American Transmission Company
Lessons from the field

Jim Kleitsch
jkleitsch@atcllc.com

NASPI Work Group Meeting
October 12-13, 2011

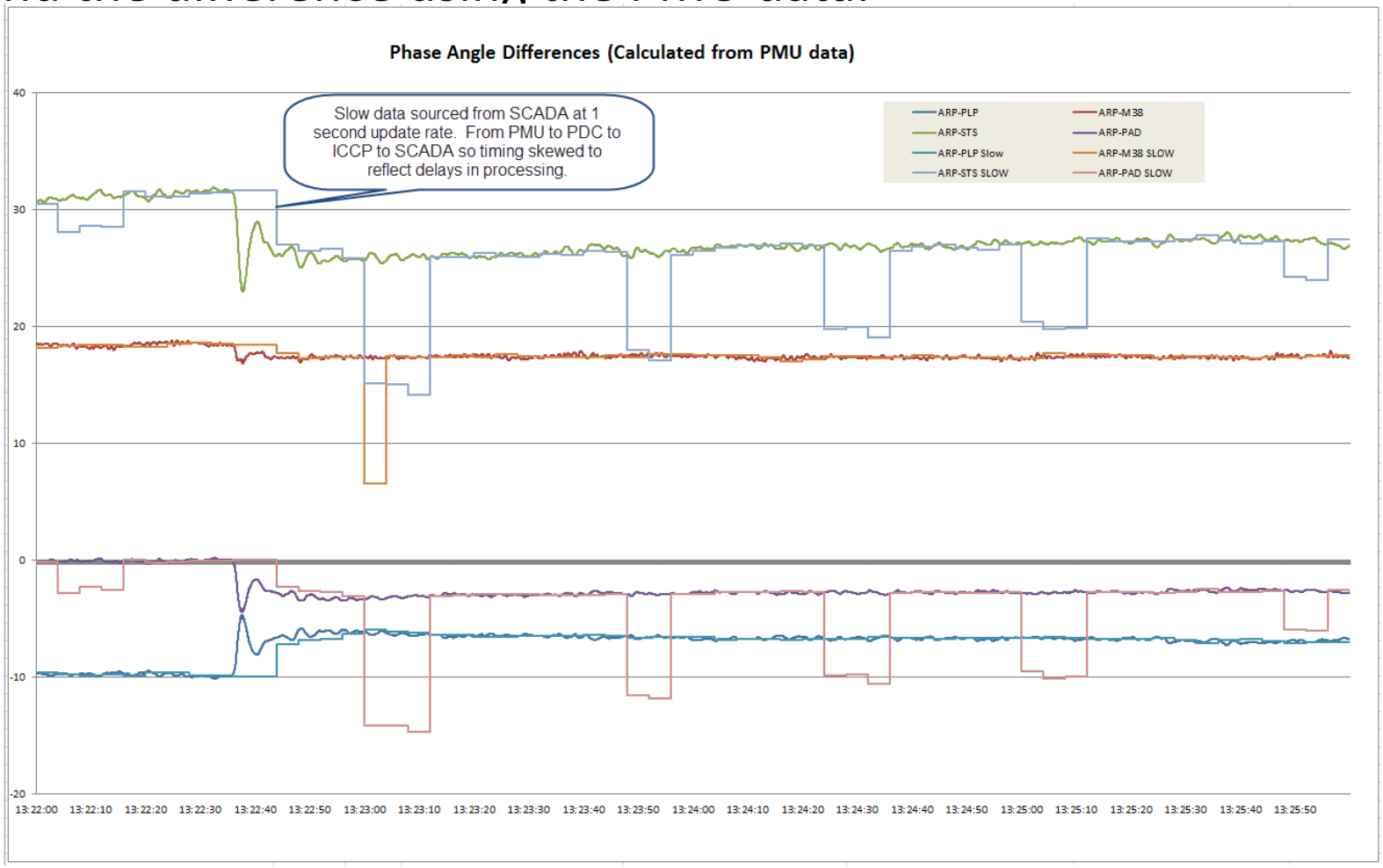
Acknowledgment and Disclaimer

- Acknowledgment: This material is based upon work supported by the Department of Energy under Award Number DE-OE0000362

- 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.

