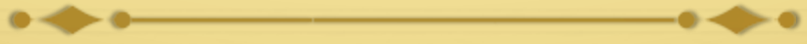
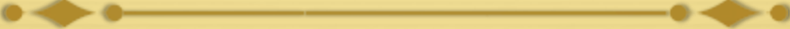


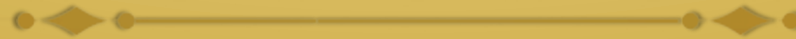
Agenda Session 2

- 
- ✦ 10:30 Quick Overview Seismic 101 Donny Cooper
 - ✦ Quick Workflow Context: Data Acquisition, Production, Depth Imaging, Research, Business Value (Iterative process), ResSim/Interpretation
 - ✦ 10:35 CGG Ted Barragy Data Acquisition: Oil Immersion Cooling, free-air econ., 415V/240 racks
 - ✦ 10:50 TOTAL Donny Cooper Depth Imaging: Direct-Liquid-Cooling & Ice Block, and re-heat campus
 - ✦ 11:05 TOTAL Donny Cooper Business Value of R&D

Agenda Session 2

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- ✦ 11:10 HESS Jeff Davis Reservoir Simulation & Interpretation – Life and Value in a Colocation
 - ✦ 11:25 Panel Questions Steve Poole Data Acquisition: Oil Immersion Cooling, free-air econ., 415V/240 racks
 - ✦ 11:40 End

Petroleum Industry Questions



EE-HPC

Energy Efficiency Panel with Oil & Gas Industry

Steve Poole - Moderator

November 16, 2015

Participants

✦ Donny Cooper – TOTAL



✦ Ted Barragy – CGG



✦ Jeff Davis – HESS

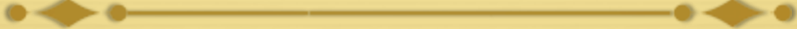


Guidance to the Audience



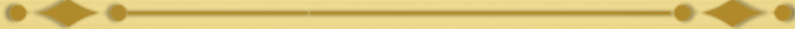
- ✦ Try to stay away from “proprietary” questions
 - ✦ Methods, Costs, Algorithms ... for Seismic, Reservoir, etc.
- ✦ Predictions on future needs
- ✦ Ecological issues (except in the context of EE-HPC)

Questions to the panel (1)



- ✦ 1) We've heard several ways your HPC operations differ from that of the national laboratories, such as several of you lease equipment, which provides strategic advantages.
 - ✦ Can you describe generally how leasing provides you value?
 - ✦ What are the main aspects of a new HPC system that drives the selection decision for you?
 - ✦ How does leasing affect this decision?

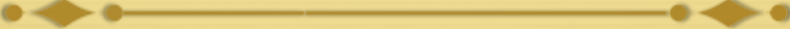
Questions to the panel (2)



✦ 2) Specific to controls:

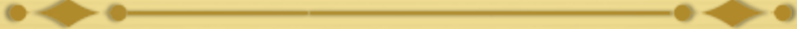
- ✦ Do you have an ongoing controls service contract at your site(s)?
 - ✦ a. If so, does the company with the service contract perform design and installation services for any new work or is new work put out to bid?
 - ✦ b. What are the most important aspects of choosing a controls designer, installer, hardware/software, and service contractor?
- ✦ What would you like to improve in regards to controls systems on future installations as compared to your current system?

Questions to the panel (3)



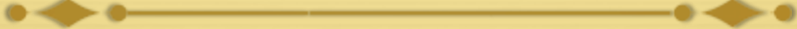
- ✦ 3) Does your company have formalized plans to drive down energy costs, associated with the energy consumption of your data centers?

Questions to the panel (4)



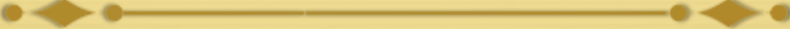
- ✦ 4) Does your company have a dedicated energy manager (in-house or otherwise)?

Questions to the panel (5)



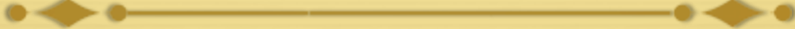
- ✦ 5) Do your data center facilities have a reliability program? (no discussion about business continuity, but infrastructure redundancy is okay)

Questions to the panel (6)



- ✦ 6) Would you say on average, your data center(s) have limited, moderate, or much room for improvement in energy efficiency?

Questions to the panel (7)



- ✦ 7) Does your workload use your HPC near peak rated power or some percentage less?
 - ✦ a. What percent?