Express Doc Development Objectives

• Voluntary test procedure
• Residential-sized, ducted/ductless, single/multi, no heat recovery
  – Include air-to-water as well as air-to-air ASHP and AC
• Address variable speed heat pump efficiency
• Use dynamic, real world testing rather than fixed-speed
• Seasonal COP ratings for heating and cooling
  – 8 North American climates
Test procedure

• Dynamic Test Procedure
  – Uses native controls to govern compressor, fan and defrost

• Address a wide range of building loads
  – Include cycling behavior at low loads
  – Heating includes -5F, -22F (or outdoor limit if higher)
  – Cooling includes 113F

• Bin model informed by test results

• Include informative application rating for fixed aux, partial offset, differing climate profiles.
Conventional approach (illustrative)
Dynamic testing (illustrative)
Progress

• Some labs have done “proof of concept” tests
  – Two approaches to drive loads in test rooms

• Going into preliminary lab testing using current draft version
  – Check for issues, refinements
  – Air-to-air only (working on air-to-water first draft now)

• Planned: public comment in January, published in March