Moving to above-ground Sx Sealing

SxSeal 2000

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Sulfur Sealing in the SRU

- Maintain bulk temperature
- Maintain wall temperature
Traditional solution: Seal leg

- 20+ ft. below-grade sulfur seal
- Jacketed piping heating technology

- Sealing mechanism operates on hydrostatic pressure
- Liquid sulfur creates a vapor seal
Seal leg - Benefits

- Supplemental pressure relief
- Long maintenance interval
Seal leg: Prone to plugging

- Debris collects at the bottom of the seal leg
- Plugging can also occur at startup
- Costly maintenance
Seal leg: Other potential issues

- Ground-water intrusion
- What happens if plant wants to increase pressure?
- Operation status confirmed via look box
- Crane needed for installation and removal
Look Box Safety
Seal Leg Safety
Seal Leg Safety
Safety Issues Seal Leg

- Exposure to H2S vapors
- Burns from liquid sulphur
- Mess created in SRU
- How Serious?
  - “This area is the most dangerous in the SRU”
    - 40 Year SRU Veteran, Brimstone Vail 2013
Sulfur sealing options

In-ground

Above-ground

Seal Leg

1000

2000
**S Seal 1000** in operation

- **No-flow condition**
  - Liquid sulfur

- **Flowing condition**
  - Liquid sulfur
Requires regular maintenance

• Need for fresh air suit?
Safety Issues SxSeal 1000

- Regular Maintenance
- Exposure to H2S vapors
- Exposure to liquid Sulphur
- No pressure relief path
  - Rupture disk
- Still need for lookbox
SxSeal 2000

- Best of both worlds in sulfur sealing technology
Construction and Components

- Orifice plate
- Plug
- Orifice
- Lift Handles
Operating status indicators

Upper Sight Glass

Lower Sight Glass
Operating status indicators
Low maintenance

Debris can be cleared during turnaround.
Built-in clean out facilitates quick, easy maintenance.
Easy retrofit

- Minimal elevation difference between inlet & outlet
- Facilitates retrofit
Heated with ControTrace
Summary of benefits

SxSeal 2000

- Safe, visual confirmation of performance – no look box required
- No filter maintenance
- Online cleaning possible
- No water intrusion, cross-contamination, or plugging
- Supplemental relief path
SxSeal 2000 – 200+ in operation
Video
Questions?