Mitigating Systems Performance Index Plant Comparison Database Demonstration

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EDG Score

- **Increases Importance**
  - Supports HCI/RCI/AFW
  - Supports Cooling Water
  - Short-term B/U function
  - Supports another EDG
- **Decreases Importance**
  - Swing EDG
  - Short-term support available
    - Opposite Unit
    - Internal Cross-tie
    - AAC

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Attachment 3

EDG Examples

- **Kinds of Cutsets**
  - Loss of AFW Heat Removal

    LOOP <AFW TDP FR> <EDG A FR> <EDG B FR> <POWER RECOVERY FAILS>
  - Loss of Cooling Water

    LOOP <EDG A FR> <SW MDP B FR> <POWER RECOVERY FAILS> <RCP SEALS FAIL>
- **Number of Basic Events**
  - w/o Alternate AC

    LOOP <EDG A FR> <EDG B FR> <POWER RECOVERY FAILS>
  - w/ Alternate AC

    LOOP <EDG A FR> <EDG B FR> <POWER RECOVERY FAILS> <AAC FAILS>

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AFW Motor-driven Pump Type

- Power Dependencies Between MDP and TDP
  - Type 1: Same DC bus supported by the same AC bus
  - Type 2: Same DC bus supported by multiple AC buses
  - Type 3: Different DC buses and different AC buses
  - Type 4: Different DC buses and the same AC bus

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AFW Pump Type Example

- Consider a 3 pump system
  - Two MDPs and One TDP - typical configuration
  - Assume the following dependencies
    *MDP A: AFW TDP Type: **3** (power independent from TDP)*
    *MDP B: AFW TDP Type: **1** (power fully dependent with TDP)*
  - Coded as followed
    *MDP A: AFW TDP Type: **3-1** (independent pump with dependent pump)*
    *MDP B: AFW TDP Type: **1-3** (dependent pump with independent pump)*
  - TDP is implied (two numbers represent a three pump system, one number represents a two pump system)

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