Developing Hydroelectric Projects in West Virginia

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Advanced Hydro Solutions

- Founded 2004 to develop hydroelectric projects on existing dams
- 1st project was in western Pennsylvania
  - Operational in December 2013

- 6MW on Mahoning Creek Dam
- Took 9 years to develop, license & construct
Current AHS Projects in WV

- Jennings Randolph Dam
- Tygart Dam
Jennings Randolph Project

- North Branch Potomac in Mineral County
- 14MW; 56,000MWh; $43 million to construct
- Corps of Engineers Dam, Baltimore District
- Advanced stage development

- Enough to power 6,000 homes with clean renewable energy
Tygart Dam

- Tygart River in Grafton, Taylor County
- 30MW; 93,000MWh; $60 million to construct
- Corps of Engineers Dam, Pittsburgh District
- Received FERC license April 29th

- Enough to power 10,000 homes with clean renewable energy
Development Challenges

- Complex, expensive & exhaustive Federal licensing process based on 1930 Federal Power Act
  - Environmental, historical & recreational studies
  - 5-7 yrs costing at least $1million

- State Water Quality Sec 401 Certification (1-2yrs.)
  - Places mandatory conditions on project
    - Can be non-WQ related
Development Challenges (2)

- US Army Corps of Engineers
  - Can be uncooperative & unsupportive of private development at District level
    - AHS abandoned 2 projects in WV as a result
  - Sec 408/404 processes poorly defined, no timetable & uncertain outcome (28 months so far on Jennings)

- PJM queue process for transmission interconnection
  - Unconnected to development timetable
  - Structured around large generating companies
  - Require payment for system improvements up front
Development Challenges (3)

- Obtaining a Power Purchase Agreement with a price & term acceptable to financers

THIS IS THE BIGGEST CURRENT ISSUE FOR ANY TECHNOLOGY
So Why Do We Do It?

- Hydro is the greenest, most reliable source of renewable energy
- Provides construction jobs & taxes for local communities
- Plants last for over 100 years
- A legacy of dependable green energy for our community & our nation

WV IS A GREAT ENERGY STATE & THESE PROJECTS CAN BE PART OF ITS FUTURE