Introducing….

Standards for AIR COOLED CONDENSERS

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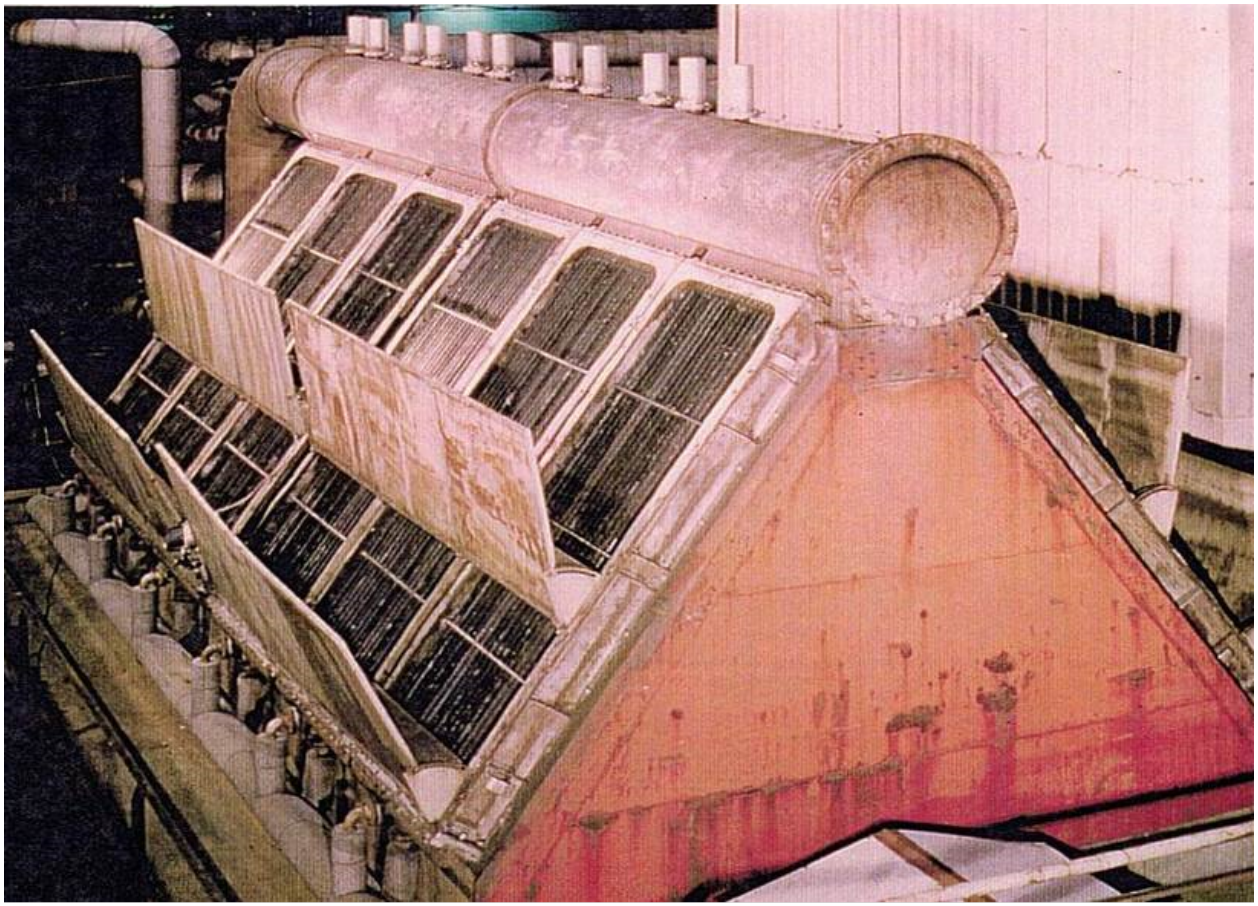
Air Cooled Condenser Users Group

2014 ACCUG

First Traditional ACC

Install in 1939 ➔ DRY COOLING is 75 Years Old in 2014



Courtesy of GEA

Developing the Standards

STEAM SURFACE CONDENSERS

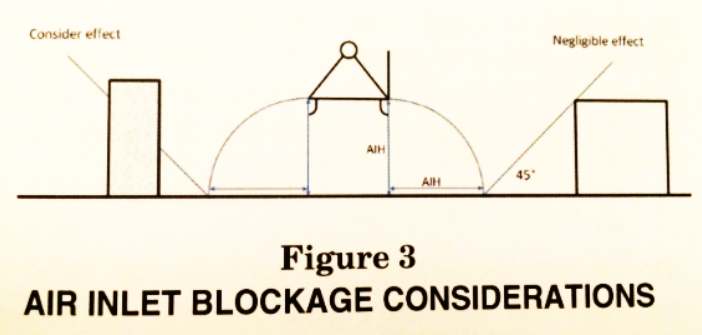
3rd Edition – 1952
11th Edition - 2012

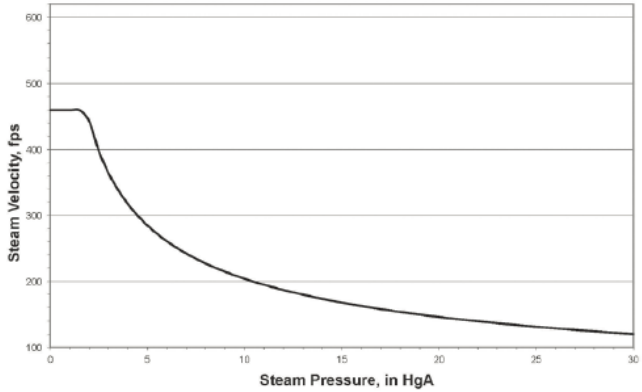
AIR COOLED CONDENSERS

1st Edition - 2011

Scope of the ACC Standard

1. Basic Design Considerations
   - process parameters, velocity limits and corrosion allowances
   - airflow and air moving systems
2. Performance and Operation
   - fouling and performance margins
   - cold weather and low load
   - wind effects and testing
3. Instrumentation & Controls
   - freeze protection and controls
   - drainpot and condensate tank capacities
4. Process Connections
   - bypass and drain energy limitations
5. **Venting Capacities**
6. Testing, Commissioning and Troubleshooting

