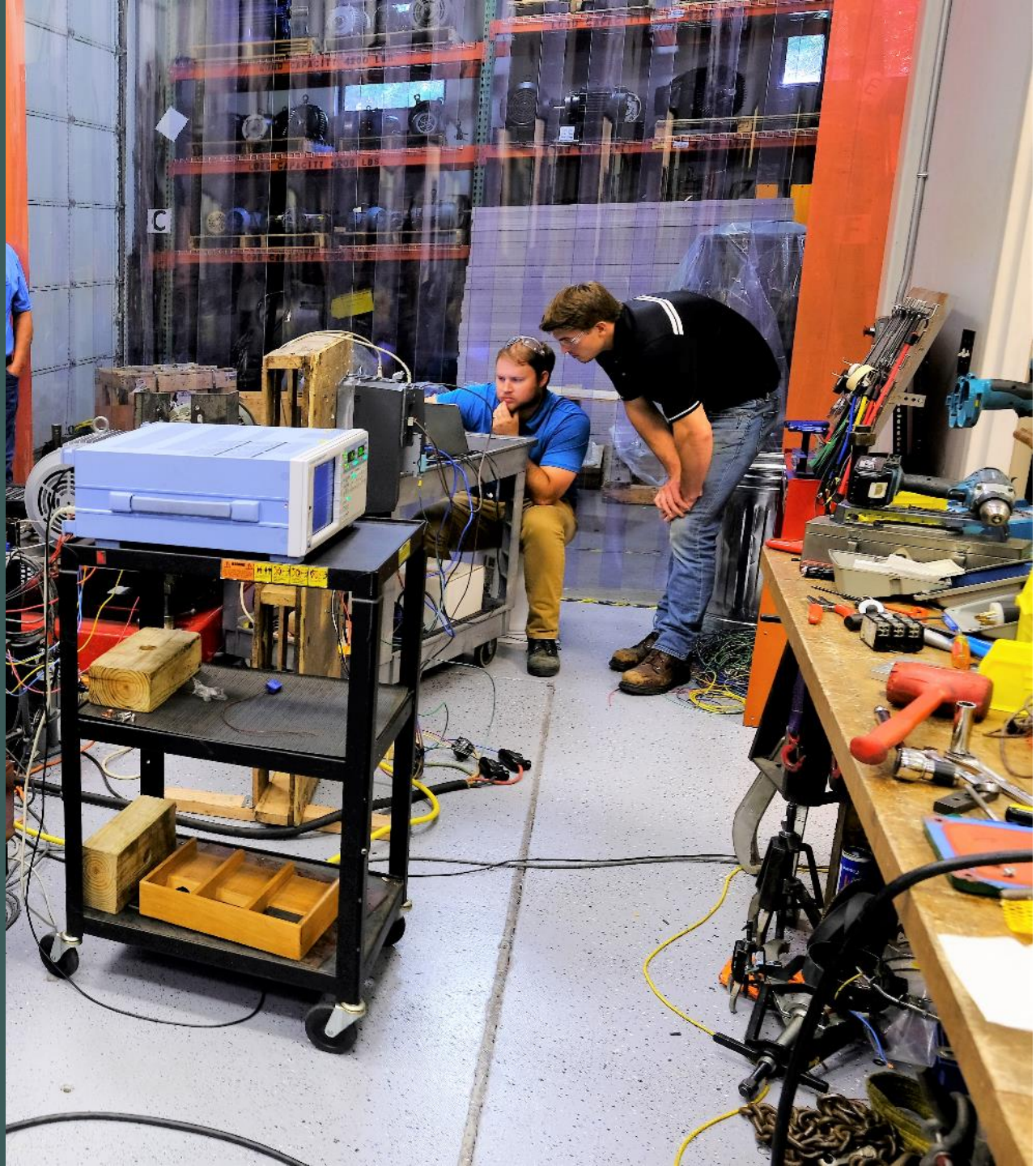




North Carolina Advanced Energy Corporation

Motors & Drives



Agenda topics

- Who owns Advanced Energy and why we participate in the NOPR process
- Our Certifications, Accreditations and Designations
- How Advanced Energy validates AEDMs
- Advanced Energy's impartiality practices
- Our capacity for testing electric motors
- The role of National Labs, as we understand it
- Q&A

