Request for Comment:
Proposed revision to NEEP's Cold Climate Air Source Heat Pump Specification

This memo serves as a request for comment from interested air source heat pump (ASHP) stakeholders regarding a proposed revision to NEEP's Cold Climate air source heat pump (ccASHP) Specification and Product List. NEEP seeks stakeholder input to inform potential changes and updates to the current Version 4.0 of the Specification for the Central Air Conditioning Heat Pump category. Note that this category includes split and packaged ASHPs, ducted and ductless. This request does not seek input on potential updates to other ccASHP product categories (Packaged terminal heat pumps or single package vertical heat pumps).

Stakeholder input will be used to guide NEEP in determining a final Version 5.0 Specification for the Central Air Conditioning Heat Pump category that delivers maximum value to the market and supports heat pump market transformation.

Estimated timeline of the revision process:
July 7, 2026 – NEEP releases RFC
August 28, 2026 – Deadline for stakeholder written comments
September/October, 2026 – NEEP will convene a stakeholder webinar to discuss comments received from stakeholders (potentially requesting additional input) . Webinar date TBD.
October/November, 2026- NEEP addresses stakeholder input and refines the draft accordingly.
December, 2026 – NEEP to release a final version of Specification 5.0 and effective date.

NEEP strongly encourages any interested stakeholder to submit written comments to NEEP via email (ccASHP@neep.org) by COB August 28, 2026. Please include "ccASHP Specification Revision Comments" in the subject line to ensure your comments are received and recorded. While all comments are welcomed, a list of key questions is included in the last section of this RFC.

The Request for Comment document is organized into the following sections

- History and current state of the ccASHP Specification and Product List
- Drivers for Specification and Product List updates
- Initial Proposal for Version 5.0
- Key Questions for stakeholder feedback

History and Current state of ccASHP Specification and Product List

NEEP's ccASHP specification initially launched in January 2015 as Version 1.0. Original development of the specification was identified as a need by regional stakeholders in NEEP's ASHP Market Transformation Strategy Report and built on the premise that existing metrics for ASHP performance (SEER, EER, and HSPF) were not fully representative of the current generation of ASHP systems, especially in cold conditions. Since 2015, the specification has gone through three revisions. The current Version 4.0 became effective in January 2023. Past revisions have been prompted by shifting technology and market conditions and product list stakeholder interests.

The specification's development, and subsequent revisions, have been guided by two key objectives:

1. Provide a model equipment specification to be used broadly by clean energy and energy efficiency program administrators in cold climates as a minimum requirement for program qualification (i.e. Qualified Products List (QPL))
2. Provide consistent heat pump performance data for HVAC system designers/contractors, engineers, and other practitioners to support effective heat pump sizing and selection, especially in colder climates.

To meet these two objectives, the specification has two elements:

- Minimum Performance Requirements
- Minimum Performance Reporting Requirements

Current version of the Specification (V4.0)

The current specification is structured such that central air conditioning heat pump systems, as defined by [1], must meet minimum performance requirements AND minimum performance reporting requirements.

Performance requirements:

- ≥1.75 COP@5F (maximum capacity operation)
- ≥7.7/8.5 Heating Seasonal Performance Factor (HSPF2) (ducted/ductless)
- ≥15 Seasonal Energy Efficiency Rating (SEER2)
- Systems must be variable capacity (≥3 distinct operating speeds)

Performance reporting requirements
Table 1 lists all required information that must be provided for all products.

Table 1. Required reporting

Brand Owner	Furnace Model Number (if applicable)
Brand Name	EER2
Series Name	SEER2
Ducting Configuration	HSPF2 (Region IV)

[1] https://www.ecfr.gov/current/title-10/chapter-II/subchapter-D/part-430/subpart-A/section-430.2

AHRI Certified Reference Number	HSPF2 (Region V)
AHRI Type	ENERGY STAR Certified (Yes/No)
Outdoor Unit Model Number	ENERGY STAR Cold Climate Certified (Yes/No)
Indoor Type	Variable-Capacity (Yes/No)
Indoor Model Number(s)	Refrigerant
Sold In? (USA and/or Canada)	

