



Southern Ohio Diversification Initiative



Photo: US Department of Energy (DOE)

PORTS SITE ASSETS ELECTRIC GRID

- American Electric Power, Don Marquis Substation is located in northwest portion of the site
 - » Feeders are 765kV and 345kV, with aggregate design capacity of 8,000 MVA
 - » Number of Transformers and ratings
 - +765/345 KV 10,000 MVA Transformer T-1
 - +345/138 kV 1,450 MVA Transformer T-2
 - » Connected to ~2100 miles of 765kV transmission lines
- AEP owns the largest transmission system in the United States, delivering electricity to more than five million customers
- Existing right-of-way for electric transmission lines, access to power grid is available throughout the site. No external easements would likely be required.
- DOE is a registered entity with North American Electric Reliability Corporation (NERC) based on direct grid connection to DOE owned substation, X-530
- Site is electrically connected to two balancing authority areas and to two Reliability Coordination areas--PJM and Midcontinent Independent System Operator (MISO)



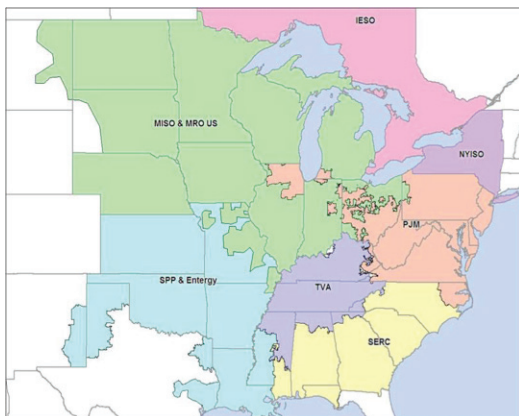
Don Marquis Substation, 800-kV Circuit Breaker's Photo: US DOE

EASTERN INTERCONNECTION

The electric supply from Florida through Canada and from Oklahoma to Maine is carried by the Eastern Interconnection.

Access

- DOE is currently fed from 5 x 345kV transmission lines
- On-site connection to AEP 765kV high voltage backbone



ON-SITE DOE OWNED SUBSTATIONS

X-530-services the former Gas Diffusion Plant and DUF6

- Feed by five 345kV high voltage transmission lines, with aggregate design capacity of 4860 MW
- Arranged in a double bus breaker and a half scheme with 2 operating step down transformers to 13.8kV
- Twenty- four 13.8kV overhead distribution feeders, each with an approximate 12MW capacity, leave to supply the former Gas Diffusion Plant and DUF6

X-5000-services the former American Centrifuge Plant (ACP) and DUF6

- Fed by three underground 345kV feeders from X-530
 - Three step-down transformers supplied the ACP via underground 13.8kV feeders
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Contact SODI at sodilaw@outlook.com or 740.897.2122

Our Mission for the Southern Ohio Diversification Initiative (SODI) is to improve the quality of life for Jackson, Pike, Ross, and Scioto Counties through economic diversification, development of underutilized land and facilities on the Department of Energy (DOE) Portsmouth Gaseous Diffusion Plant Site, and continued support of local industry.

References:

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