NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

History of NERC and GADS

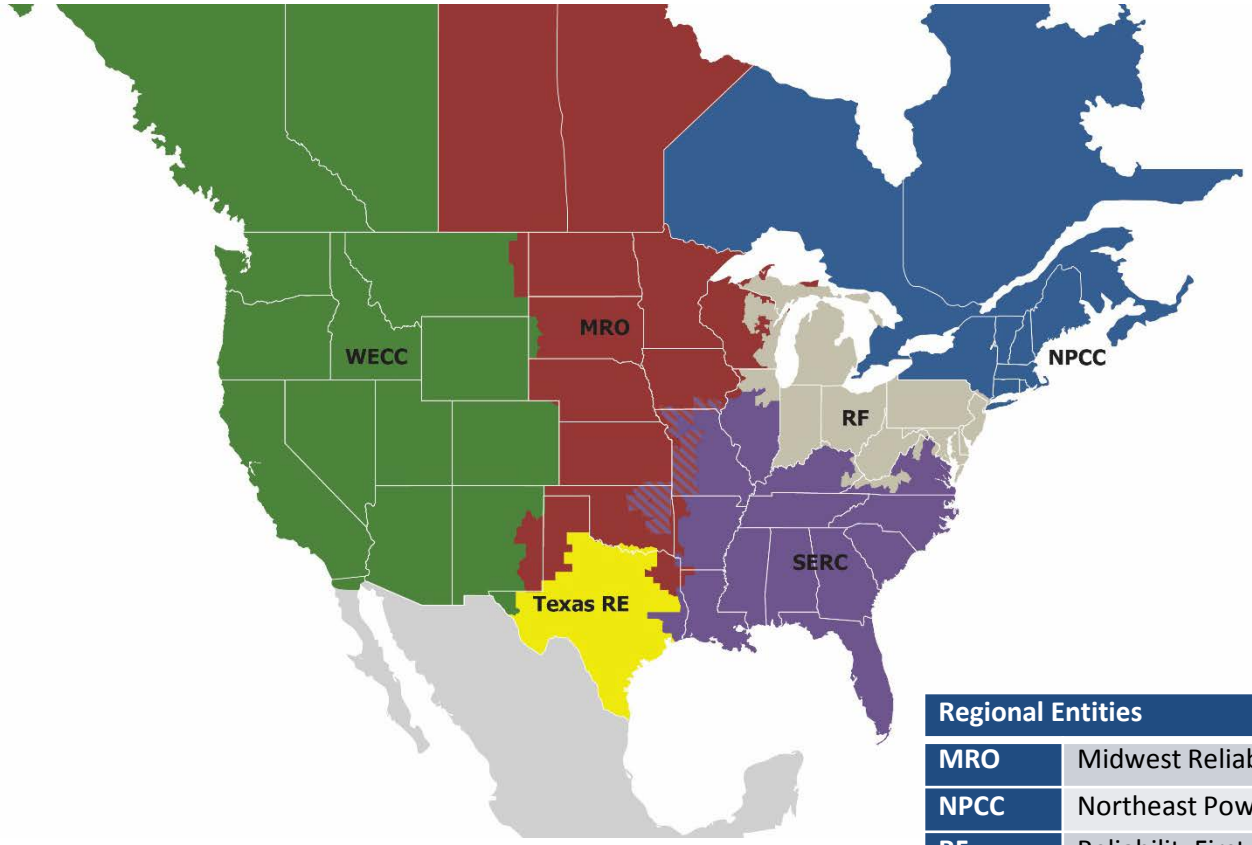
Data Reporting Instructions – Section I

Module 02 - GADS Data Reporting Workshops

RELIABILITY | ACCOUNTABILITY




Regional Entities



Regional Entities	
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

The Federal Power Commission and Regional Entities (RE) were the precursors to NERC

What is NERC?

- On November 9,1965 there was a large black out in the Northeast
  - 30 million people were affected
  - It is estimated that $100 million in economic losses occurred
- In 1967 a Federal Power Commission investigation recommended forming a “council on power coordination”
- In 1968 the Regional Entities formed the North American Electric Reliability Corporation (NERC)
- In 1982 a committee of industry experts created the Generating Availability Data System (GADS)

What is GADS?

G *- Generating*

A *- Availability*

D *- Data*

S *- System*

The GADS Databases

- **Design**
  - Nine required fields that uniquely identify the generating unit
  - Plus voluntary fields that describe the equipment on the unit
- **Event**
  - Description of equipment failures using coded events to record the details of the problem and the cause
- **Performance**
  - Summaries of installed capacity, generation produced, fuel quantities burned, and start ups

What GADS Does

- GADS maintains
  - Installed capacity (potential generation)
  - Performance History (actual generation)
  - Equipment problems (outages and derates = lost generation)
- GADS is an equipment database and is only interested in the reliability, availability , and maintainability of the installed equipment
- Dispatch requirements and needs play no part

