

Natural Energy Laboratory of Hawaii Authority

Briefing

September 13, 2016



Hawaii Ocean Science and Technology Park

administered by the
Natural Energy Laboratory of
Hawaii Authority



▲ Hualalai
Elevation: 8,271 ft

Captian Cook

Kailua-Kona

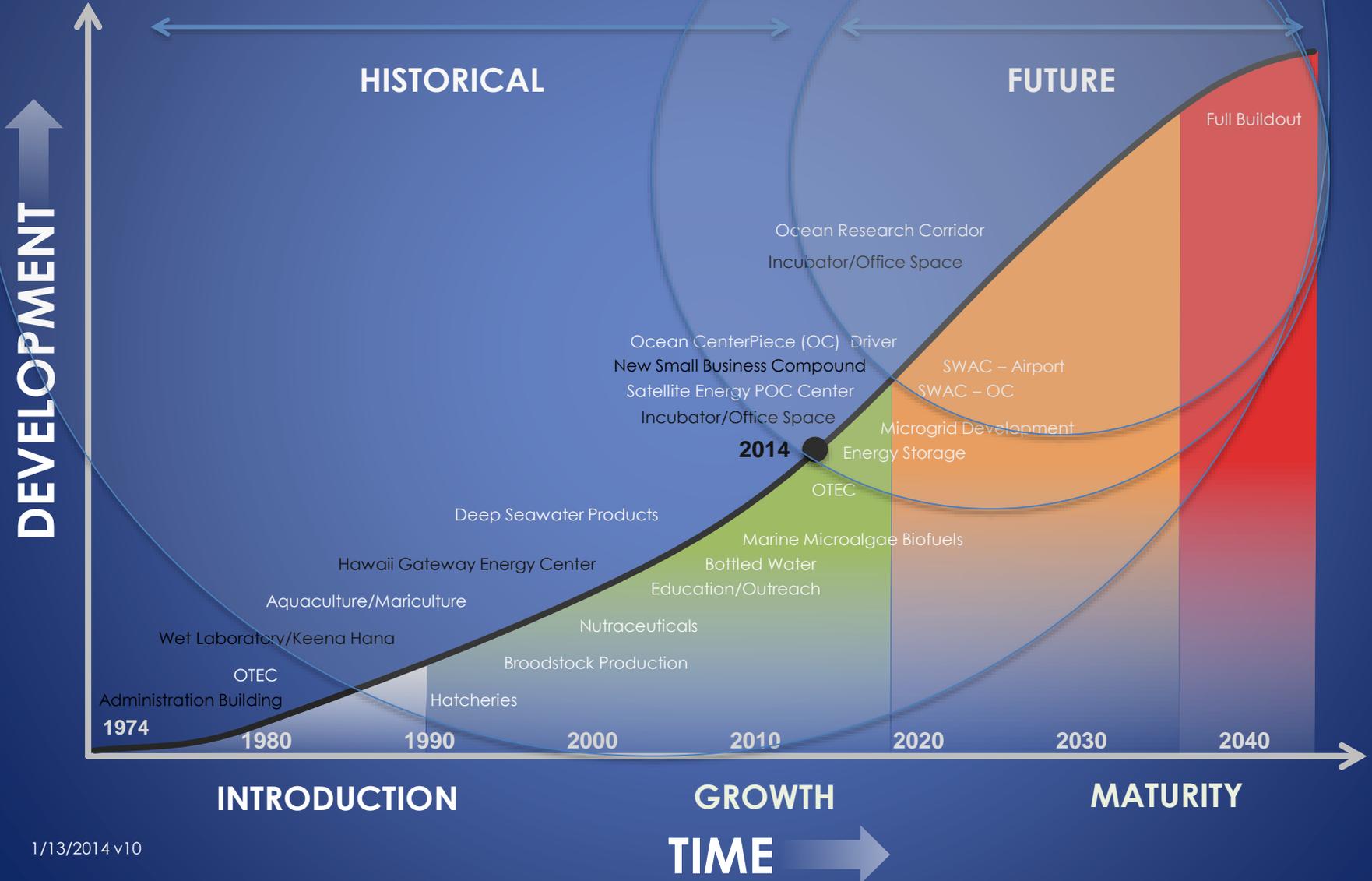
Queen Kaahumanu Highway

Kona International Airport



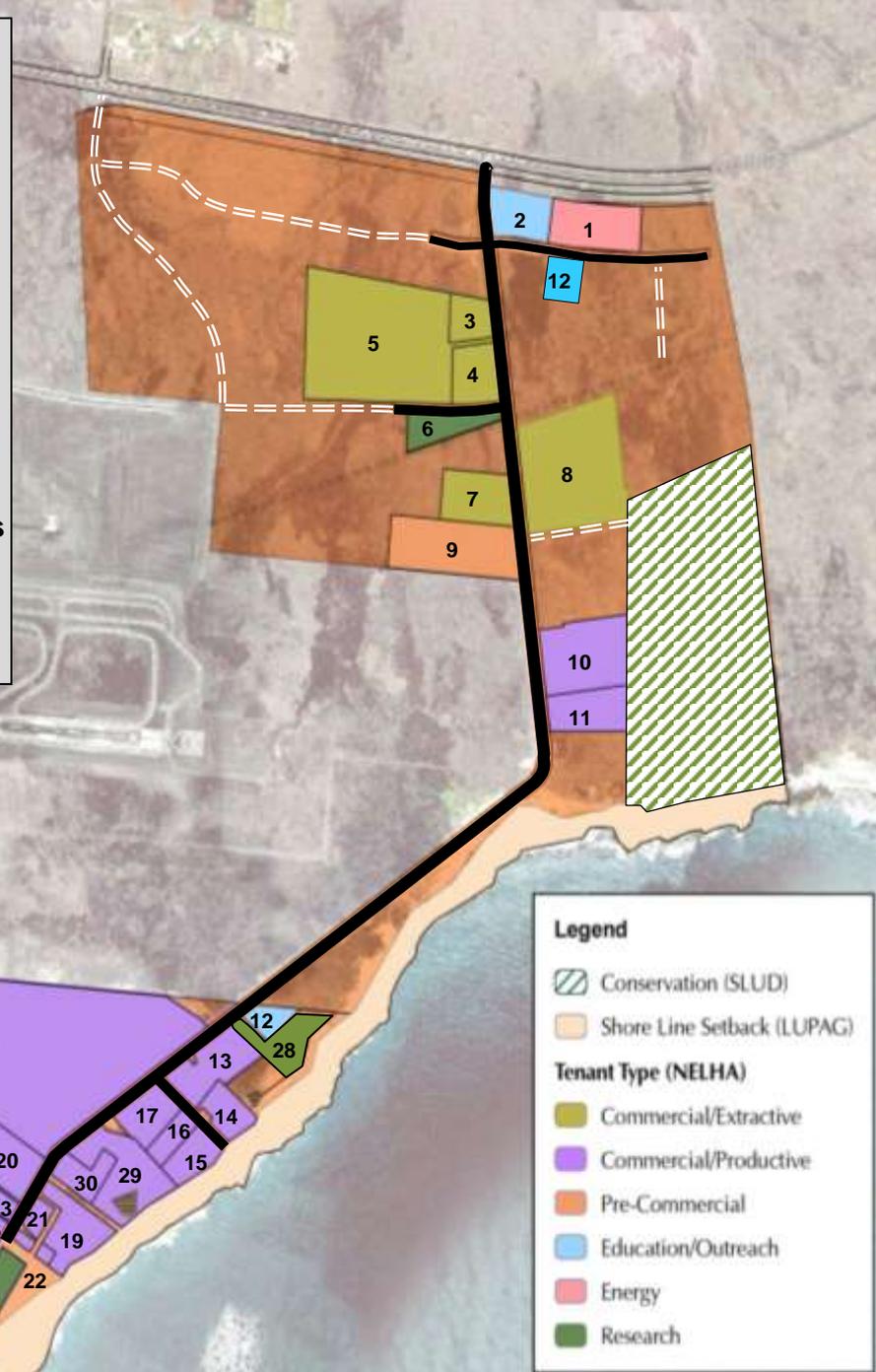


HOST Park Lifecycle

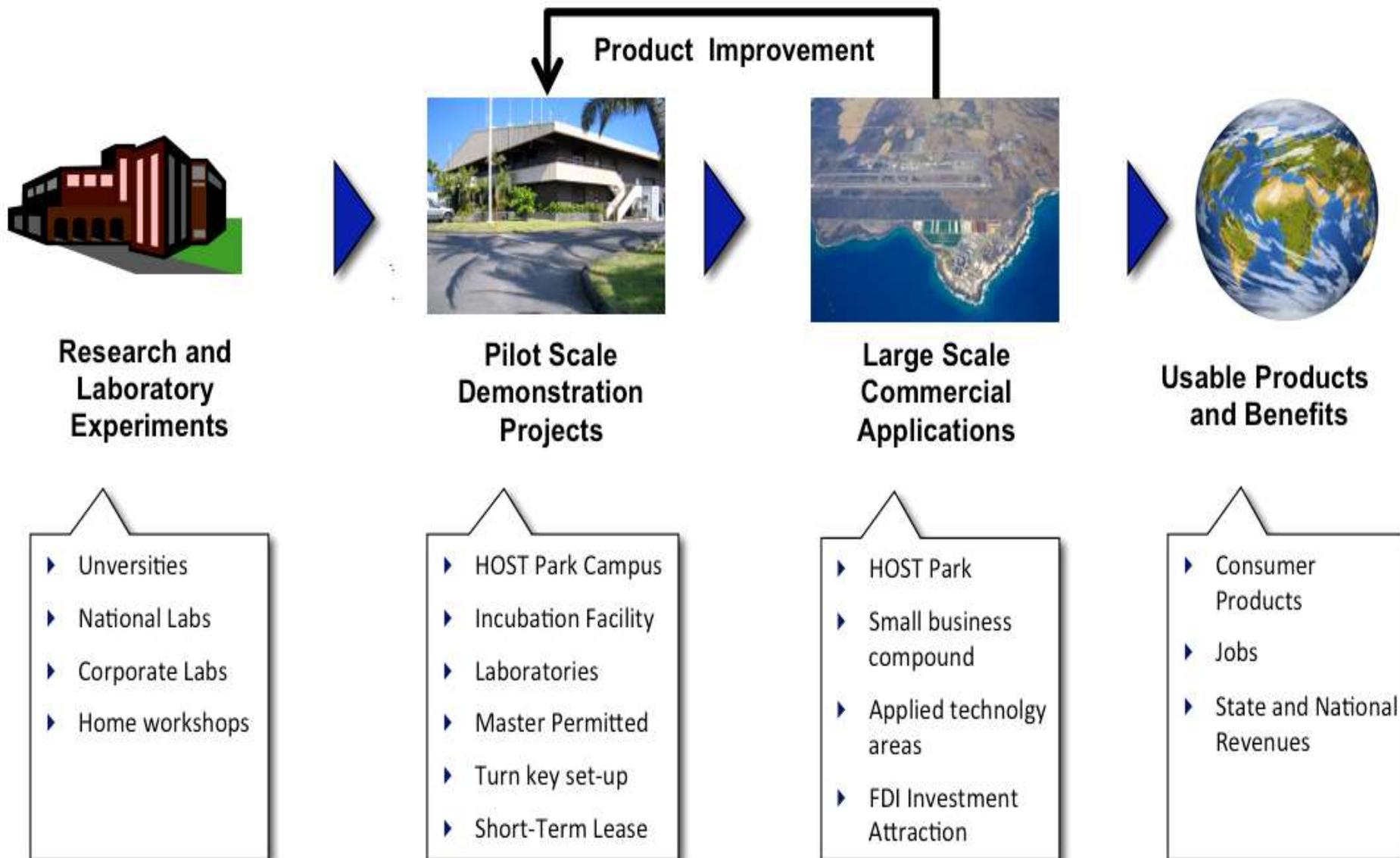


