are done so it is consistent between engineers and operations.
- Creates ownership policies – who owns the site and work during construction and when transfer happens
- Includes attendance at a Tuesday morning meeting, which is how updates are given to the entire project team.



Pump Station Start up



# Process – What Works and Why

- Project plan is important:
  - Defines scope elements that are necessary and nice to have
  - Defines when the project is complete
  - Includes specific roles and responsibilities for all team members including management and executive sponsors
  - Includes a list of how the work will get done
  - Holds all team members accountable



Shasta 1150 PS – Our first VFDs were put online in 2016

# A process is nice – but what really worked

- Egos had to go
- Operators own the facility, Engineering is in a support role
- We assume positive intent and talk through complications and challenges together
- We reached a point of trust through having to lean in on each other through difficult and not so difficult time
- We eat food together!!! We love food





# Really No Egos – Can that Even Work?

- Most recent project: Completed two 7.5 MG Tanks on schedule, under budget, and start up went smoother than any other project
  - Took the time to define the project and the problem we are fixing
  - United as one team with one goal
  - Operations led startup and Engineering became contractor liaison only





# What's Next

- Starting all over with two more 7.5 MG tanks
- Then it is a new treatment plant!





# Questions



# Outtakes





# Outtakes



# Outtakes

