Modular Open Systems Approach (MOSA) Working Group Telecon

June 8th, 2022
Begins at 12:03PM ET

James Mastandrea and Kristin Jaburek
Johns Hopkins Applied Physics Laboratory
Space Exploration Sector

Join LSIC MOSA WG
Meeting Agenda

- LSIC Community Updates
- LSIC MOSA WG Updates
- Technical Presentation
  - Title: The Standards Cabbage Patch – Where Do Standards Come From?
  - Presenter: Katherine L. Morse, PhD
Surface Power Monthly Telecon: June 23rd 11:00 ET

Speaker: Martin Narendorf, Jr., Vice President of Engineering and Asset Optimization for CenterPoint Energy

Topic: Standards governance processes for the future lunar power system

Abstract:
The utility industry has a very robust structure for terrestrial power systems national and international standards and standards governance. Associated with this standards process are numerous organizations such as ANSI, IEEE, UL, NESC and numerous national and international standards bodies that exist to develop power system standards. What standards governance process is needed and will be developed to govern the lunar power system implementation, deployment and expansion? What lessons can we take form the terrestrial power system standards process that should be applied to the lunar power system implementation and deployment? CenterPoint will discuss a summary of the body of work needed to establish these needed standards governance processes for the lunar power system.

Zoom Link for June 23rd 11:00 ET:
https://jhuapl.zoomgov.com/j/1617206812?pwd=ZWhlaW5XRURsRmxJcWd4b1ZoeFFwUT09
Low-Temperature, Sub-kW Power and Energy Storage for the Lunar Surface

The Moon harbors thermal extremes with requirements far beyond most terrestrial technologies. The permanently shadowed regions near the lunar poles, rich in science and containing potentially commercially relevant volatiles, reach ultra-cold temperatures ranging down to tens of degrees Kelvin. Solutions such as battery modules that will survive or operate within these extremes, as well as strategies that ensure survival through hibernation, are immediate needs critical for operations on the lunar surface and beyond.

Topics for the workshop include:

• Context on needs and lunar thermal environments
• Panel discussion of near-term system solutions
• Lightning talks that survey recent developments
• Focused session on low temperature batteries
• Break-out discussions targeting specific scenarios

Format and date:
Virtual, Zoom Webinar (registration required, but is fast and free)
Lightning Talks: 400-word max abstracts due July 8th
Thursday July 28th, 11:00 – 4:45 ET (total length subject to change)

https://lsic.jhuapl.edu/Events/Agenda/index.php?id=214
MOSA WG Goals:

- Document community feedback on recommended lunar MOSA activities
  - Compile existing efforts and identify overlap
  - List systems that could benefit from MOSA
  - Perform system decompositions to find critical interfaces & what requirements are needed to ensure interoperability

- Host talks on lunar interoperability
Updates on Confluence

Existing Interoperability Standards & Programs

Focus Group Suggested Items for MOSA

Who’s Who is Lunar Interoperability
LSIC | MOSA Working Group

LSIC Spring 2022 Meeting Summary

- View recordings and presentation material here:
  - https://lsic.jhuapl.edu/Events/Agenda/index.php?id=200

- MOSA Panel

  Moderators:
  - Jessy Kate Schingler, Open Lunar Foundation
  - Dr. James Mastandrea, APL

  Panelists:
  - Mark Mazzara, Robotics Interoperability, Engineer & Project Manager, US Army
  - Meera Towler, Senior Research Engineer, Southwest Research Institute
  - Mathew DeMinico, Power Portfolio Manager, NASA Glenn Research Center
  - Amalaye Oyake, Senior Flight Software Engineer, Blue Origin
  - Chad Thrasher, Systems Interoperability Lead, NASA’s Artemis Campaign Development Division

- Breakout: Space Law, MOSA, and the Big-Picture
The Standards Cabbage Patch – Where Do Standards Come From?

Katherine L. Morse, PhD