Introductions & Welcome to New Staff

**INTRODUCTIONS**
- Caroline Czajko
- Laura Petrillo-Groh
- Helen Walter-Terrinoni

**Bill McQuade**  
APPLIED SECTOR LEAD

**Rupal Choski**  
UNITARY SECTOR LEAD

**Lauren MacGowens**  
REFRIGERATION SECTOR LEAD
MEETING AGENDA REVIEWED BY LEGAL COUNSEL

PROHIBITED TOPICS:

• PRODUCT PRICES, DISCOUNTS, REBATES, AND OTHER TERMS OF SALE
• MANUFACTURING COSTS
• FUTURE PRODUCTION LEVELS
• MARKET SHARES
• INDIVIDUAL COMPANY MARKETING PLANS, AND PLANS FOR DEALING WITH PARTICULAR CUSTOMERS, SUPPLIERS, OR COMPETITORS
• DISCUSSION OF PRODUCT STANDARDS OR COMPLIANCE CERTIFICATION TO BE CONFINED TO TECHNICAL AND SAFETY ISSUES
Session Goals

HIGH-LEVEL OVERVIEW OF REGULATIONS IMPACTING COOLING PRODUCTS

• ONGOING AND UPCOMING RULEMAKINGS
• FEDERAL, CALIFORNIA
• CANADA
Current Regulatory Landscape
Comments Submitted Since Leadership Forum

**DOE**
- 12/3: 3-ph TP RFI
- 4/16: ACIM TP
- 4/26: WICF Waiver
- 5/6: Process Rule
- 5/17: Average Use Cycle

**California**
- 11/26: CEC SNT
- 2/15: SCAQMD Rule 1111
- 2/28: CARB HFC Econ AC
- 3/1: CEC VRF Modeling
- 3/25: CARB Econ Meeting
- 3/26: CARB Air Cleaners
- 3/27: CEC SNT Meeting
- 3/28: SCAQMD Rule 1111
- 4/2: CARB HFC Econ CR

**Canada**
- 12/21: NRCan Amendment 15
- 1/18: OIRA RCC RFI
- 1/22: NRCan Amendment 16

**Other**
- 11/19: DoD UFGS
- 4/15: FTC Label NOPR
- 4/19: ASHRAE 62.1 Addenda (2)
- 5/17: CEE VRF Spec
Cross-Sector Regulations – Federal
Process Rule Proposal

- Binding on DOE
- Sequencing of test procedures and standards
- Adoption of industry consensus test methods
- “Early hard look” to prioritize energy savings over statutory timelines
- Exemption for ASHRAE 90.1 proposals
- .5 quad savings as “significant”
- Peer-review of economic modeling
Interim waivers supposed to be approved in 30 days

DOE average ~200 days

Comments due July 1, 2019

- Interim waivers supposed to be approved in 30 days
- DOE average ~200 days

Test Procedure Interim Waiver Process

Interim Waiver Delays 2016-2018

CAC/HP CRE WICF—Systems Total (all products)

$38,405,243 $2,407,949 $52,528 $45,714,816
DOE Average Use Cycle RFI

- Main focus is Home Appliance settings
- Opportunity to reinforce Process Rule positions
- AHRI comments may also address
  - Double counting of hours
  - Fan energy
  - Field settings
  - Applicability to building modeling inputs

Comments due May 17, 2019
Cybersecurity

- California SB 327 & Oregon HB 2395
- Expect to see similar bills in other states
- Require internet connected products to have “reasonable security features”
- “Reasonable security measures” is not a legally defined term
- AHAM has proposed legislative language relying on industry standards
- AHRI’s IoT working group is developing a coordinated response
Furnace Fans

2014 - DOE released its first standard for “furnace fans”

NRCan issued harmonized regulation

July 3, 2019
- AHRI is finalizing templates for reporting
- Certification program development
AFUE2

WHAT? October 2018 AHRI petitioned DOE to establish a new combined metric for furnaces

WHY? Goals of AFUE2:
- Reduce six rulemaking cycles to two
- Synchronize regulatory timelines on furnaces
- Improve test procedures

WHAT’S NEXT?
- DOE is considering petition
- FER compliance is unaffected
Commercial Refrigeration Efficiency Regs

2019 – ACIM TP RFI Issued and ECS expected
2019 – WICF and CRE RFI and NOPR expected

NRCan issued harmonized regulation

January 1, 2020
- AHRI is finalizing templates for reporting
- Certification program development
AHRI New Ratings Working Group

Scope

• Conduct testing and develop comments responding to CSA EXP07
• Establish test procedure for next generation of unitary products
• Primary focus: multi-stage and variable speed residential AC/HP

CSA EXP07:19

• First edition of CSA EXP07:19, *Load-based and climate-specific testing and rating procedures for heat pumps and air conditioners* was released in March 2019
• Comment deadline is March 31, 2020

Next steps

• Schedule 1st WG meeting
• Establish roster, finalize charter
• Do good work
GAC created Electrification Task Force to develop an industry position on a growing trend of electrification policies.

