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Portable Air Conditioners
Docket # 18-AAER-04
Public Hearing

November 27, 2018
10 a.m. to noon

Patrick Saxton
Appliances Office
Efficiency Division
California Energy Commission
Public Hearing

- Pursuant to California Administrative Procedure Act, Government Code §11346.8
- Public comment on proposed regulatory language and proposed negative declaration
- No Commissioners will be present
- No decisions will be made
Rulemaking Timeline

- October 11, 2018: Rulemaking documents posted
  - Notice of Proposed Action
  - Initial Statement of Reasons
  - Proposed Regulatory Language
- October 26, 2018: California Environmental Quality Act (CEQA) document posted
  - Initial Study and Proposed Negative Declaration
- November 26, 2018: 45-day (rulemaking) and 30-day (CEQA) public comment periods end
- November 27, 2018: Public hearing
- December 10, 2018: Proposed adoption
- February 1, 2020: Proposed effective date
CEQA

• Project – statewide minimum efficiency levels for portable air conditioners (PACs)

• Energy impacts – proposed efficiency standards will reduce future electricity consumption

• Environmental impacts
  • No significant change to materials or manufacturing process
  • No change to product lifetime of PACs
  • Reduced criteria pollutants, greenhouse gases, and other particulates due to lower electricity consumption
• Staff finding that the proposed efficiency standards will not have any significant adverse effect on environment

• No written comments received by 5 p.m. deadline on November 26, 2018

• Staff will recommend that the Energy Commission adopt the proposed negative declaration at the December 10, 2018, business meeting
Background – Standard

- U.S. Department of Energy (DOE)
  - Pre-publication final rule notice – December 28, 2016
  - Never published in Federal Register
    - State of California is a plaintiff
    - Energy Commission is a plaintiff
  - 13% of PAC models met proposed efficiency level
Background – Standard

- Purchase price range $200-$500
- Lifetime of 10 years
- California shipments ~ 165,600 per year
- Commission staff relied on
  - California Investor Owned Utilities Codes and Standards Enhancement (CASE) Initiative Analysis, October 2018
In Scope: single- and dual-duct portable air conditioners attached to an adjustable window bracket.
Background

• Out of Scope: Spot air conditioners with no ducts or ducts not attached to adjustable window bracket
  – No change to the existing “test and list” requirements
Proposed Definitions - §1602

• Consistent with DOE definitions in test procedure and pre-publication final rule

• Minor modifications referring to California’s jurisdiction
  • “Products sold or offered for sale in CA” instead of “distributed in commerce”

• Minor modifications referring to “dry-bulb outdoor conditions” in several definitions based on comments from the Appliance Standards Awareness project
  • Consistent with DOE definitions
Test Procedure - §1604

- Incorporated in the recent ‘clean-up’ rulemaking
  - 10 CFR 430.23(dd) (Appendix CC to subpart B of part 430)
    - No modifications
- No change for spot air conditioners
  - ANSI/ASHRAE 128-2001
Proposed Standard - §1605

- PACs sold or offered for sale in CA that have both single-duct and dual-duct configurations
  - Both configurations must meet the proposed standard in §1605.3
  - Consistent with DOE pre-publication final rule
Proposed Standard - §1605.3

• New state efficiency standard for PACs
  • Equation identical to DOE efficiency level two (EL 2)
  • Proposed effective date of February 1, 2020
Proposed Data Submittals - §1606

• Removed exception that PACs were not subject to data submittal requirements
• Additional data fields required compared to DOE pre-publication final rule
  • Used for validation of submitted data
  • Determine prevalence of dehumidification function
• No change for spot air conditioners
Proposed Marking - §1607

- No product specific marking
- General requirements for all appliances
  - Manufacturer or brand name
  - Model number
  - Date of manufacture
Proposed Compliance and Enforcement - §1608

- Removed exception that PACs were not subject to enforcement
Technical Feasibility

- Increased heat-transfer surface area of evaporator and condenser coils
- Improved compressor efficiency
- Improved blower/fan efficiency
  - Replace permanent split capacitor (PSC) motor with permanent magnet motor or electronically commutated motor (ECM)
- Low-standby-power electronic controls
Technical Feasibility