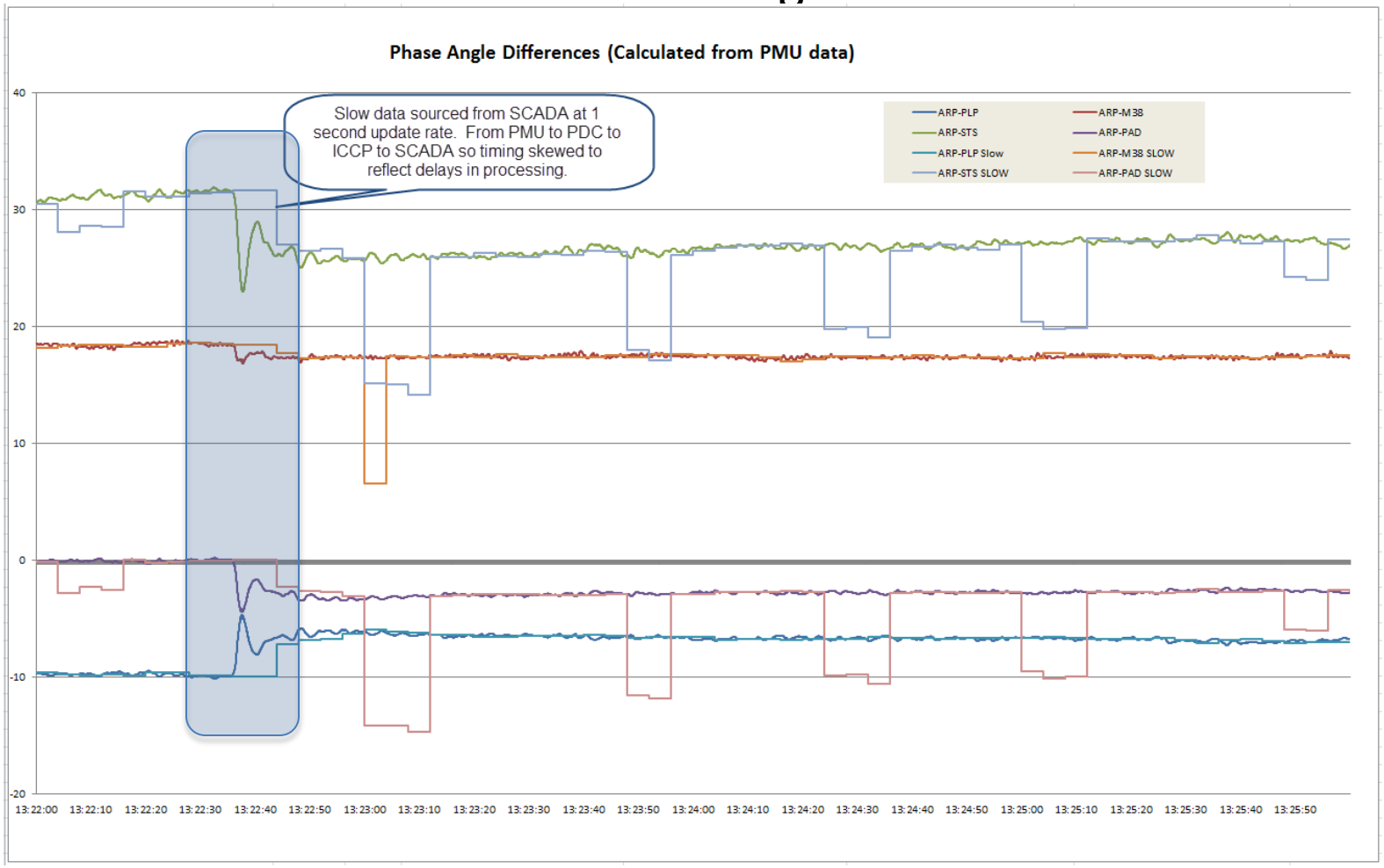
Concerns related to down-sampling of data for SE input

- We compared angle data scanned directly from our PDC to that being fed via ICCP to our SCADA system. The plot below shows calculated angle differences between sites using the SCADA data and the difference using the PMU data.



