Instrument Gas to Air Conversion: A Solar Driven Demonstration

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From Concept to Operation
How to Launch a Successful Demonstration Project

Challenge
Identification

Finance It!

Internal
Process

Time to Install

Operation
Creating ‘Safe Spaces’

Reduce overall site emissions by providing instrument air for controllers within the wellsite separator package

The Driver

Sufficiently Low Production
Remote Access
100% Husky Owned and Operated

Regulatory Direction
Knowledge
Monetary Incentive

EARLY ACTION
Finance It!

- $1.4M PTAC Portfolio of Advanced Methane Detection, Analytics and Mitigation Project
- Project budget estimated at $56,000 allocated in 2017 – 2018
- In-kind contribution by Husky estimated at $9,000
Piloting a Solution

LCO Technologies Crossfire Air Compressor
Renewable Power Source

- 4x Matrix 265W Mono Solar Panels
- Kinetic Top of pole mount 4 pane
- Midnite Solar Charge Controller, the KID
- 8 x Matrix L16 460 Ahr 6V AGM lead acid batteries
- 2 insulated battery boxes
In Operation
Key Performance Measures

- Cost savings
- Scalability
- Autonomy
- Revenue generation
- Maintenance
- Reliability
Project Development Efforts
The Project Team

Documentation Snapshot

- DBM & Construction Package
- Environmental Review
- Hazard Analysis Method
- Hazard Review
- Job Book Documents
- Pressure Piping Repair – Alteration Procedure Instrument Air Tubing
- Pressure Piping Repair – Alteration Procedure Methanol Tubing
- PSSR
- RAS
- RedLine
- Standard Scope of Work
- Technical Review Checklist
- Husky Innovate Pilot Project Results Form
Lessons Learned To Date
Lessons Learned

- Electrical engineering was the biggest challenge
  - Inaccurate and erroneous drawings
  - Insufficient solar capacity of the existing system
- Simple installation yet extensive with additional battery and solar capacity
- Going forward: optimize system efficiency based upon availability of the pilot
  - Increased assurance of wellsite ability to manage power demand from the air compressor
  - With an optimized system design, explore cost benefit of including the ESDs into the instrument air system
Solar Instrument Air Compressor: A Demonstration Project

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