Electrification Task Force generated AHRI’s “Guiding Principles” on electrification:
- Consumer Choice
- Consumer Cost
- Consumer Comfort and Safety

AHRI supports electrification policies that are not “all electric” and that are technically feasible and economical.

Document available on AHRI’s members-only webpage.
## EPA Significant New Alternatives Policy (SNAP) Rules 20 & 21

<table>
<thead>
<tr>
<th><strong>Court Decision SNAP 20</strong></th>
<th><strong>EPA Sued for Non-Enforcement Guidance without Rulemaking by NRDC</strong></th>
<th><strong>Supreme Court Appeal Filed June ’18</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Court of Appeals for DC Circuit ruled in favor of Mexichem Fluor Inc. &amp; Arkema vs. the EPA</td>
<td>EPA will not enforce provisions in SNAP Rule 20 related to the “de-listing of HFCs until rule is re-written per Court direction</td>
<td>October 9, 2018: Supreme Court denied cert petition</td>
</tr>
<tr>
<td>EPA cannot prohibit companies from using HFCs under CAA Section 612 after product converted from ozone-depleting substances</td>
<td>June 26, 2018: NRDC and 11 states sue EPA for not enforcing portions of the rule not impacted by the Court decision</td>
<td>April 2019 SNAP Rule 21 remanded back to EPA for similar revisions as SNAP 20</td>
</tr>
<tr>
<td>EPA was neither arbitrary nor capricious in the use of GWP as a comparative measure for replacements of ozone depleting substances</td>
<td>EPA has started the stakeholder engagement process to rewrite rule</td>
<td>Currently Waiting for EPA Notice of Proposed Rulemaking (AHRI filed comments in December 2018)</td>
</tr>
</tbody>
</table>
EPA Refrigerant Management: Section 608

- **TECHNICIAN CERTIFICATION**
- **REFRIGERANT LEAKS:** AC and refrigeration equipment with 50 lb or more are subject to specific EPA requirements for leak repair
- **REFRIGERANT RECOVERY**
- **SAFE DISPOSAL**
- **RECLAMATION**
- **RECORDKEEPING**
- **REFRIGERANT SALES RESTRICTION**

**BOTTOM LINE:**
- Leak reduction requirements and refrigerant management policies are an important part of compliance with the Kigali Amendment
- EPA is writing a new proposed rule regarding applicability to HFCs
608 Refrigerant Management Rule

• EPA updated the regulation in 2017
  • Challenged by NEDACAP and APF
  • Intervenors in support of the regulation: Alliance, Chemours, Honeywell, NRDC

• New proposed rule eliminates requirements for HFCs
  • Requirements for leaking “appliances” (AC and refrigeration equipment)
  • Asked for comment on significant changes to the rule

HCFC Allocation Rule

• Office of Management and Budget
Montreal Protocol HFC Phasedown in US

Kigali Amendment to the Montreal Protocol
HFC Phasedown Schedule as % of Baseline

- Baseline
- 10% (SNAP Rule 20)
- 40% (SNAP Rule 21)
- 70%
- 80%
- 85%

Bottom Line:
SNAP Rules 20 & 21 and Section 608 Refrigerant Management HFC Rule:
• Provided a roadmap to the first 2 steps of the HFC phasedown

Due to litigation:
• Federal roadmap is no longer clear
Current and Future State Regulations
State Playbook: 1:45-2:45pm, Constellation Ballroom B

- August 4, 2017: U.S. submits notice of withdrawal from Paris Climate Agreement estimated Nov. 4, 2020
- **United States Climate Alliance** States commit to reduce emissions commensurate with U.S. commitment:
  - As of February 12, 2019
    - Over half of the US population (US Census Bureau)
    - Over half of US GDP
- HFCs: low-cost GHG reduction measure
- California, New York, Maryland, Connecticut, New Jersey, Washington, Vermont have publicly committed to address HFCs
- 392 mayors: Committed to the Paris agreement reductions

New members: Nevada and Pennsylvania

**BOTTOM LINE:**
24 States and Puerto Rico are moving forward with climate regulation due to federal inaction
California Air Resources Board (CARB)

