



Hydrogen Energy Storage Integrated With A Combined Cycle Plant

Siemens Energy
Intermountain Power Service Corp
April 5, 2021



H2 Energy Storage Integrated With A CCGT

DE-FE00232028

Underlying Question

How to economically produce H2 to serve Intermountain's roadmap of 30% H2 in 2025?



Prime Recipient: Siemens Energy



Principle Investigator: Omar Rubio



Sub-Recipients: Intermountain Power Service Corporation



Location: Orlando, FL
Host site: Intermountain Power Project (840MW), Delta, UT

DOE: \$200,000

Non-DOE: \$71,128

Total: **\$271,128**

Objectives

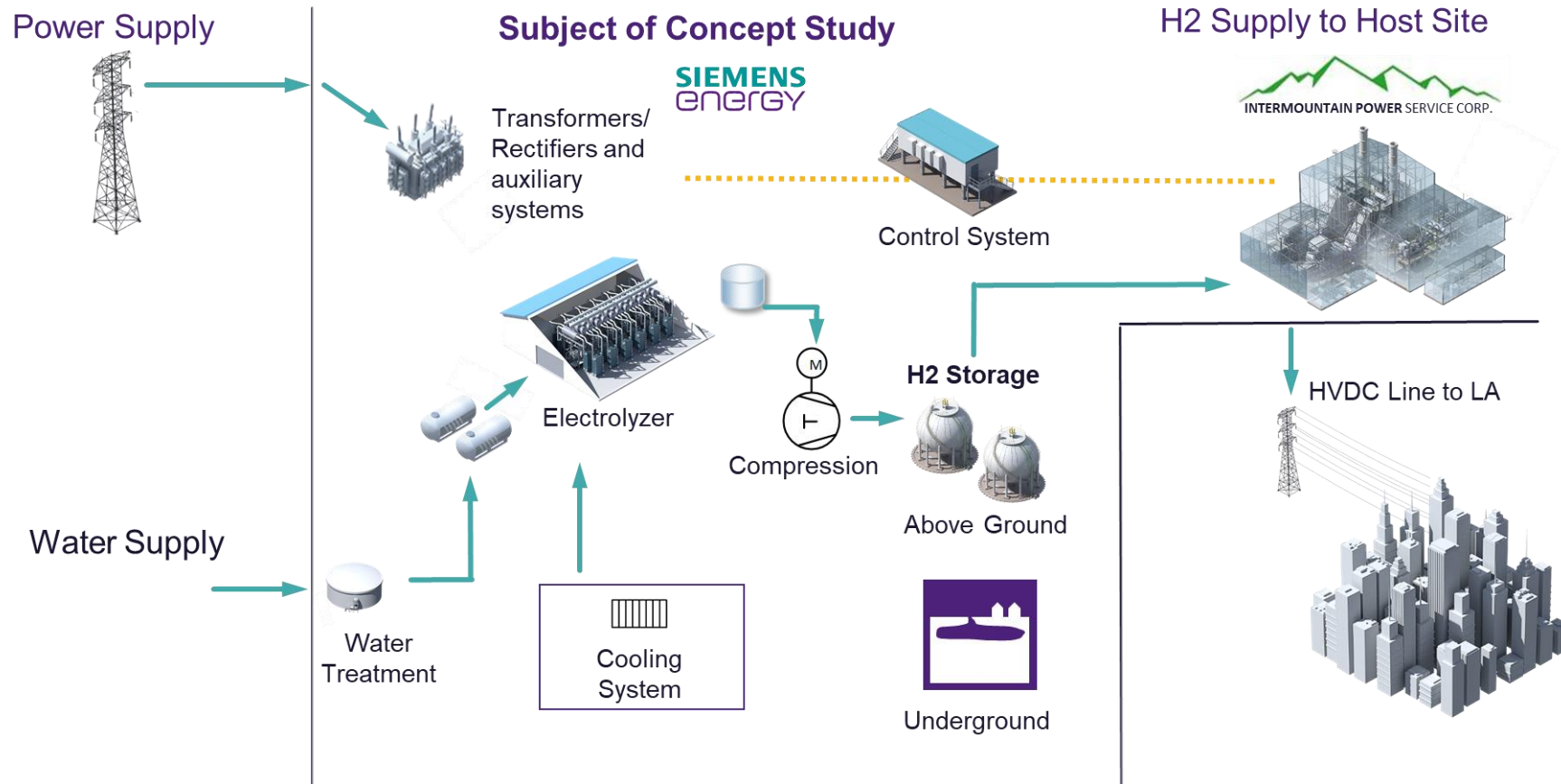
- Investigate size optimization for H2 production (PEM) and storage for multiple demand and supply scenarios
- Investigate integration challenges and synergies into a combined cycle power plant
- Assess how dynamic response capabilities of H2 generation may support power plant operation and grid stability.

Relevance and Outcomes/Impact

- Define optimization approach, determine cost drivers and economies of scale effects
- Quantify integration benefits to power plant and power grid
- Technology Maturation

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Project Intricacies

- Remote Location in Utah
- Design of storage system
- Integration synergies

Insights

- Integration challenges
- Technical risks
- Economics

Contact page



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