

# Fuel requirements for black start resources

MIC/OC Special session: fuel requirements for black start resources

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# Level of fuel assurance for black start resources

- **Fuel assurance needs to be clearly defined**
  - **What constitutes fuel assurance?**
  - **Is it possible for a single fuel, gas-fired unit to be fuel assured?**



# Universal black start fuel assurance requirements

- **For design component starting system requirements**
  - **Time frame for three starts needs to be defined**
  - **Time allowed between starts needs to be defined**



# Black start fuel assurance solutions by primary fuel type

- **For design components natural gas, dual fuel capability and pipeline requirements**
  - **Options in addition to on site fuel should consider including multiple pipeline interconnections, natural gas contract terms and location of supply**
- **For design components hydro (run of river)**
  - **Confidence level must be defined and comparable to other resources**

# Black start fuel assurance solutions by primary fuel type

- **For design components hydro (pumped storage)**
  - **Pond level must satisfy run hour requirements to meet black start commitments**
- **For design components energy storage resources, hybrid resources, intermittent resources and with onsite generator**
  - **Must meet minimum run time duration requirements at all times**

# Fuel assurance testing & verification requirements

- **For design components fuel inventory verification, starting system verification and non fuel consumables inventory verification**
  - **Inability to meet black start obligations and all related status changes must be reported immediately**

# Fuel assurance compensation

- **For design component fuel assurance compensation**
  - **Capital costs are not part of fuel assurance**
  - **Incremental black start capital costs are the new or additional capital costs documented by the owner which should be reviewed and approved through the normal black start review and approval process**

# Fuel assurance compensation

- **For design component onsite fuel, water level, sorted energy, etc., starting systems and non fuel consumables compensation**
  - **If levels fall below run hour requirements for any length of time they must be reported to PJM immediately**
  - **A regulatory requirement that reduces black start capability is not an excuse and should result in reduction in payments if temporary and elimination from black start resources if permanent.**
  - **Black start revenue will be forgone for months which fuel, stored energy and other consumables are deficient. Clarify that this is full monthly payment.**



# Fuel assurance compensation

- **For design component compensation for non CRF black start units and non black start units that do not require capital projects to provide fuel assured black start**
  - **For fuel assurance black start resources, base formula rate compensation incentive factor should remain the same:  $Z=0.10$**
  - **Not clear why non black start units referenced.**

# Implementation

- **For design components existing black start resources and 2018 RTO wide RFP awarded black start resources**
  - **Black start resources should not be terminated until after the capital cost recovery term has been completed**

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