

**Eastern Interconnection  
Phasor Project  
Roadmap Meeting  
October 29, 2003  
Arlington, Virginia**

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**Development of Roadmap:  
AEP Suggestions  
By  
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American Electric Power (AEP)**

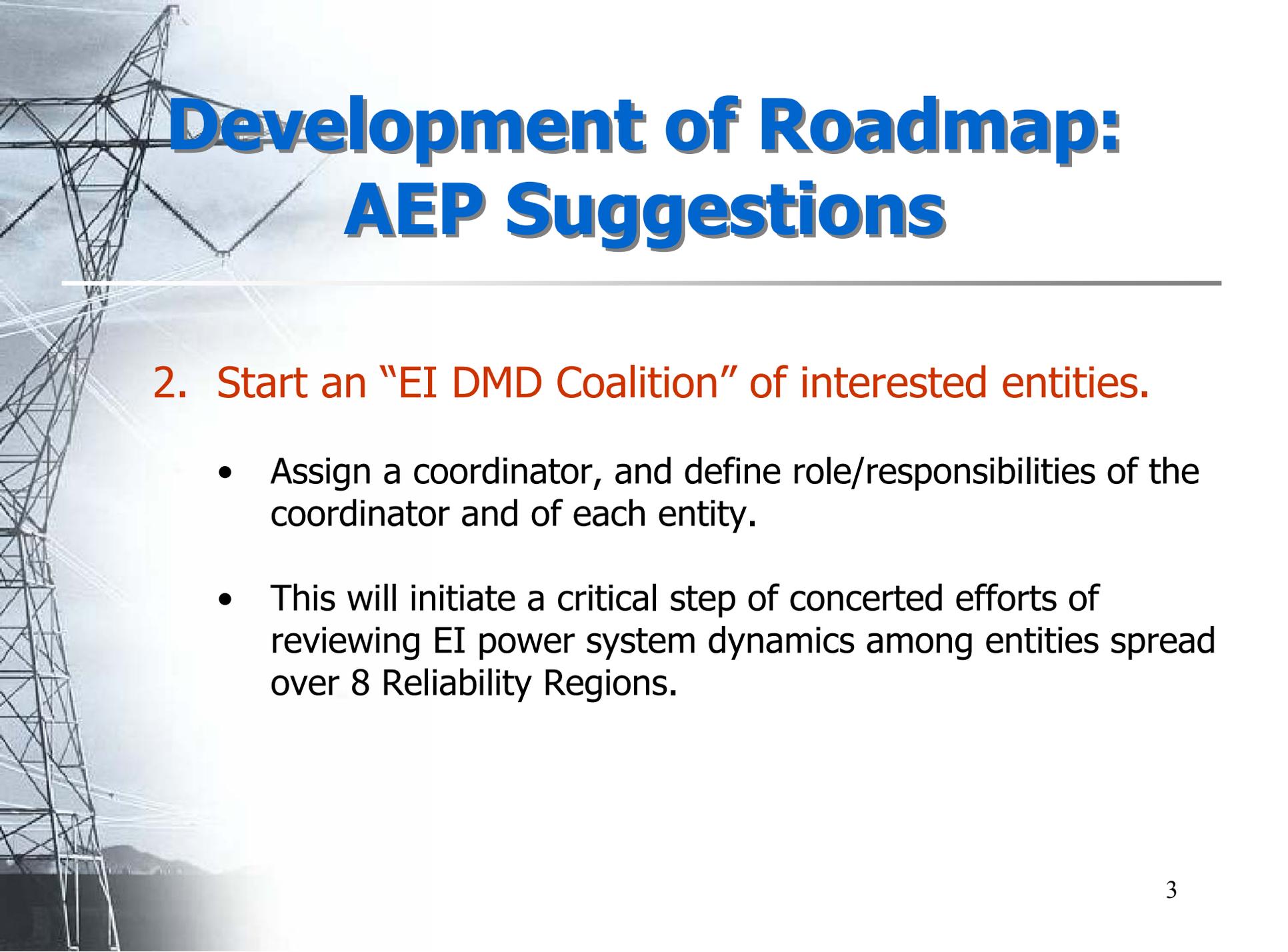


# Development of Roadmap: AEP Suggestions

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**In developing a plan for the Eastern Interconnection (EI) Phasor Project, AEP has the following suggestions:**