• Not considered by DOE but technically possible
  • Variable-speed compressors
  • Alternative refrigerants (e.g., replace R-410A with R-32)
• No PACs incorporating these features were available at time of analysis
## Cost and Savings per Unit

<table>
<thead>
<tr>
<th>First Year Electricity Savings (kWh)</th>
<th>Incremental Retail Price</th>
<th>First Year Monetary Savings ($)*</th>
<th>Lifecycle Net Monetary Savings ($)**</th>
<th>Benefit-Cost Ratio</th>
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<tbody>
<tr>
<td>223</td>
<td>$76</td>
<td>$30</td>
<td>$224</td>
<td>2.95:1</td>
</tr>
</tbody>
</table>

* National average price of electricity
** Undiscounted
## Statewide Savings

<table>
<thead>
<tr>
<th>First Year Electricity Savings (GWh)</th>
<th>Annual Electricity Savings After Stock Turnover (GWh)</th>
<th>First Year Monetary Savings ($)*</th>
<th>Annual Monetary Savings After Stock Turnover($)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.9</td>
<td>369</td>
<td>$4.97 million</td>
<td>$49.68 million</td>
</tr>
</tbody>
</table>

* National average price of electricity  
** Undiscounted
Energy Savings Comparison

Annual GWh/year after full stock turnover

<table>
<thead>
<tr>
<th>Product</th>
<th>GWh/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable Electric Spas</td>
<td>242</td>
</tr>
<tr>
<td>Portable Air Conditioners</td>
<td>369</td>
</tr>
<tr>
<td>Computer Monitors</td>
<td>696</td>
</tr>
</tbody>
</table>
Conclusion

- Staff finds the proposed standards are
  - Technically feasible
  - Cost-effective to the consumer over the lifetime of the appliance
- Staff will recommend that the Energy Commission adopt the proposed regulations at the December 10, 2018, business meeting
Written Comments Received

• Three written comments received by 5 p.m. deadline on November 26, 2018
  • Northeast Energy Efficiency Partnerships (NEEP)
  • California Investor Owned Utilities Statewide Codes and Standards Enhancement (CASE) Initiative
  • Association of Home Appliance Manufacturers (AHAM)
• NEEP supports the proposed regulations
• CASE
  • Supports the proposed regulations
  • Suggested revisions to five definitions
  • Suggested products with dehumidification functionality be required to meet dehumidifier standards
  • Proposed efficiency level three (EL 3) for PACs
  • Requested an additional field for data submittal
  • Proposed product specific marking requirements
Written Comments Received

• AHAM
  • Supports publication of the DOE final rule and a national standard at EL 2
  • Proposed removal of definitions that are in test procedure
  • Does not oppose definition of seasonally adjusted cooling capacity (SACC)
  • Proposes reducing the number of fields required for data submittal
  • Does not oppose inclusion of SACC in data submittal
• AHAM (continued)
  • Strongly opposes the proposed effective date of February 1, 2020
  • Supports five year period between adoption and effective date
  • Notes differences between CASE initiative and DOE technical support document
  • Supports incorporation of DOE test procedure
  • If the Commission continues to pursue an efficiency standard for PACs, supports EL2 as the requirement
Public Comments

• Public comments from in-person participants
  • Come to microphone
  • Please state name and affiliation for court reporter
  • A copy of your comments is appreciated but not required

• Public comments from Webex
  • Use raise-hand feature and you will be un-muted
  • Please state name and affiliation for court reporter
  or
  • Type comment into chat-box and it will be read into record
  • Please include name and affiliation for court reporter

• Phone only participants
  • All lines will be un-muted
  • Please state name and affiliation for court reporter
Proposed Adoption

Energy Commission business meeting

December 10, 2018, 10 a.m.
1516 Ninth Street
Art Rosenfeld Hearing Room – First Floor
Sacramento, California 95814
(Wheelchair Accessible)

Webex: https://energy.webex.com/energy/onstage/g.php?t=a&d=926263154
Thank You!

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