Manufacturers are required to provide laboratory testing data or engineering data for the conditions (shown in Tables 2 and 3). "Minimum" and "Maximum" refer to the steady-state heating and cooling capacities and input power at each condition that the rated outdoor equipment model can deliver continuously (without cycling or time-limited "boost" modes), during normal operation using the equipment's built-in controls. Capacities in the "Rated" column should correspond to those listed on the AHRI certificate at 47°F and 17°F for heating, and 95°F for cooling. If the system is optionally rated per the Appendix M1 H4 test at 5°F, that should also be reported in the "Rated" column, as well as the "Maximum" column.

Btu/h is total heating or cooling capacity, and kW is power input. Manufacturers do not include the power required for defrost cycling or drain pan heater operation in the table. "Lowest Cataloged Temperature (LCT)" is defined as the lowest outdoor dry bulb temperature at which the manufacturer offers published performance data in technical manuals or product documentation. If 5°F is the LCT, manufacturers should populate LCT with 5°F performance.

Table 2. Heating Performance Reporting

			Capacity Level		
Outdoor Dry Bulb (°F)	Indoor Dry Bulb (°F)		Minimum	Rated	Maximum
47°F	70°F	Btu/h			
		kW			
		COP			
17°F	70°F	Btu/h			
		kW			
		COP			
5°F	70°F	Btu/h		optional	
		kW		optional	
		COP		optional	
Lowest Catalogue		Btu/h			
		kW			

Temperature (LCT)		COP			

Table 3. Cooling Performance Reporting

			Capacity Level		
Outdoor Dry Bulb (°F)	Indoor Dry Bulb (°F)		Minimum	Rated	Maximum
95°F	80°F	Btu/h			
		kW			
		COP			
82°F	80°F	Btu/h			
		kW			
		COP			

* This performance reporting is captured for each product in the detailed view on the Product List. See Appendix A for an example.

If a pan heater is integrated with, or is available as an accessory to, the outdoor unit, provide its standalone input power and a description of what determines when pan heater operates. If the pan heater is available as an accessory, provide the model #.

	Integrated or Accessory (provide model #)	Input Power (W)	What determines when heater operates?
Pan Heater			

OPTIONAL - Manufacturers are strongly encouraged to provide additional information related to the following capabilities/functionalities:

Table 4. Optional data reporting

Integration: Describe any capabilities this ASHP system or its controller(s) have related to integrating other heating systems/third-party thermostats, including “works with,” etc.	
Connectivity: Describe any capabilities this ASHP system or its controller(s) have related to communication with the consumer or utility (e.g. meets ENERGY STAR “Connected” criteria, system/controller have an interface that allows for remote communication with the consumer or utility, wi-fi connected, etc.)	

Operational diagnostics: Describe any capabilities of this ASHP system to self-report or self-diagnose its operation or the quality of its installation, including whether the system meets any/all of ENERGY STAR's Installation Capabilities criteria.	

Current state of Product List and embedded features

As of June 15th, the Product List contained over 150,000 products from over 200 brands. The product list has roughly 400 unique visitors a day across consumers, contractors, program administrators, manufacturers and others.

Primary Use cases of the Specification/List

Since the launch of the list, there have been two primary use cases in the market that closely align with the original objectives:

- Many energy efficiency incentive programs within the region, as well as in other parts of the U.S. and Canada, use the list to determine heat pump rebate program eligibility.
- Many programs leverage the performance data and functionality built into the product list site to support more effective heat pump design and sizing practices. The "Advanced Search - Sizing for heating and cooling" feature has become a commonly used resource for both heat pump designers/installers and trainers.

Over 20 unique programs leverage the specification and list for these two main functions. Geography of these programs spans across the Northeast, Midwest and Northwest U.S., and Canada. While program use of NEEP's product list has been relatively stable for the past few years, an increasing number of market actors (programs, trainers, installers, service providers) have been using the additional data housed in the list to support their sizing and selection of heat pumps.

The specification and list have also been used as tools for building energy modelers, electric utility program designers and load forecasters.

