ARES Nevada
Clean Energy Storage Project

ARES’ Mission: To Enable Reliable Green Power
What is ARES Nevada?

- A clean, quiet, environmentally sensitive project that uses the force of gravity to store power when it isn’t needed and supply it when it is.

- A patented technology that employs electric locomotives slowly and quietly moving up and down a gentle grade to store and discharge electricity.

- A project that uses no fossil fuel and no water, produces no emissions or hazardous wastes, and sits lightly on the land.
  - Limited visual impact (much less than a wind or solar farm)
  - Easily decommissioned with no lasting impacts
  - A single railroad track, some maintenance buildings and wires to connect it to the grid are all that is needed

- A source of revenue for Nevada and employment for Nevada residents
The Advanced Rail Energy Storage (ARES) Team

James Kelly, Chief Executive Officer – Former Senior Vice President of Transmission & Distribution for Southern California Edison (SCE). 40-year utility veteran; led the planning, engineering, construction and operation of an electrical grid covering a 50,000-square-mile service area.

Steve Sullivan, Chief Operations Officer – Worked at Edison International for 35 years. Prior to his retirement he led the two largest Southern California Edison organizations dedicated to serving government customers; first as Director of Local Public Affairs, and then as Director of Government & Institutions of the Business Customer Division.

William Peitzke – Founder, Director of Technology Development and Board Member
29 years of experience in the energy business. Holder of many patents; founder of a strategic alliance and project conceptualization service company in the deregulated California utility marketplace.

Francesca Cava – Vice President of Operations and Board Member
Former Arctic Policy Project Manager, Aspen Institute Dialogue and Commission on Arctic Climate Change. Four years as a Commissioner on the California Coastal Commission. Former director of the U.S. National Marine Sanctuary and National Estuarine Research Reserve Programs with NOAA.
ARES’ History

Founded in **2010** in Santa Barbara, California

**2010-2011**
- Validated core technology
- Engaged core consultants and manufacturing partners
- Filed and received 3 fundamental patents in the US and internationally

**2012**
- Developed ancillary services technology and began development of 50MW ARES Nevada Project.

**2013**
- Completed ARES Demonstration Project in Tehachapi, CA.
- Initiated the process for the BLM Permit for ARES Nevada.

**2014**
- Achieved equity funding for Nevada project, filed Nevada BLM Plan of Development, CAISO Interconnection Request and initiated procurement process for Nevada shuttle vehicles, track construction, and other facilities
ARES Tehachapi Demonstration Project
ARES Nevada Project Overview

- ARES’ first commercial gravity power installation
- 50MW ancillary services installation
  - Acts as a “shock absorber” for the electric grid to facilitate integration of wind and solar power
- Location – 3 Miles south of Pahrump, Nevada
- Host utility – Valley Electric Association
- Customer – California Independent System Operator
- Interconnection – VEA 230kV Mead-Desert View circuit at VEA Gamebird Switch
ARES Nevada Project Components
What Will You See?
Why ARES Selected This Site

- Isolated location with minimal traffic interference
- Nearly constant grade with 2000’ elevation change requiring minimum cut and fill
- Short distance to Valley Electric Gamebird Switch
- Interconnection into CAISO Via VEA 230kV transmission line
- Entire site located on BLM managed property
What Measures Will be Taken to Mitigate Environmental Impacts?

- Coordinate tortoise crossing feature designs and movement monitoring with the USFWS and BLM.
- Install video cameras for 24 hour surveillance of operations. Walk the track daily; staff will monitor operations 24 hours a day/7 days a week.
- Install overhead catenary transmission to prevent electrical contact and allow easy passage by horses, burros, deer, general public, etc.
- Install perch deterrent devices on the transmission poles.
- Operate at an average speed of less than 19 miles per hour.
- Use low-level, downward-facing lights necessary for safe operations and security.
- Use BLM approved paints on all equipment to minimize the visual impact of the project.
- Public access to BLM land, Forest Service land, Carpenter Canyon Road and Loop Boundary Road will not be blocked.
- Drainage features will be installed to maintain existing flow patterns.
Employment Statistics

- **Construction**
  - 100 to 125 full-time employees at the height of construction
  - Construction will be hired locally whenever possible based on available staffing and technical expertise (rail construction)
  - Construction monitoring staff will be hired locally as available

- **Operations**
  - 15 to 16 full time operations staff
  - Three shifts will have up to five people for operations, security, and maintenance
  - Additional office space with administrative staff will be leased in the Pahrump