Required By Law

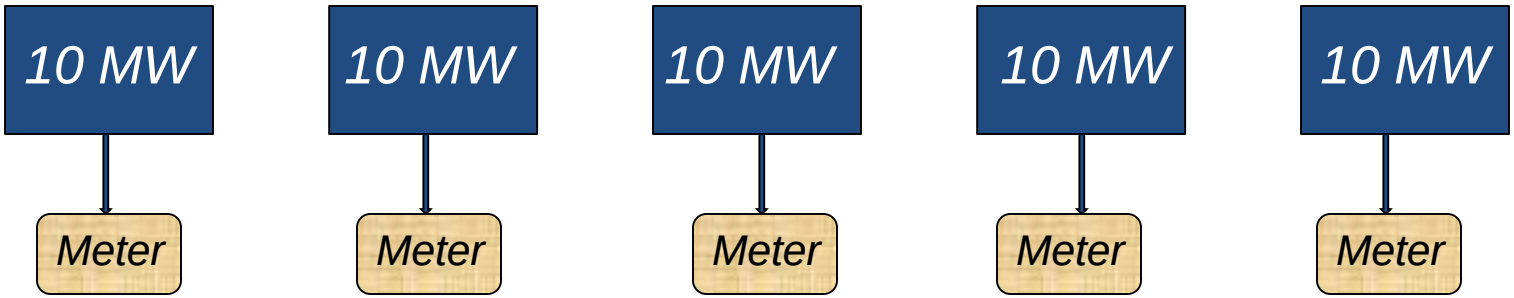
- Generator owners are required by law to collect and report GADS data to NERC as outlined in the GADS Data Reporting Instructions (DRI)
  - http://www.nerc.com/pa/RAPA/gads/Pages/Data%20Reporting%20Instructions.aspx
  - The DRI describes how to report design, event and performance data
  - Units 50 MW and larger started January 1, 2012
  - Units 20 MW and larger started January 1, 2013
- Generator Owners not listed on NERC's Compliance Registry (NCR) may report to GADS on a voluntary basis
- All smaller MW units are invited to report voluntarily

Conventional Generating Unit Types

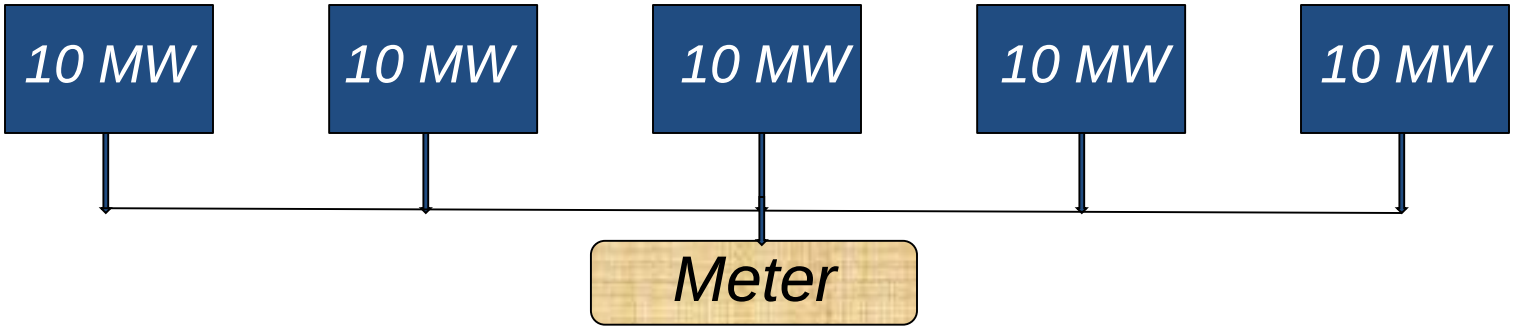
1. Combined Cycle Gas Turbine
2. Combined Cycle Steam Turbine
3. Co-Generation Gas Turbine
4. Co-Generation Steam Turbine
5. Co-Generation Block
6. Combined Cycle Block
7. Fluidized Bed
8. Fossil-Steam
9. Gas Turbine/Jet Engine (Simple Cycle Operation)
10. Geothermal
11. Internal Combustion/Reciprocating Engines
12. Miscellaneous (variations on the other types)
13. Multi-boiler/Multi-turbine
14. Nuclear
15. Pumped Storage/Hydro

Note On Common Metered Units

Treat as Normal Units



Treat as a “Miscellaneous Unit” if the sum is over 20 MW



Problem

- Problem: You are a new employee within the electric industry and you are given the task of preparing a survey of all the units in your company by type
- Question: Which of the following is not a conventional unit?
  A. Combined Cycle Gas Turbine
  B. Fossil Steam
  C. Miscellaneous
  D. Nuclear
  E. Wind Farm

In-house Audits

- Each company is responsible for reporting the GADS design, event, and performance data on its units
  - Collection
  - Validation
  - Correction
  - Updating
- In-house audits of GADS data before submitting it to NERC by each reporting generating company have always been strongly encouraged

Ownership/Retirement Tracking

- GADS tracks generating ownership/retirement changes
  - Changes include
    - Name of the new owners and
    - Date of generating unit transfer
    - Date of generating unit retirement
    - See Appendix A for details
- GADS does not track proposed or projected generating unit retirement dates

Questions and Answers