In a 2025 survey of product list users, the top three use cases of the Product List reported were System sizing & Selection (85), Rebate Qualification (73) and modeling (38).

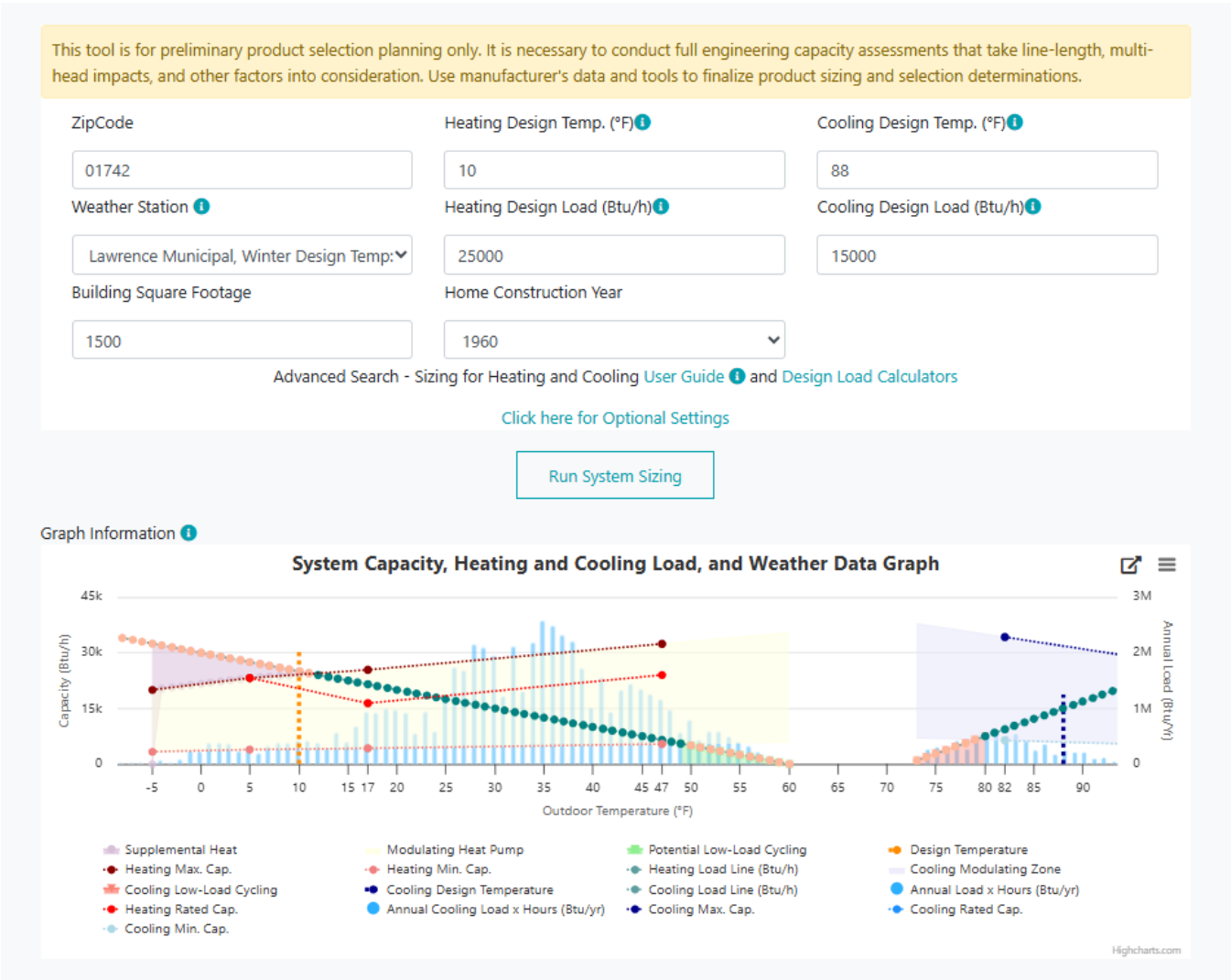
Evolution of performance data collection

Shaped through discussions with participating manufacturers, NEEP and the Air-conditioning, Heating, Refrigeration Institute (AHRI) entered into an enhanced partnership to enable NEEP to generate its ccASHP list for Central Air Conditioning Heat Pump using data gathered and supplied by AHRI exclusively. This shift in data collection process, made effective in February 2026, was implemented to improve efficiency, ensure consistency between the platforms, and improve data quality.