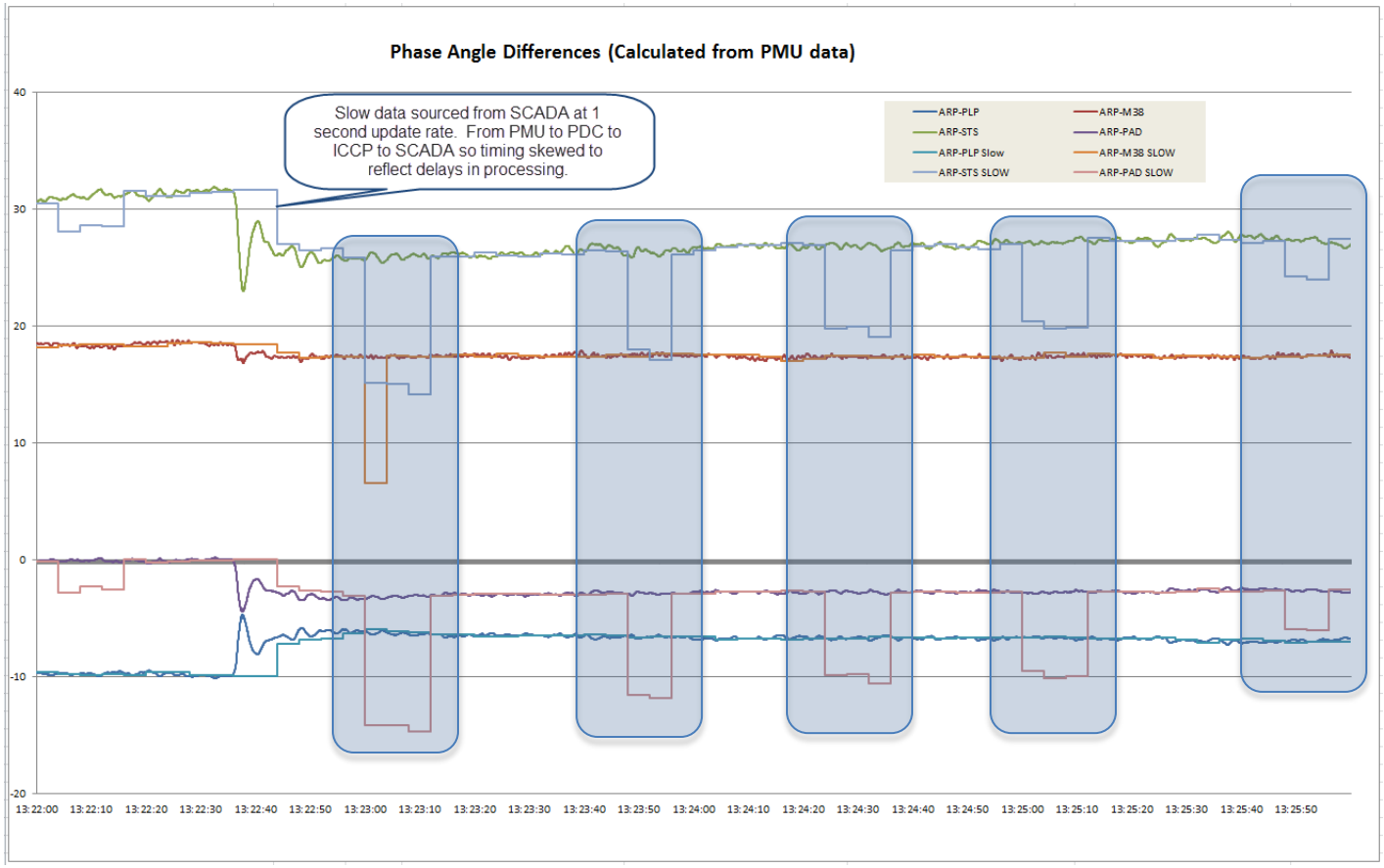
Concerns related to down-sampling of data for SE input

- When the event occurs at the left of the screen it takes several seconds for the SCADA data to respond. If we had happened to try solving a state estimator case at that time our angle data could have been time skewed causing solution issues.



Concerns related to down-sampling of data for SE input

- The other odd blips in the SCADA data calculations appear to relate to synchronization issues when down-sampling the data at the PDC level. This is concerning as the assumption to date had been that this would not be an issue once we got the data into the PDC at a central site.



Concerns related to down-sampling of data for SE input (cont'd)

- We're working with our PDC/RTU vendor to determine how they handle the down sampling of the data. I am curious how other vendors handle this.
  - Do they wait for delay time ***t*** to make sure most of the data is available before grabbing a snapshot?
  - Do they assign bad quality if data isn't there when the snapshot is taken or do they simply use the last good value?
- Our current configuration is shown below: