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Engineering Analysis Task Team Updates

Chicago, Illinois

Leads: Lin Zhu (EPRI) and Urmila Agrawal (EPG)

Pacific Northwest NATIONAL LABORATORY

U.S. DEPARTMENT of ENERGY

EPRI ELECTRIC POWER RESEARCH INSTITUTE

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Agenda

AGENDA			
1	Welcome from Task Team Leads	Urmila Agrawal (Electric Power Group) and Lin Zhu (EPRI)	10 Minutes
2	- Round Table Introduction - EATT Activities in Past Year	Urmila Agrawal (EPG) and Lin Zhu (EPRI)	20 Minutes
3	Verify & Validate + Calibrate Tool (V2Cal) for Automated Model Parameters Tuning	Pavel Etingov (PNNL)	20 Minutes
4	AI-Based Transient Frequency Estimation	Chufeng Sun (University of Texas at San Antonio)	20 Minutes
5	Break Time		10 Minutes
6	Applicability and Limitations of Using PMU Data for High-Frequency Oscillations	Bowen Ou (University of Texas at San Antonio)	20 Minutes
7	White Paper Update: Bulk Power System Oscillation Terms	Urmila Agrawal (EPG)	30 Minutes
8	Round Table Discussion		20 Minutes

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White Paper Update

- Bulk Power System Oscillation Terms – Urmila Agrawal (EPG)
  - Provided an update on the progress made so far
  - Had a good discussion on the definition of the oscillation's terminology
  - Received good feedback and suggestions
  - Planned completion by the end of 2026

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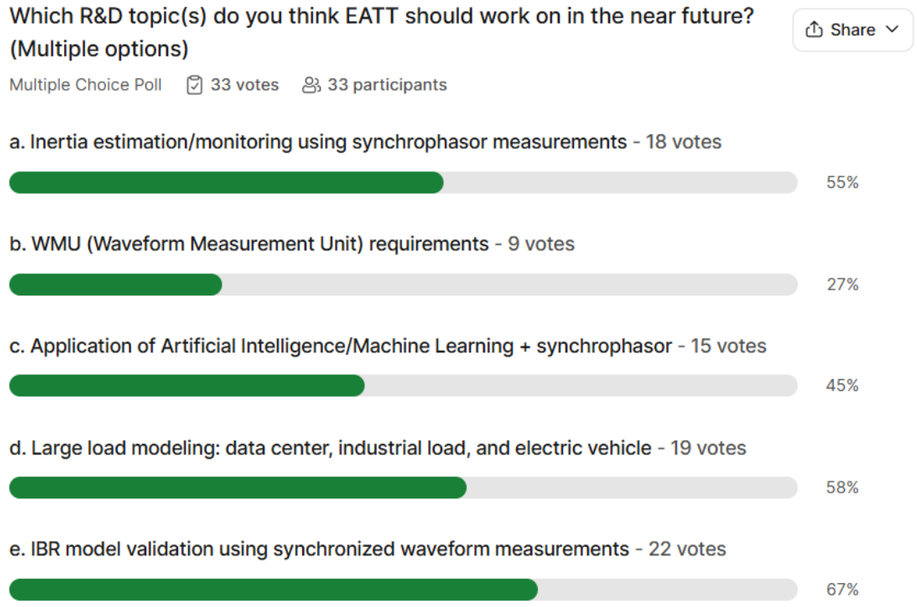
Presentations

- Verify & Validate + Calibrate Tool (V2Cal) for Automated Model Parameters Tuning - Pavel Etingov (PNNL)
  - Presented new Python based model validation and calibration tool
  - Calibration fully automated using Bayesian Optimization approach
  - Validation performed using three phase measurements as well
- AI-Based Transient Frequency Estimation - Chufeng Sun (University of Texas at San Antonio)
  - Discussed potential use case of AI application in power systems
  - Approach is still on research phase showing good preliminary results
- Applicability and Limitations of Using PMU Data for High-Frequency Oscillations - Bowen Ou (University of Texas at San Antonio)
  - Discussed limitations of using PMU data for high frequency oscillations analysis
  - Recommended either the improvement in the phasor estimation algorithm or the use of PoW data

Poll Results in EATT Summer Meeting

- IBR model validation using waveform measurements (67%)
- Large load modeling (58%)
- Inertia estimation/monitoring using synchrophasor measurements (55%)
- Application of AI/ML + synchrophasor (45%)
- Waveform Measurement Unit requirements (27%)



Poll results in EATT summer meeting 2025: 33/66 attendees replied

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Thank you