Embedded Sizing/selection tools

The product list website houses a series of tools to help users select ccASHP products that are sized to best match the peak and annual heating needs of a home or heating zone. Because the tools "Advanced Search-Sizing for heating and cooling" and "Advanced Data - System Sizing", take advantage of the additional performance data in the ccASHP list, they are able to create lists, visuals (see screen shot below) and

calculations to show how a specific heat pump's capacity matches the heating and cooling loads across a home's seasonal temperatures. Key features of the tools are captured in this tutorial.



Drivers for Specification revision process

The landscape surrounding the ccASHP specification has shifted since the adoption of version 4.0. This section provides information about the key drivers that are shaping the need to reevaluate the current specification to ensure it continues to be a valuable resource to the heat pump market, including program administrators, contractors and consumers. We characterize the three drivers as follows:

- Increased market interest in enhancing the quality of "additional" heat pump performance data
- Increased opportunity to leverage emerging heat pump test procedures and performance metrics
- Increased market interest in clarifying the relationships between the NEEP Specification /list and other cold climate heat pump specifications and lists

Market interest in enhancing additional heat pump performance data

NEEP completed a study in 2025 that explored the broader state of heat pump performance data and opportunities for enhancing the performance data available to the market. The report found that consistent and reliable predictions of heat pump performance across a wide range of operating conditions and equipment models is key to the selection and sizing of high efficiency HVAC equipment.

The study assessed the strengths and weaknesses of the NEEP specification and product list:

> **Strengths** - The NEEP ccASHP list is seen as a comprehensive and centralized source for key data. The database covers many manufacturers and additional data points that should allow for apples-to-apples comparison of products. Users especially appreciate the Advanced Sizing Tool functionality for system comparison, sizing, and communication purposes. They enjoy the ease of searching and sorting within the database. Most respondents consider NEEP to be a credible and consistent source, as a neutral third party.
>
> **Weaknesses** - While most respondents have good user experience with the NEEP ccASHP site, others experience search and interface issues. Respondents also noted data inconsistencies and errors, which may stem from lack of verification of manufacturer-reported data, human error, or time lag between NEEP's updates and updates from other sources. Respondents also expressed that limited data was a disadvantage, because NEEP only lists cold-climate models, and does not include air flow data or Canadian weather locations within the sizing tool. Respondents also expressed concerns about the validity of the voluntary manufacturer-reported data; some of these data points appear to be reported inconsistently among various manufacturers.

The most-cited challenges with the current landscape are availability, consistency, and comparability of data across products and brands. These challenges increase the need to navigate multiple sources to find the desired information and introduce variability in the reliability of that data. To the extent feasible, consistent and clear data reporting that can be housed in a central repository can help address these perceived shortcomings. The study made the following recommendations for enhancing heat pump performance data:

1. **Heating performance at low ambient temperatures**: Publish heating capacity, input power, and temperature at the lowest manufacturer-reported outdoor temperature (lowest cataloged temperature or LCT).

2. **Heating performance at low-load conditions**: Publish heating capacity and input power specifically at the H1Low test condition (47°F).

3. **Cooling performance at both low-load and high ambient conditions**: Publish cooling total capacity and input power, and latent capacity (or SHR) at the lowest modulating speed (compressor and fan), at 82°F outdoors, and at high speed at the highest cataloged temperature (HCT).

Since the report was published, stakeholders have continued to express a desire to support increased consistency for manufacturers' self-reported performance data by leveraging the results from standardized testing conditions as much as possible and creating more specific definitions for all reporting data points. See section on the Version 5.0 proposal for how these comments would be addressed in the updated specification and product list.

New heat pump test procedures and performance metrics

New activities related to test procedures and performance metrics for ASHPs present potential opportunities for incorporation into a new version of the NEEP Specification. We highlight three recent updates involving AHRI, the Air Conditioning Contractors of America (ACCA), and the Canadian Standards Association (CSA).