California SNAP (CaSNAP)
Adopted SNAP 20 & 21, recordkeeping and disclosure statements
Published December 2018, effective January 2019

HFC Emissions Reduction Measures I & II
Rulemaking #1 – Stationary AC
Rulemaking #2 – Stationary Refrigeration & Refrigerant Management Plan
Under development - not yet published

AHRI
AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
we make life better®
AHRI met with CARB staff – Econ Surveys

AHRI staff to provide supplementary info

June – Nov 2019 AC Rulemaking

Sept 2019 – Feb 2020 CR Rulemaking

- Stationary AC
- Commercial Refrigeration

- Dec 2019: Board to approve AC Rule
- Jan 2023: AC Rule Effective

- Mar 2020: Board to approve CR Rule
- Jan 2022: CR Rule Effective
Other Ongoing CA Rulemakings

**CEC Title 20 – Commercial and Industrial Fans**
- Comments on draft staff report, analysis of efficiency standards and test procedures, and proposed rule submitted on September 28, 2018
- Expect draft regulatory language in May/June 2019

**CEC Permitting/Compliance for Res CAC/HP Installations**
- Tentatively scheduled for Board adoption in September 2019.
- CEC plans to hold a public stakeholder meeting following the release of the SB 1414 Draft Action Plan

**CARB Air Cleaners Scope Expansion**
- Include in-duct air cleaners
- 2nd public meeting on amendments to the regulation will be held on June 3, 2019
Current and Future Canadian Regulations
AHRI Spring Meeting 2019

Heating, Refrigeration and Air Conditioning Institute of Canada

1,250 Member Corporations
✓ 95 Manufacturers
✓ 50 Wholesalers
✓ 900 Contractors
✓ 200 Associates (Utilities, Colleges/Trainers, Consultants, Engineers)
✓ 28 Staff, 12 Instructors, 15 Chapters
Staying Cool in a Regulated World

- Federal Regulatory Update + Pan Canadian Framework + Roadmap
- Provincial Regulatory Update
- Standards Update
Energy Efficiency Regulation
A shared responsibility with jurisdiction spread between federal and provincial governments

In the context of international and inter-provincial movement for the purposes of lease or trade

EE standards or products sold within their borders, including intra-provincial trade related to energy-consuming goods manufactured in the province for sale within that same province

Federal

Provincial

Provincial EE Regulations
No EE Regulations
Pan-Canadian Framework on Clean Growth and Climate Change

• On December 9, 2016, First Ministers adopted the first ever pan-Canadian climate plan
• The plan puts Canada on a path to meet its 2030 emissions target
• The plan has four pillars:
  – Pricing carbon pollution
  – Complementary mitigation actions to reduce emissions across all sectors
  – Adaptation and climate resilience
  – Clean technology, innovation and jobs
Space Heating Aspirational Goals

By 2025,
- All fuel-burning technologies for primary space heating for sale in Canada meet an energy performance of at least 90% (condensing technology).
- All air-source heat pumps for sale in Canada meet a SCOP of greater than 2.5, at least 30% better performance than today.

By 2030,
- A residential natural gas heat pump with a SCOP of greater than 1.2 can be manufactured and installed cost effectively.
- A residential cold climate air-source heat pump with a SCOP of greater than 2.75 can be manufactured and installed cost effectively.
- The deployment of heating systems using renewable technologies and renewable resources are supported.

Long term: By 2035, all space heating technologies for sale in Canada meet an energy performance of more than 100%.
In August 2018, FPT Ministers endorsed, Paving the Road to 2030 and Beyond: Market transformation roadmap for energy efficiency equipment in the building sector.

- Identified 44 initiatives, encompassing research and development that could overcome barriers:
  - 18 space heating initiatives
  - 15 water heater initiatives
  - 11 window initiatives
# Federal Energy Efficiency Regulations