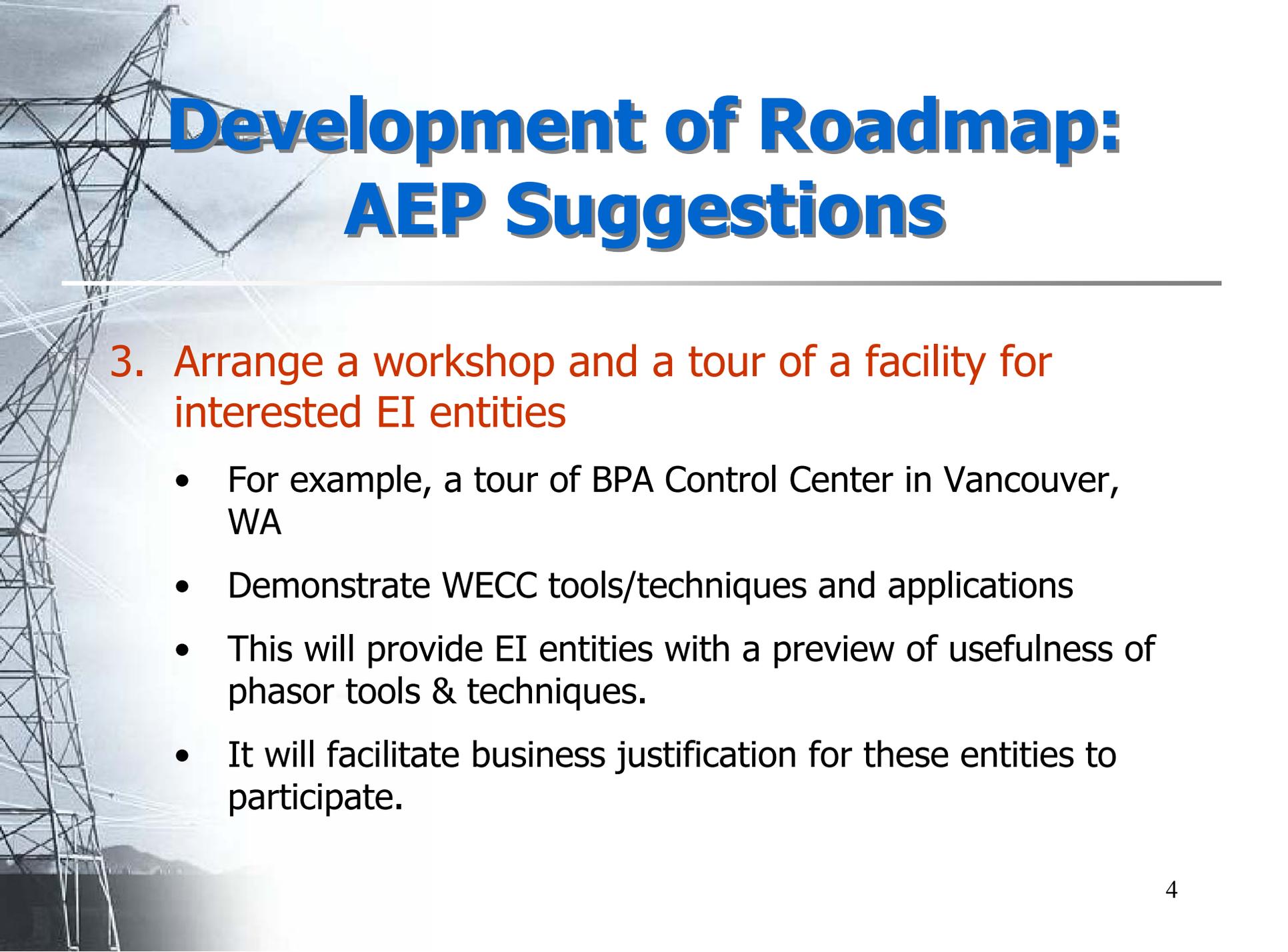
1. Survey those EI entities that have phasor measurement devices or power system dynamics measurement devices (DMDs).
  - A draft survey form on Page 9. WECC and NPCC have similar survey or data request forms.