Client List

- | | |
|-----------------------------------|------------------------------|
| 1. Sopogy Inc. | 18. Cyanotech |
| 2. Gateway | 19. Mera Pharmaceuticals |
| 3. Destiny | 20. Kona Cost Shellfish LLC |
| 4. HDMI | 21. Kona Cold Lobster, Ltd |
| 5. Koyo USA Corp | 22. Pacific Plankontonics |
| 6. Vacant | 23. Indo Pacific Sea Farms |
| 7. Savers Holdings Ltd. | 24. High Health Aquaculture |
| 8. Kona Deep | 25. NELHA Research Campus |
| 9. Moana Technologies | 26. Taylor Shellfish |
| 10. Bid Island Abalone Corp | 27. Cellana |
| 11. Vacant | 28. Marine Mammal Center |
| 12. W Hawaii Explorations Academy | 29. Vacant |
| 13. Shrimp Improvement Systems | 30. Royal Hawaiian Sea Farms |
| 14. Keahole Point Hatcheries | |
| 15. Ocean Rider Inc. | |
| 16. Troutlodge Marine Farms | |
| 17. King Ocean Farms | |



HOST Park PRODUCT PIPELINE



Clean Tech and Renewable Energy Strategy



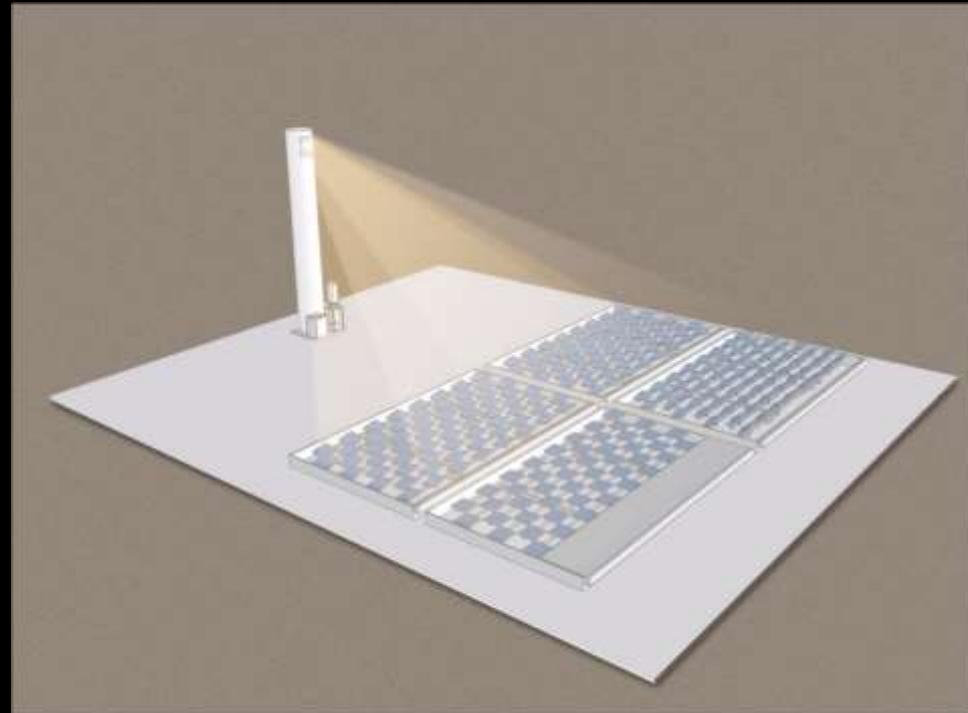
- OTEC is the primary focus.
- In addition, focus as a test bed or an outdoor demonstration site for the National Labs, DOD, and private sector. Not Basic Research.
- Target areas are clean energy production, storage devices, real world grid connected simulations, renewable energy integration, smart/micro grids.
- Asia/Pacific location.
- Biofuel/CSP/SWAC/OTEC/OCAES/H₂ projects.
- Demonstrate “integrated clean energy district”.