<table>
<thead>
<tr>
<th>AMENDMENT 14</th>
<th>AMENDMENT 15</th>
<th>AMENDMENT 16</th>
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</thead>
<tbody>
<tr>
<td><strong>EFFECTIVE IN 2019</strong></td>
<td><strong>(PROPOSED)</strong></td>
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</tr>
<tr>
<td><strong>17 products categories</strong></td>
<td><strong>12 product categories</strong></td>
<td><strong>9 product categories</strong></td>
</tr>
<tr>
<td>Residential:</td>
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</tr>
<tr>
<td>• Gas furnaces (furnace fans)</td>
<td>• Electric furnaces (furnace fans),</td>
<td>• Portable a/c</td>
</tr>
<tr>
<td>• Oil furnaces</td>
<td>• Gas boilers*</td>
<td>• Misc. refrigeration products</td>
</tr>
<tr>
<td>• Gas and oil storage water heaters</td>
<td>• Gas fireplaces*</td>
<td>Commercial / Industrial:</td>
</tr>
<tr>
<td>Commercial/Industrial:</td>
<td>• Gas furnaces*</td>
<td>• Chillers</td>
</tr>
<tr>
<td>• Large a/c and heat pumps</td>
<td>• Oil boilers,</td>
<td>• Refrigerated vending machines</td>
</tr>
<tr>
<td>• PTAC &amp; PTHP</td>
<td>• Instant. water heaters*</td>
<td>• Single package vertical a/c and heat pumps</td>
</tr>
<tr>
<td>• Comm. refrigeration equipment</td>
<td>• HRV/ERVs (reporting and verification only)*</td>
<td>• Walk-in coolers and freezers</td>
</tr>
<tr>
<td>• Walk-in coolers and freezers</td>
<td><strong>Commercial/Industrial:</strong></td>
<td>• Pumps</td>
</tr>
</tbody>
</table>


*proposing unique Canadian standards
Federal Energy Efficiency Regulations – Forward Regulatory Plan

Future amendments to the regulations will be prioritized to support government climate change objectives and commitments to harmonization of standards within Canada and North America.

<table>
<thead>
<tr>
<th>Products under consideration post-2019</th>
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</thead>
<tbody>
<tr>
<td><strong>Existing Product Categories</strong></td>
</tr>
<tr>
<td><strong>Residential:</strong></td>
</tr>
<tr>
<td>• Central a/c and heat pumps</td>
</tr>
<tr>
<td>• Heat recovery ventilators (MEPS)</td>
</tr>
<tr>
<td>• Electric water heaters</td>
</tr>
<tr>
<td>• Portable a/c (MEPS)</td>
</tr>
<tr>
<td>• Gas-fired storage water heaters</td>
</tr>
</tbody>
</table>

**Commercial:**

• Internal water loop heat pumps
Will NRCan harmonize with the new metrics that will be adopted by U.S. DOE on 1/1/2023?
BC Energy Efficiency Regulations

**Effective:** March 6, 2018

1 and 3 phase, split system HP, air-source, residential (< 65 kBtu/h)

**Recommendation:** Exempt 3-phase units from 2020 MEPS requirements

**Testing Standard:** CSA C656-14

<table>
<thead>
<tr>
<th>Manufacturing Period</th>
<th>Between June 2, 2018 – Dec. 31, 2019</th>
<th>On or after Jan. 1, 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEPS Requirement</strong></td>
<td>HSPF ≥ 8.2 (Region 4) HSPF ≥ 7.1 (Region 5)</td>
<td>HSPF ≥ 8.50 (Region 4) HSPF ≥ 7.39 (Region 5)</td>
</tr>
</tbody>
</table>
Building by-law will become effective on 5/1/19. The relaxation of the side yard venting requirements now eases some of the previously imposed severe restrictions on sidewall venting of furnaces and boilers.

Introduced sidewall venting restrictions aimed at the placement of heat pumps.

Passed City Council 1/28/19
ANSI Z21.47/CSA 2.3 is under editorial review. Edition 8 will be out for public review soon.

In Nov. 2018 the TSC approved proposed modifications to be reviewed by task forces to be included in edition 9. This includes a finishing heat protocol when equipment is used for construction heat. The timeline for publication or adoption will not be anytime soon.
CSA EXP07:19

Load-based and climate-specific testing and rating procedures for heat pumps and air conditioners

<table>
<thead>
<tr>
<th>Express Document Now Published</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder input and recommendations that will improve the procedure; particularly, feedback from those parties who use the procedure in a test laboratory would be valuable and most welcome:</td>
</tr>
</tbody>
</table>

Comments through the [EXP07 Public Review portal](#) are welcome up until March 31, 2020.
Meeting Schedule

**Cooling Products:**

- 10:15 – 11:15 AM: End-to-end Supply Chain, Constellation A
- 11:30 AM – 12:30 PM: Applied Regulatory WG, Constellation B
- 1:45 – 2:45 PM: State Playbook – HFC Regulations, Constellation B
  - Julia Cerqueira
  - David Doniger
- 3:00 – 4:00 PM: Cold Chain Regulations, Annapolis
- 3:00 – 4:00 PM: Unitary Regulatory WG, Constellation A
Questions?

• Caroline Czajko, cczajko@hrae.ca
• Laura Petrillo-Groh, lpetrillo-groh@ahrinet.org
• Helen Walter-Terrrinoni, hwalter-terrinoni@ahrinet.org
Adjournment