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2. Start an “EI DMD Coalition” of interested entities.
  - Assign a coordinator, and define role/responsibilities of the coordinator and of each entity.
  - This will initiate a critical step of concerted efforts of reviewing EI power system dynamics among entities spread over 8 Reliability Regions.



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## 3. Arrange a workshop and a tour of a facility for interested EI entities

- For example, a tour of BPA Control Center in Vancouver, WA
- Demonstrate WECC tools/techniques and applications
- This will provide EI entities with a preview of usefulness of phasor tools & techniques.
- It will facilitate business justification for these entities to participate.

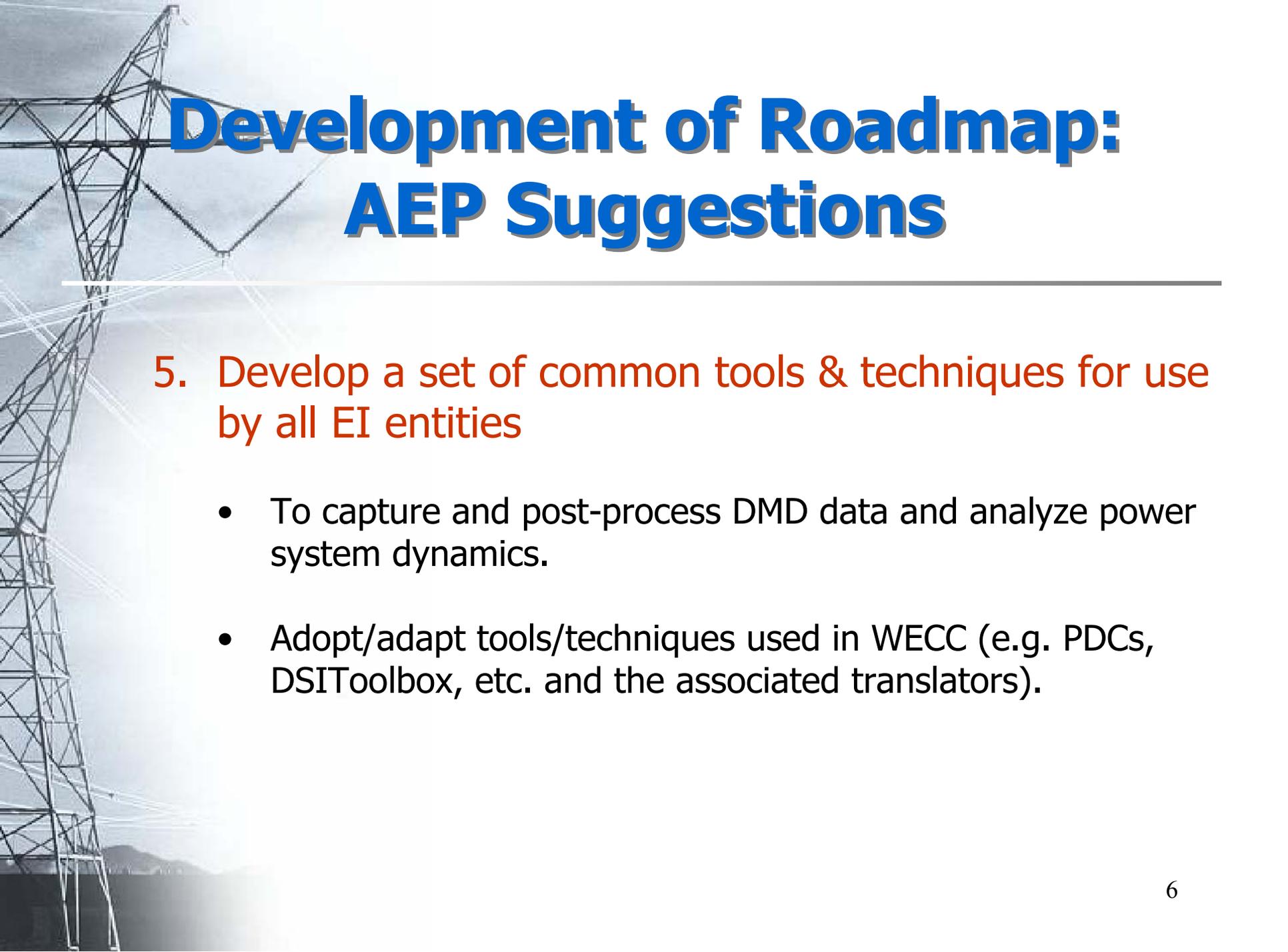


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## 4. Leverage efforts by seeking partnership with and input from industry groups.

