Acknowledgement and Disclaimer

- **Acknowledgment**: This material is based upon work supported by the Department of Energy under Award Number DE-OE0000364.
- **Disclaimer**: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.
WECC Event Relevant Data - Events

• Reports are created when an event occurs
• Events are automatically triggered
  • Also manually triggered
• Reports and data are available on WECC-RC website
WECC Event Relevant Data - Events

- Insertions of the Chief Joseph Brake
- Palo Verde unit trip
- SONGS unit trip
- Diablo Canyon unit trip
- CGS unit trip
- Alberta separation
- PDCI pole Trip
- IPP DC pole Trip
- COI: Path 66 ROC
- TOT2 ROC
- Path 26 ROC
- Oscillation Event
- Mode Meter Event
- Loss of generation 2000 MW
- Loss of generation 500 MW or more
- Loss of load 1000 MW or more
- Greater than +/- 0.15 Hz frequency deviation
- Greater than +/- 0.5 Hz frequency deviation
WECC Event Relevant Data - Charts

- PMU frequency trend charts
- BA ACE trend charts
- Major Path flow (MW) and limit trend chart
- PMU phase angle difference trend charts
- PMU voltage trend charts
- BA generation trend charts
- BA load trend charts
- BA Reserve List
Data Files - COMTRADE

- Event data is automatically available
- Historical event data is available
- Specific data can be requested
  - Timeframe of interest
  - PMU and signals
Vendor Support

- **COMTRADE** (Common format for Transient Data Exchange for power systems)
  - Method of data exchange
  - A number of vendors are supporting COMTRADE export now; openPDC, EPG, ePDC, and Alstom PhasorPoint
  - Vendors are working on COMTRADE import
  - WISP developing COMTRADE export
New Specification

• Two new data (.DAT) file data types
  o 32-bit Integer
  o 32-bit single precision floating point

• New File type
  o Single file combines .CFG, .DAT, .HDR, .INF
Synchrophasor Considerations

- Schema for Phasor Data Using the COMTRADE File Standard
  - PSRC H8 Application of COMTRADE for Synchrophasor Data
  - Approved by IEEE PSRC Subcommittee H on May 13, 2010 as a PSRC Report
Data Exchange Only

• Entity can choose any format to archive synchrophasor data

• Data requests
  o Signal Names
  o Date – Time Start and Duration

• ASCII .DAT file format is the same as CSV but typically 5 times larger than any of the binary formats
Questions?