- **AHRI Standard 210/240-2026 (I-P)[2].** The latest version of AHRI's heat pump test procedure (AHRI Standard 210/240-2026 (I-P)), the procedure that generates HSPF2, SEER2 and EER2 values, includes new verification procedures for variable-speed (i.e. "4 corner" test), the introduction of an optionally reported cold-weather metric COP_{peak}, and introduction of a new AHRI "cold-climate" designation.
- **Air Conditioning Contractors of America (ACCA) Manual S[3]**. Manual S is the American National Standards Institute (ANSI) recognized standard for selecting and sizing residential HVAC equipment. The standard is referenced in the residential model building codes (International Residential Code and International Energy Efficiency Code). The new edition of Manual S has provisions for variable-speed heat pumps to be sized for heating while maintaining summer humidity control. Some of the pathways to comply require understanding the latent capacity at low-speed operation, which is rarely published in manufacturer's engineering data.
- **Canadian Standards Association (CSA) C700.** CSA has updated SPE-07:23 *Load-based and climate-specific testing and rating procedures for heat pumps and air conditioners* to a new, nationally accredited standard C700(2026)[4]. The "load-based" procedure was developed to more accurately

[2] *Performance Rating of Unitary Air-conditioning and Air-source Heat Pump Equipment* https://www.ahrinet.org/sites/default/files/AHRI%20210.240-2026%20I-P.pdf

[3] *Manual S - Residential Equipment Selection (3rd Edition, Version 1.02) [ANSI/ACCA 3 Manual S - 2023]* published by the Air Conditioning Contractors of America https://www.acca.org/standards/technical-manuals/manual-s

[4] https://webstore.ansi.org/standards/csa/csac70026

measure performance of variable capacity ASHPs. The procedure generates seasonal COPs and a series of test results across a wide range of operating conditions. NEEP facilitated the completion of a 2024 study[5] that explored the representativeness and repeatability of SPE-07:23. The study found results from SPE-07 testing to be repeatable and more representative of real-world performance than results from AHRI 210/240- 2023. While it is difficult to project how the 2026 update to 210/240 would impact the results of this study, NEEP believes the results would be directionally the same.

NEEP's Cold climate ASHP Specification and product list relative to other cold climate heat pump specifications and lists

Since the launch of NEEP's Cold-climate ASHP Specification and product list, several other organizations have adopted definitions, specifications, and/or market challenges for cold climate heat pumps. This new diversity has led to some market confusion about the need for, and the relationship between these programs and specifications.

The following presents a short description of those programs and a summary of their performance requirements:

- **ENERGY STAR** – The ENERGY STAR 6.2 eligibility criteria differentiate between Certified Residential Heat Pumps and Certified Residential Cold Climate Heat Pump. Several criteria refer specifically to ENERGY STAR certification programs (i.e. Control Verification Procedures). With the ENERGY STAR program transitioning to DOE per a March 2026 Memorandum of Understanding, uncertainty remains about the future of the specification.
- **Consortium for Energy Efficiency (CEE)** – CEE maintains a tiered specification for ASHPs. 2026 tiers have been updated slightly from 2025, with notable update being that all tiers require compliance with AHRI 1380[6]. Federal tax credits that were tied to CEE's Tier 1 specification expired at the end of 2025.
- **Department of Energy (DOE)** – DOE establishes minimum efficiency standards for all heat pumps. DOE also launched a Cold Climate Heat Pump Technology Challenge program in 2021 to push the edge of low temperature performance. Several leading manufacturers have participated in the program.
- **AHRI** – In 2025, AHRI added an optional "Cold climate" heat pump designation to its standard 210/240.
- **Northwest Energy Efficiency Alliance (NEEA)**- NEEA has developed an Advanced Heat Pump Specification that includes a set of criteria for homes with electric resistance backup heat that incorporates a low load efficiency criteria (MinCapCOP47) and requires strategies to minimize the use of electric resistance heat when the heat pump can carry the full load, or recovery quickly enough from setback that the electric resistance heat can remain off.