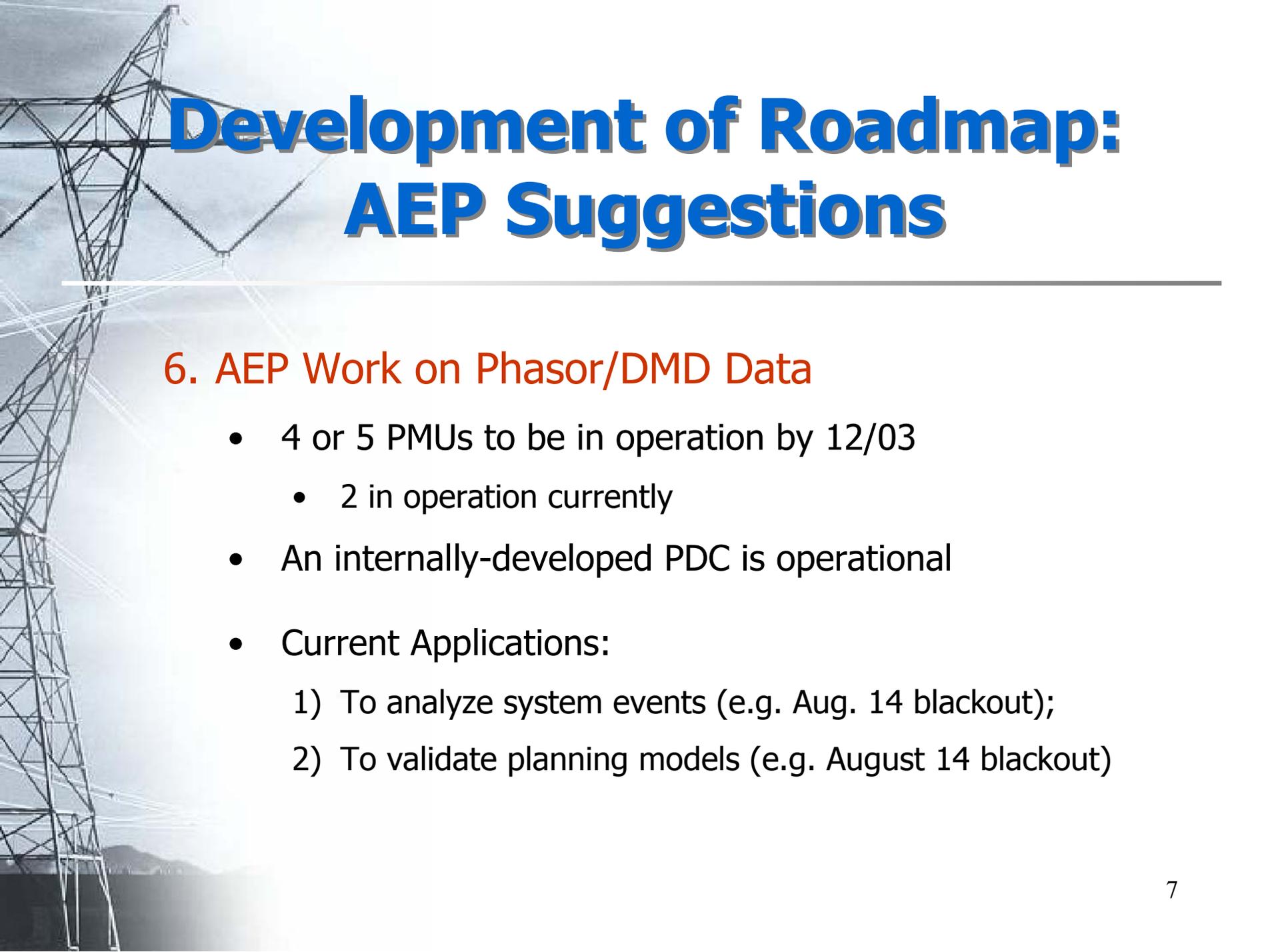
- CERTS, PNNL, NERC, Reliability Regions, IEEE, vendors, etc
- Jim Ingleson (NYISO) & Professor Joe Chow (RPI) – Experienced in Investigation of NY DMD data
- NERC Planning Standards on Disturbance Monitoring
  - Standards I.F.S1 & S2
  - Reliability Regions responsible for developing disturbance monitoring-related requirements



