A Discussion Group is a forum in which leaders and delegates participate together to share topical problems, solutions, and best practices. Suggested topics are suggestions only; actual topics discussed will be determined by each session's attendees.

Session: **Discussion Group 4**

> Centrifugal Pump Operation, Maintenance, Reliability, and Troubleshooting (Including Sealing Systems)

Date: Monday, 16 February, 2015 1130 – 1300 hours

Leaders:

- Ahmed Rahimi (Qatar Fertiliser)
- Giancarlo Cicatelli (Flowserve)
- Hideki Kanno (Ebara)
- Yousuf Al-Shuhail (Saudi Aramco)
- Patrick Shaw (EagleBurgmann)

Topics:

- Pump/system improvements for energy savings
- Seal-less versus sealed pump reliability
- Preventive/predictive maintenance program elements
- Role of operations in maintenance, data collection, etc.
- Reliability experiences with liquid versus gas seals
- Maintenance philosophy for pumps
- Spare parts OEM versus non-OEM
- Team approaches to reliability improvements
- Pump foundation, alignment, and piping strain
- Corporate Alliances impact on pump performance and reliability
- Repair techniques and material improvements
- Bearing housing seals and reliability
- Portable and online monitoring of pumps
- Pump hydraulics and effect on reliability
- Mean time between failure/repair methodology
- **Energy savings**