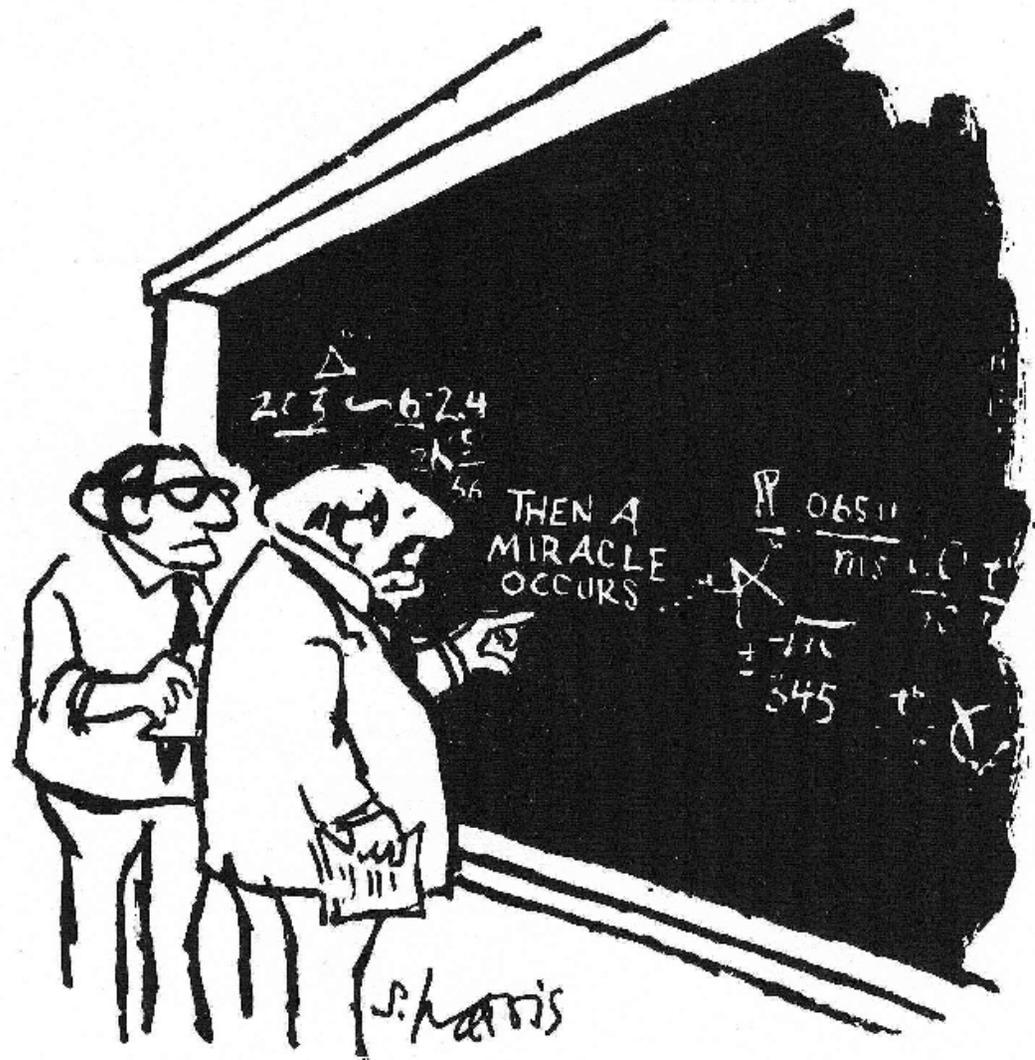


# Validating the Adequacy Standard

Resource Adequacy Forum  
Technical Committee Meeting  
Portland, Oregon  
March 16, 2007



"I think you should be more explicit here in step two."

Source: Sidney Harris



# Outline

- A proposed benchmark process
- Data verification
- Validation of analytical tools

# Adequacy Benchmark Process

- **Goal** – develop a process to ensure that the adopted standard will lead to an adequate power supply
- By assuring that information about demand and resources is current and accurate
- By assuring that analytical tools accurately reflect the operation of the power system



# Power System Data

- Electricity demand
- Fuel and electricity prices
- Resources
  - Generating
  - Conservation
- Contracts with out-of-region parties

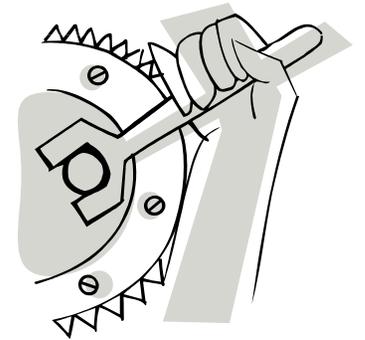
# Who collects data now?

- BPA – White Book
- PNUCC – NRF
- NWPP – Weekly reports
- Council – Power Plan



# What are we proposing?

- Use PNUCC process
- Modify process for consistency
- Review data for consistency
- Recognize that entities may decide to use different data and/or assumptions
- **DOCUMENT data sources/dates**



# Remaining Data Issues

- Counting resources
    - Wind
    - Conservation
    - Planned resources
    - Resources under construction
  - Hydro peaking capability
  - Uncontracted resources (e.g. IPP)
  - Out-of-region spot market
  - Operating vs. calendar year
- 

# Load Forecasting Tools



- Council's short-term model
  - Preliminary validation complete
- Council's long-term model (TBA)
- HELM (EPRI model in GENESYS)
  - Probably out of date
- Individual utility models

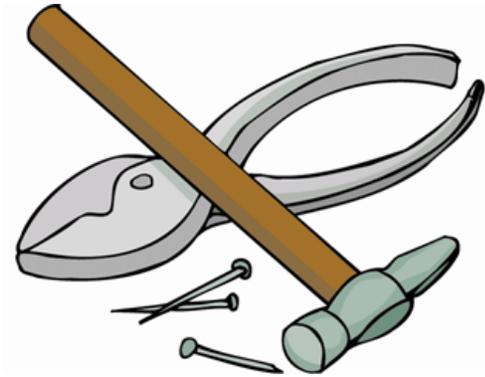


# Simulation Tools

- GENESYS (Council)
- HYDSIM (BPA)
- Trapezoidal Model (hydro peaking capacity)
- HOSS (BPA's hourly hydro model)

# Other Tools

- Electricity pricing
  - AURORA
- Transmission
  - SDDP
  - GridView
  - ProMod



# Simulation Model Validation

- HYDSIM vs. actual monthly generation (BPA)
- GENESYS vs. HYDSIM output
- Trapezoidal output vs. HOSS output
- Simulated thermal dispatch vs. historical
- Simulated dispatch vs. scheduler's perspective
- AURORA vs. GENESYS vs. SDDP LOLP