Table 5 summarizes the various requirements for each specification or program. The first column starts with the federal minimum efficiency standards. Blank boxes mean that the specification does not include that metric.

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[5] *Residential Heat Pump Efficiency Rating Representativeness Project – Phase 2* https://neep.org/sites/default/files/media-files/neep_heatpump_rating_representativeness_study-phase2_final.pdf

[6] AHRI 1380 (I-P 2019): Demand Response through Variable Capacity HVAC Systems in Residential and Small Commercial Applications

Table 5. Summary table of Specification requirements

	DOE Min Eff. Stds	NEEPV4	NEEPV4	ENERGY STAR V6.2 Certified Cold Climate	ENERGY STAR V6.2 Certified Cold Climate	AHRI Cold Climate designation	CEE Tier 1 Path B (2026)	CEE Tier 1 Path A (2026)	DOE Cold Climate Challenge (5F)	DOE Cold Climate Challenge (-15F)
Ducting	Both	Ducted	Non-Ducted	Ducted	Non-Ducted	Both	Both	Both	Ducted	Ducted
SEER2	14.3	15	15	15.2	15.2	-	16	16		
HSPF2 Region IV	7.5	7.7	8.5	8.1	8.5	-	8	8.5		
HSPF2 Region V		-	-	-	-	-			8.5+ (nominal capacity-based formula)	
EER2		-	-			-	11	9.8		
COP @ 5F		≥1.75 (at max capacity)	≥1.75 (at max capacity)	≥1.75 (Appendix M1 $H4_{Full}$ test)	≥1.75 (Appendix M1 $H4_{Full}$ test)	-	≥1.75 (Appendix M1 $H4_{Full}$)		2.1 (24k-48k Btu/hr)/ 2.4 (>48k)	
Capacity Ratio		-	-	Cap 5 / Cap 47 ≥ 70%	Cap 5 / Cap 47 ≥ 70%	Cap 5/ Cap 47 ≥ 70%	Cap 5 / Cap 47 ≥ 50%	Cap 5 / Cap 47 ≥ 65%	100%	100%
COP_{Peak}						-				
Turndown %		-	-	-	-	-	-	-	30%	30%
Low-temperature cut-out		-	-	-	-	<5 °F	-	-	-10 °F	-20 °F
Low-temperature cut-in		-	-	-	-	<5 °F	-	-	-5 °F	-15 °F
Refrigerant									≤750 GWP	≤750 GWP
Additional data reporting		Extensive additional data reporting (Manu. Reported)	Extensive additional data reporting (Manu. Reported)							-15 °F Capacity and COP
Controls Verification Procedure (CVP)				CVP @ 5F (ENERGY STAR or DOE)	CVP @ 5F (ENERGY STAR or DOE)		CVP @ 5F (DOE only)	CVP @ 5F (DOE only)		
Connected/ Demand Response				Defines connected product criteria	Defines connected product criteria		AHRI 1380 Load Management	AHRI 1380 Load Management	Refers to ENERGY STAR connected product criteria	
Other									Electric heat staging	Electric heat staging
Other									Installation capabilities Reqs	Installation capabilities Reqs

As shown, NEEP, ENERGY STAR and CEE all require certain seasonal efficiency levels captured by HSPF2 and SEER2 levels. CEE and ENERGY STAR have added capacity maintenance ratio requirements and required use of controls verification procedures. NEEP has not added those requirements but remains unique in its requirements for reporting additional performance data. DOE's Cold climate challenge specification incorporates a series of very low temperature performance requirements that represent the leading edge of cold climate performance specifications.

NEEP has received mixed input from heat pump stakeholders on the benefits of aligning with other cold climate heat pump specification levels, which have added these additional requirements, versus keeping the performance requirements more modest.

Some stakeholders, representing a cross section of the market, have suggested that to the extent possible, NEEP should better align with other ASHP specification performance requirements such as those from ENERGY STAR V6.2 Cold Climate ASHP Specification, the Consortium for Energy Efficiency's (CEE) efficiency tiers, or the DOE's Cold-Climate Heat Pump Challenge. This could include alignment in data definitions, alignment of specification requirements, or adding data fields that show compliance with those specifications. The rationale is that consolidation of performance requirements could simplify the market across stakeholder types (manufacturers, contractors, consumers, programs, etc).