Image courtesy of Sopogy Inc. /opogy Inc.

- CSP. Heliostats using rocks to store heat.
- 100% dispatchable during peak hours.
- An Idealab Company.
- Energy Excelsior graduate and funded.
- Series B funding completed.
- Gates, Bezos are investors.
- 100 kwh system.
- NELHA BOD preliminary approval.



Research Campus

- 6A Master Permitted
- On shoreline w/ ready ocean access
- Turn Key Setup – 1 day
- Surface and deep ocean water available
- Short term leases by SF
- Incubator Office Building (10,000 sf)
- WetLab (4,000 sf)
- Covered Storage Space (6,000 sf)
- Seminars/Conferences
- Small college campus atmosphere







8' UTILITY CORRIDOR

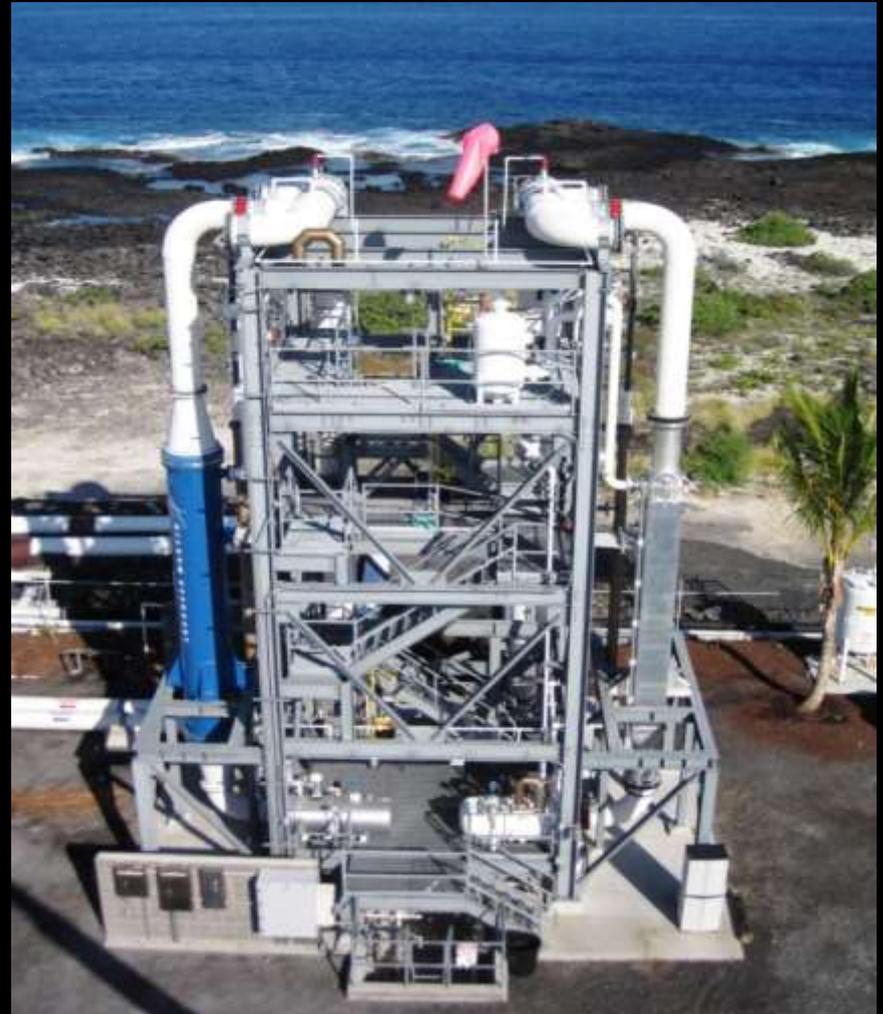
elec. panel

elec. panel

DRIVE

DRIVE

- 100 kW turbine installed.
- Operational in August 2015.
- Grid connected.
- NELHA needs to make engineering adjustments to lower pressure in system.
- Net power in 30kW + range.
- In discussions for a three year agreement to run system 24/7.
- Next steps – Inline System?



Questions and Answers