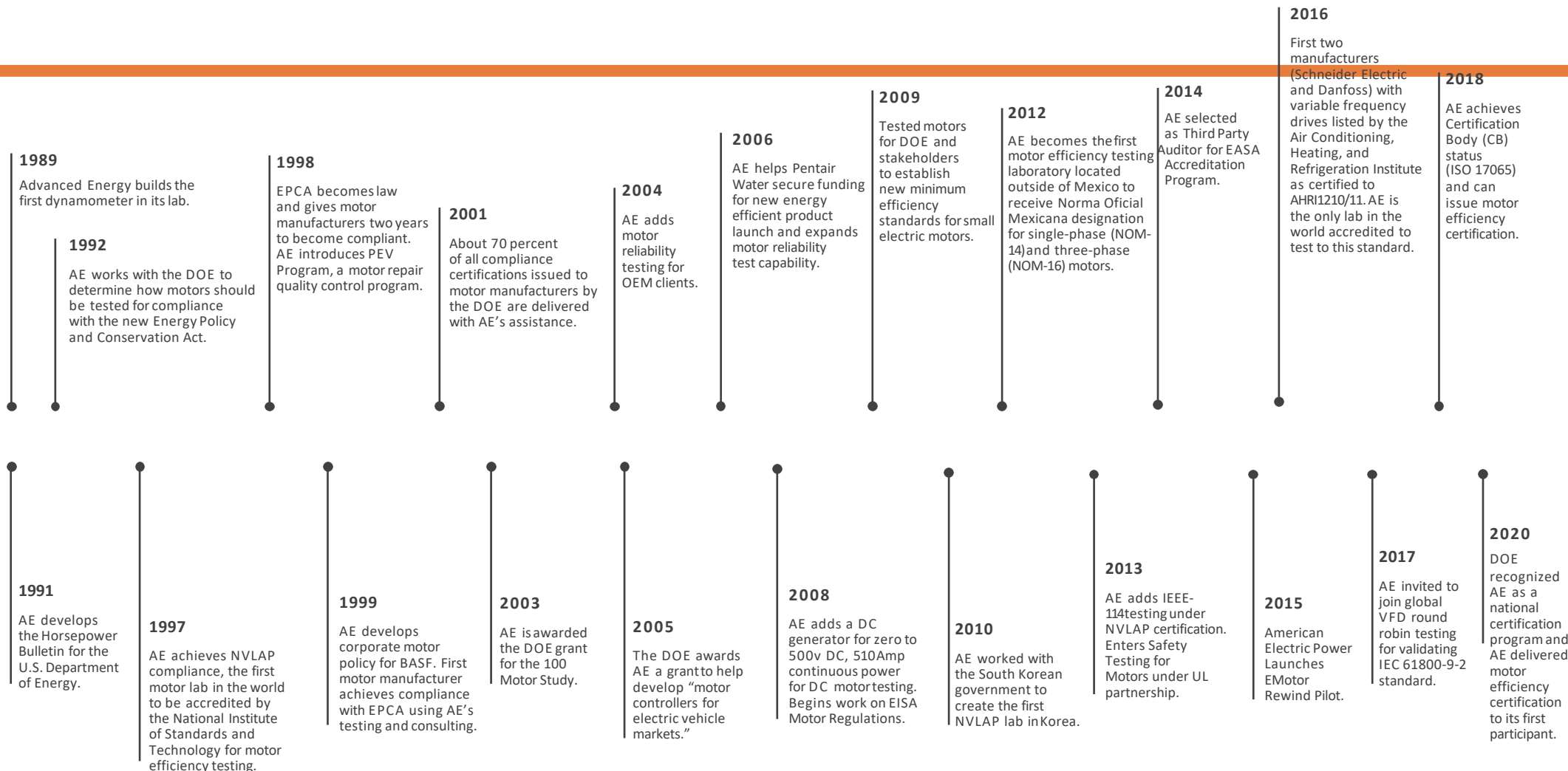
Who owns Advanced Energy

- Established in 1980 by the North Carolina Utilities Commission
- North Carolina utility members:
 - Duke Energy Carolinas
 - Duke Energy Progress
 - North Carolina Electric Membership Corporation
 - Dominion Energy North Carolina
- 13-member board of directors





Electric Motor and Drive Testing History





Certifications and Laboratory Accreditations

Certifications & Accreditations

- ISO/IEC 17025

- Accredited through the National Voluntary Laboratory Accreditation Program (NVLAP) that is governed by the National Institute of Standards and Technology (NIST)
- Test to standards written by IEEE, CSA, NEMA, etc.

- ISO/IEC 17065

- Certification body for Motor Efficiency Compliance in the United States
- Product Certification for motor manufacturers



AEDM Validation and Impartiality

Two options

- Product certification

- Follow-Up Services agreement
- Impartiality review (internal and external)
- Review basic model listing including AEDM outputs
- Select samples for testing (random)
- Complete testing (in-house or at another accredited lab)
- Certificate of Compliance
- Submit basic model listing to CCMS (if needed)

- Non-product certification

- Review basic model listing including AEDM outputs
- Statement of work
- Select samples for testing (random)
- Complete testing (in-house or at another accredited lab)
- Submit basic model listing to CCMS (if needed)

Impartiality process

- Impartiality Committee
 - Conflict of interest
 - Mutual NDA
- Committee members
 - DOE representative
 - Local utility representative
 - Industrial facility or motor user
 - Interested stakeholders
- Staff conflict of interest
- Staff impartiality
- Organization impartiality
- Project impartiality



Capabilities and Staffing

Capabilities and Staffing

- Testing capabilities
 - Four in-house dynamometers – fractional up to 250HP
 - Two isolated power supplies - test two motors simultaneously
- Staffing
 - One shift under normal workload: 8:30am – 5:00pm
 - Two shifts available with current staff: 7:00am – 11:00pm
 - 24-hour operation in the past

Other designations

- **NOM-016-ENER & NOM-014-ENER**
 - Aligns with ISO/IEC 17025 accreditation
 - Mutual Recognition Agreement with ANCE
 - Advanced Energy tests motors, completes test reports and sends to ANCE for final certification for the client
- **Standards Council of Canada (SCC)**
 - Aligns with ISO/IEC 17065 accreditation
 - Product certification for motor manufacturers selling in Canada

National Labs

- NOPR process
- Research
- Promote new motor technologies with testing
- Conflict of interest for same lab to offer AEDM design services for products being certified



Thank You

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