On the other hand, other stakeholders, similarly representing a cross section of the market, have urged NEEP to maintain more modest performance requirements (e.g. HSPF2, capacity maintenance) in order to provide additional performance data for a larger subset of products in the market. One impact from a shift towards higher threshold requirements would be a shrinking of the number of qualifying products that are listed. This reduction in the pool of products that have additional data published through the NEEP list reduces the availability of data that might not otherwise be available for those products. This might include systems that may be designed as part of dual fuel or partial displacement applications.

The list currently houses approximately 150,000 products. When filtered for ENERGY STAR's Cold Climate certification, the list shrinks to approximately 95,000. At this time, it is not clear how filtering the NEEP list by CEE's 2026 Tiers would impact the number of listed products.

Proposal for Version 5.0

Based on the existing objectives of the specification, the current landscape of related activities, the current ASHP market and stakeholder input, NEEP believes there are several elements of the current specification that can be improved. To that end, NEEP has developed an initial proposal. The aim of the proposed revisions is to

- Update performance requirements to align with other cold-climate ASHP specifications
- Strengthen the additional performance data, especially for low load/minimum capacity performance, by adding more standardization to the reporting fields
- Change definition of lowest and highest temperature performance reporting to provide more flexibility to manufacturers
- Add new optional data reporting fields to bring greater market visibility to capabilities such as dehumidification

Specific proposed changes include:

Performance requirements

NEEP proposes to more closely align with the other national programs' cold climate specifications. NEEP proposes to do so by offering a choice for systems to comply with either of two leading cold climate ASHP Specifications, and to remove the prescriptive requirement for systems to be variable capacity;

- Hold ENERGY STAR Cold Climate (EScc) certification OR be listed as compliant with CEE's Tier 1, Path A
- To align with EScc and CEE, remove the prescriptive requirement for systems to be variable capacity.

Reporting Requirements

NEEP proposes to further standardize the reporting of several of the performance data fields, primarily by matching key reporting fields with specific test results from AHRI 210/240 testing. New reporting requirements include:

- All of the values in NEEP's "rated" category will be defined by AHRI 210/240 test conditions. Stating these relationships explicitly will help ensure consistency and improve the usability of these key values. See specific 210/240 test conditions in the table below.
- Minimum capacity performance fields (capacity and input power) at 47 °F and 82 °F will be determined by the $H1_{Low}$ and B_{Low} test results within AHRI's 210/240.

NEEP proposes to substitute "intermediate" values for "minimum" values at more extreme outdoor conditions.

- There is no corresponding AHRI test for the minimum-speed performance at or below 5 °F for heating, or at 95 °F for cooling. Despite the current NEEP specification stating that these values should be reported based on expected lowest speed of operation using the system's native controls, it is apparent that various manufacturers interpret this data requirement differently. In particular, the use of minimum compressor speeds can lead to some data that implies a substantial drop in performance,

when such operating modes are unlikely in real applications. Truly "low" speed operating modes are not expected to dominate during more extreme outdoor conditions. However, a large number of stakeholders in more extreme cold and warm climates have emphasized the need to have values below the rated or maximum-speed operation at these more extreme outdoor conditions, to reasonably predict operation for equipment that may be sized for more extreme design temperatures. Thus, the proposal for Version 5.0 is to redefine the "minimum" speed requirement at these temperatures as an "intermediate" speed that would be chosen by the manufacturer, and thus more likely to be reliably defined within the expected normal range of operation.

