
THE PIPELINERS ASSOCIATION OF HOUSTON





OBJECTIVE:
TO HELP OUR PIPELINE CUSTOMERS GET PRODUCT FROM ONE POINT TO
ANOTHER



CHALLENGE:
ELECTRICITY IS A NECESSARY REQUIREMENT

OVERVIEW



Electrical Power



Equipment



Why VFDs



Start-Up & Commissioning



Operation



Preventative Maintenance

OUTLINE



ELECTRICAL POWER CONSIDERATIONS



ELECTRICAL POWER CONSIDERATIONS



Utility Consultant



Who do you deal with to get Power?



Power Requirements



Logistics



Reliability



Walk the Line



Maintenance





EQUIPMENT CONSIDERATIONS



EQUIPMENT CONSIDERATIONS

⚡ HV Disconnect or CB

👤 Transformers

🔌 VFDs

✓ Grounding Systems

⚠ Protective Relays

💻 PLC Controls

🚌 Bus Duct

🔥 Arc Resistant Switchgear?



WHY VFDS?

DG3

True "Soft" Start

Peak Power Demand

Process Control

System Protection & Diagnostics

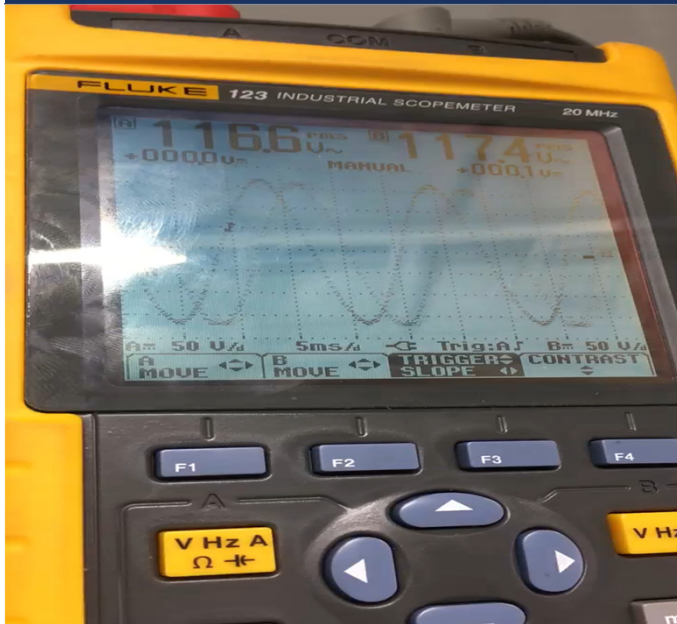
Water Hammer Effect

Sync-Transfer





SYNC-TRANSFER



SYNC-TRANSFER



START-UP & COMMISSIONING CONSIDERATIONS



START-UP & COMMISSIONING CONSIDERATIONS

Safe Practices

Protective Relays

Equipment Start-up & Testing

Utility Coordination

Equipment Compatibility Issues

Ready to energize?



DG4





OPERATING CONSIDERATIONS



OPERATING CONSIDERATIONS

Fault/Trip Conditions

Harmonics

HVAC

Bugs, Gremlins & Voodoo



Equipment Training

Event Logs

Proper Care

Rust



DG6

PREVENTATIVE MAINTENANCE



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QUESTIONS?