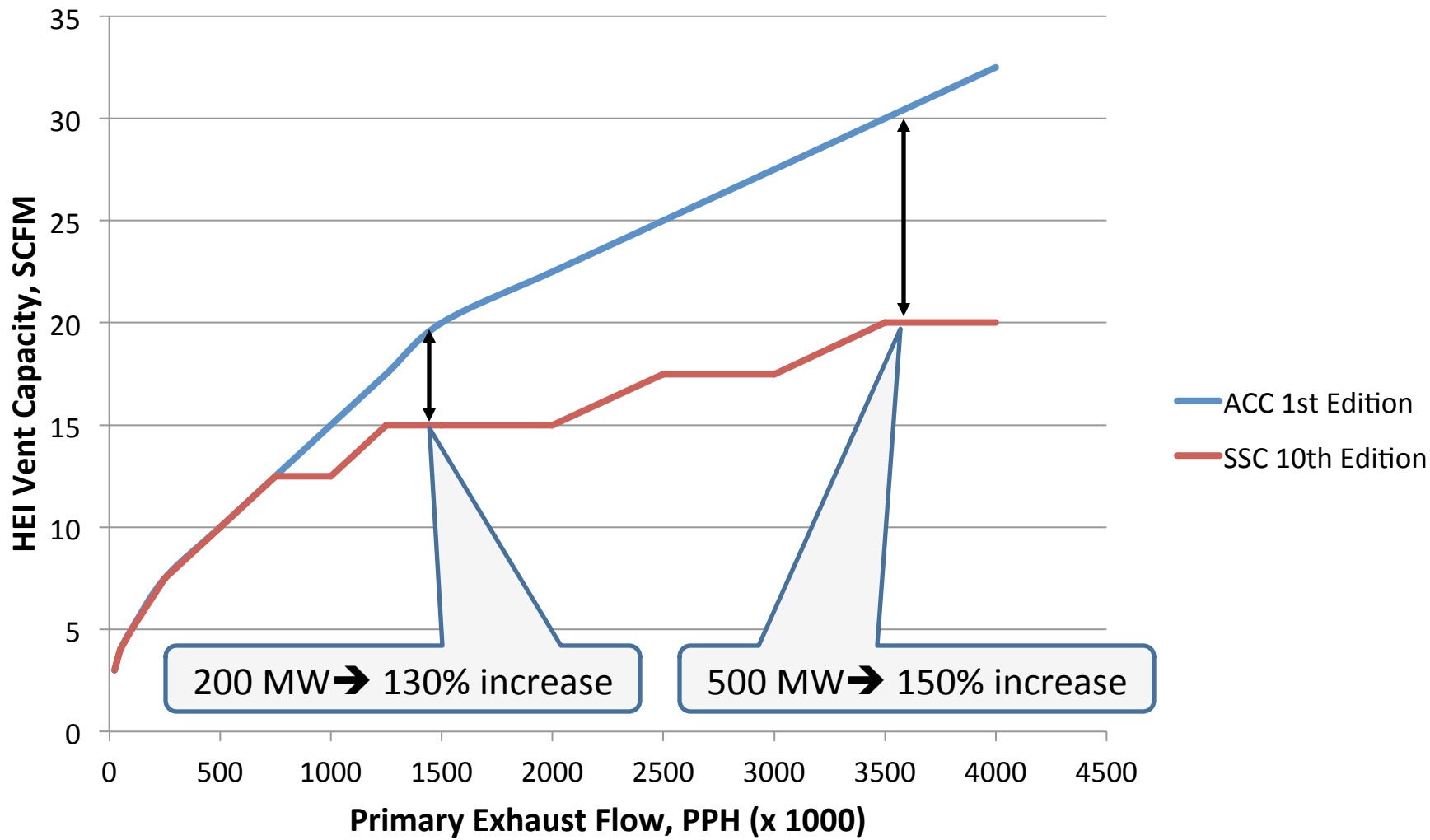




SSC vs ACC

400 MW Example	SSC	ACC	
Total Internal Surface, ft^2	28,000	135,000	5x
Surface Exposed to Air Inleakage, ft^2	1800	135,000	75x
Field Welds, ft	700	18,000	26x

SSC vs ACC Vent Capacity Comparison



Vacuum Decay Testing

1. Performed at least annually (or as required)
2. Acceptance criteria is project and condition specific
   - Initial install < 25% of installed capacity (per HEI)
   - Performance testing < 50% of installed capacity (per ASME)
3. Ask OEM for specific acceptance criteria – generic standards do not apply to large ACCs (e.g. 0.02 “HgA/min)
4. Consider installing flow transmitters on Air Removal Systems and monitor via data historian

QUESTIONS?

HEAT EXCHANGE INSTITUTE INCORPORATED

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THANK YOU