System Restoration Strategy Sr. Task Force

Black Start Generation Commitment Process
Example 1

Stage 1 load = 7 MW + 5 MW = 12 MW
Tier 1 BS Requirement = (1.25)(12 MW) = 15 MW

BS Unit = 15 MW
Requirement Met!
Example 2

Tier 1 BS Unit (15 MW)

Critical Steam #1 (150 MW)
6 hour start

7 MW Aux Load

Critical Steam #2 (100 MW)
3 hour start

5 MW Aux Load

Nuclear Unit #1
20 MW Safe shutdown load

Stage 1 load = 7 MW + 5 MW = 12 MW
Tier 1 BS Requirement = (1.25)(12 MW) = 15 MW

Stage 2 load (4 hour) = 20 MW (nuclear)
This can be met by Critical Steam Unit #2
BS Unit = 15 MW
Requirement Met!
Example 3

Stage 1 load = 7 MW + 5 MW = 12 MW
Tier 1 BS Requirement = (1.25)(12 MW) = 15 MW

Stage 2 load (4 hour) = 20 MW (nuclear) + 5 MW (Gas) = 25 MW
This can be met by Tier 2 BS
Tier 1 BS Unit = 15 MW
Tier 2 BS Unit = 120 MW
Stage 3 (Future?)

Zone 1
- Tier 1 BS Unit 1
- Tier 1 BS Unit 2
- Tier 2 BS Unit 1

Zone 2
- Tier 1 BS Unit 3
- Tier 1 BS Unit 4

Zone 3
- Tier 1 BS Unit 5
- Tier 2 BS Unit 2

EPRI Analysis

Restoration Time
Less than 48 hours?

- YES
  - Complete
- NO

Analyze if additional BS commitments could reduce overall Restoration Time