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5. Develop a set of common tools & techniques for use by all EI entities
  - To capture and post-process DMD data and analyze power system dynamics.
  - Adopt/adapt tools/techniques used in WECC (e.g. PDCs, DSIToolbox, etc. and the associated translators).

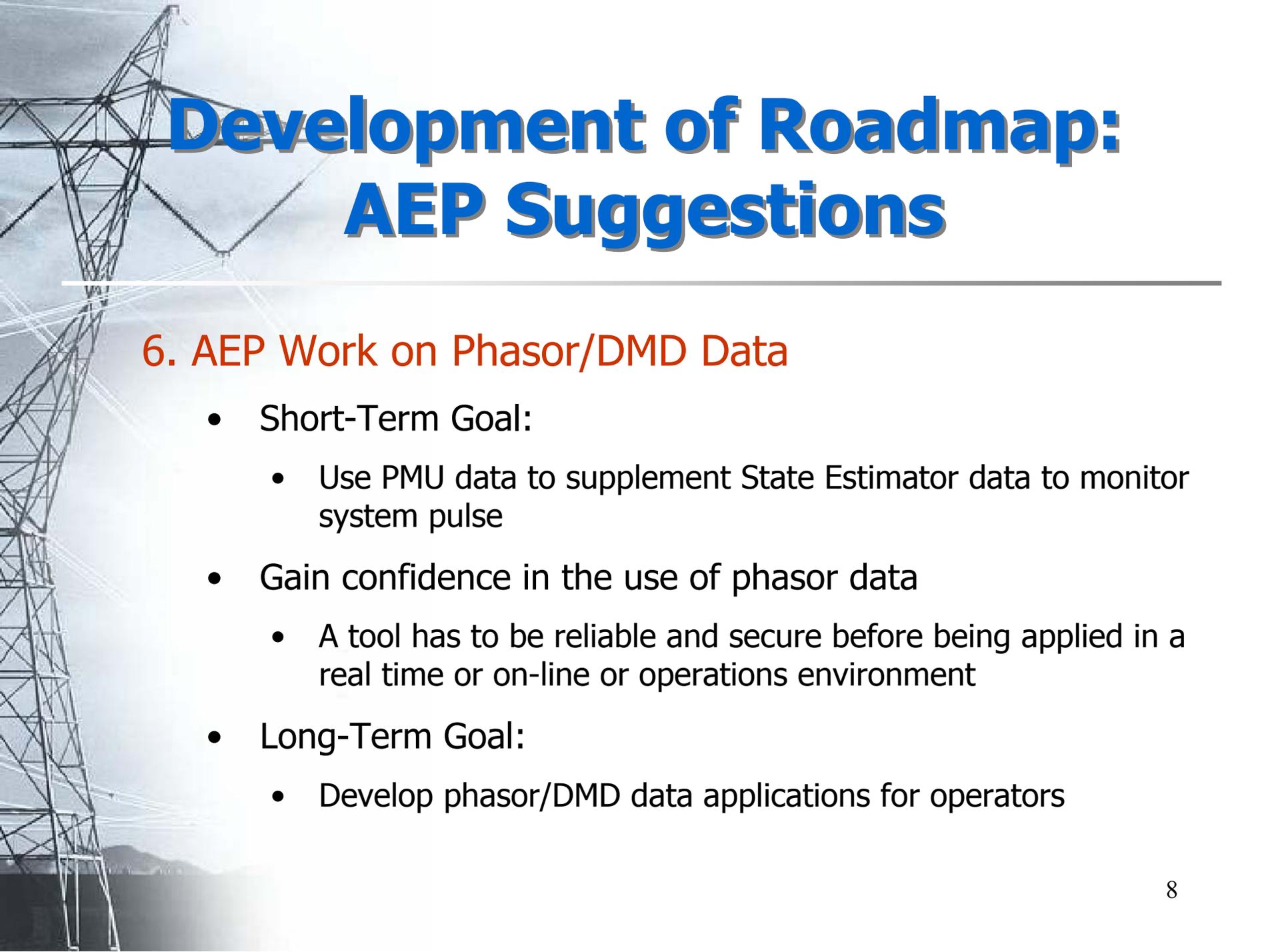


# Development of Roadmap: AEP Suggestions

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## 6. AEP Work on Phasor/DMD Data

- 4 or 5 PMUs to be in operation by 12/03
  - 2 in operation currently
- An internally-developed PDC is operational
- Current Applications:
  - 1) To analyze system events (e.g. Aug. 14 blackout);
  - 2) To validate planning models (e.g. August 14 blackout)

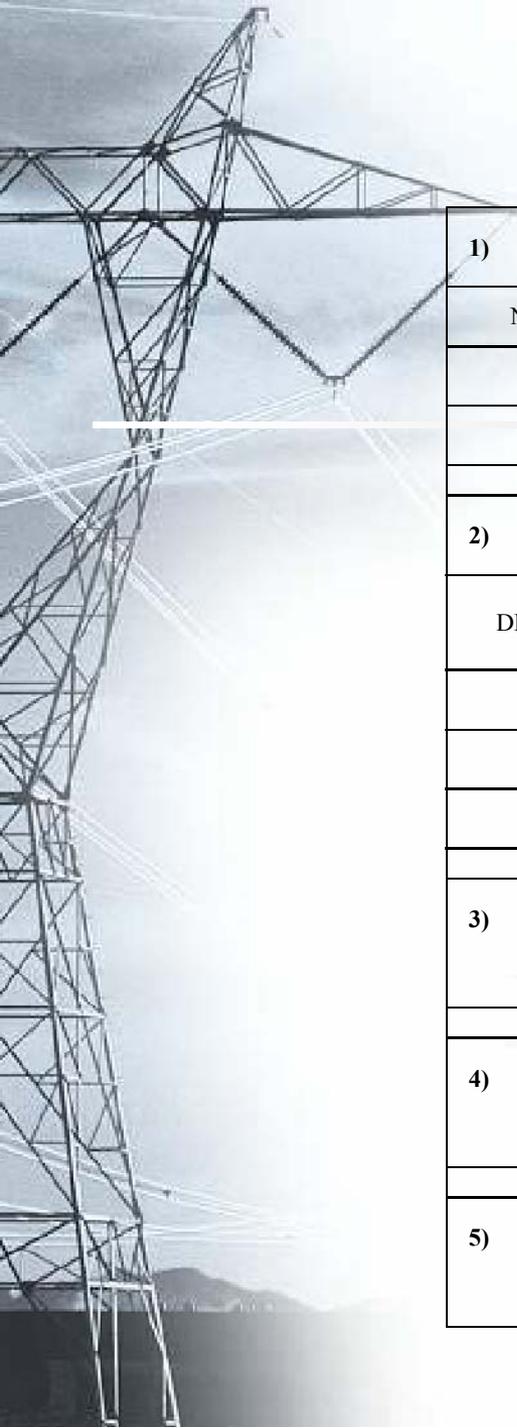


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## 6. AEP Work on Phasor/DMD Data

- Short-Term Goal:
  - Use PMU data to supplement State Estimator data to monitor system pulse
- Gain confidence in the use of phasor data
  - A tool has to be reliable and secure before being applied in a real time or on-line or operations environment
- Long-Term Goal:
  - Develop phasor/DMD data applications for operators



**1) Information on the Dynamic Recording Device(s) (DRDs)**

Number	Type	Vendor	Vintage	Location	Year of Installation
1.					
2.					

**2) Data Capture and Storage Practices**

DRD Type	Sampling Rate (samples per second)	Continuous or Triggered Measurements	Length of Storage

**3) Post processing tools used:**

**4) Application of processed data (How the data is used and for what purpose?):**

**5) Interest in participating in sharing data, tools, techniques and knowledge among other Eastern Interconnection entities?**