NEEP proposes to change/add extreme temperature reporting definitions

- On the heating side, NEEP proposes to replace "Lowest catalogue Temperature" with "Lowest Operating Temperature". Some stakeholders have observed that as defined, the "lowest catalogued temperature" may not be the best value to report for low-temperature operation (below 5 °F). As it is currently defined, the LCT is the lowest temperature that is shown in extended performance tables or engineering manuals; however, some equipment may operate reliably at lower temperatures. Changing the metric to "Lowest Operating Temperature" (LOT) gives manufacturers more flexibility to report performance at temperatures that may be lower than are shown in their standard-format performance tables, while preserving the intent of this category to provide critical performance data for equipment that is suitable for colder climates.
- On the cooling side, NEEP proposes to add an additional reporting field for "Highest operating Tempoerature" (HOT). Stakeholders requested more complete information at high outdoor cooling temperatures, so we propose adding the hot-weather equivalent of the LOT, which is the Highest Operating Temperature (HOT). Like LOT, the temperature would be defined by the manufacturer for each listing that included these fields. Like the heating season extreme-temperature intermediate fields, the lower-speed performance would also be defined at an "intermediate" condition chosen by the manufacturer.

NEEP proposes to add "Required thermostat" reporting field

- If the AHRI rating specified for a listed product depends on a particular thermostat, that dependency shall be listed as a yes/no field.

A complete summary of the proposed changes are captured in the following tables and definitions. Proposed changes reflected in blue highlights

Table 6. Proposed Required Reporting

Brand Owner	
Brand Name	
Series Name	
Ducting Configuration	
AHRI Certified Reference Number	
AHRI Type	
Outdoor Unit Model Number	

Indoor Type	
Indoor Model Number(s)	
Furnace Model Number (if applicable)	
EER2	
SEER2	
HSPF2 (Region IV)	
HSPF2 (Region V)	
ENERGY STAR Certified (Yes/No)	
ENERGY STAR Cold Climate Certified (Yes/No)	
CEE Tier/Pathway	
Variable-Capacity (Yes/No)	
Refrigerant	
Sold In? (USA and/or Canada)	
Required Thermostat? (Yes/No)	

Table 7. Proposed Cooling Performance Reporting

			Capacity Level		
Outdoor Dry Bulb (°F)	Indoor Dry Bulb (°F)		Minimum	Rated	Maximum
Highest Operating Temp. (HOT)	80°F	Btu/h kW COP	Manufacturer-reported "Intermediate"		Manufacturer-reported
95°F	80°F	Btu/h kW COP	Manufacturer-reported "Intermediate"	210/240 Test condition A_{Full}	Manufacturer-reported
82°F	80°F	Btu/h kW COP	210/240 Test condition B_{Low}	210/240 Test condition B_{Full}	Manufacturer-reported
82°F	75°F (63°F	Sensible Heat Ratio	OPTIONAL Manufacturer-reported		

	wet bulb)[7]				

Table 8. Proposed Heating Performance Reporting

			Capacity Level		
Outdoor Dry Bulb (°F)	Indoor Dry Bulb (°F)		Minimum	Rated	Maximum
47°F	70°F	Btu/h kW COP	210/240 Test condition $H1_{Low}$	210/240 Test condition $H1_{Nom}$	Manufacturer-reported
17°F	70°F	Btu/h kW COP	Manufacturer-reported	210/240 Test condition $H3_{Full}$	Manufacturer-reported
5°F	70°F	Btu/h kW COP	Manufacturer-reported "Intermediate"	210/240 Test condition $H4_{Full}$	Manufacturer-reported
Lowest Operating Temperature (LOT)	70°F	Btu/h kW COP	Manufacturer-reported "Intermediate"		Manufacturer-reported

Optional Reporting fields

The following performance metrics are proposed as new, optional fields that can be populated for products at the manufacturers' discretion.

- Sensible Heat Ratio (SHR) for key cooling conditions. Stakeholders have indicated that more information about the latent performance would be highly useful. In particular, the SHR at low speed cooling would be useful in order to follow the new humidity control requirements in Manual S for variable-speed systems. Recognizing that this is not necessarily easy information to produce, we would offer it as an optional field to be reported. SHR would need to be defined at specific indoor conditions, at the low-

[7] Approximated to standard ACCA indoor design conditions

speed capacity reported in the table. The indoor conditions should be defined as 75 °F dry bulb and 63 °F wet bulb, which are close to standard ACCA indoor design conditions.[8]

- COP_{peak}. This metric would be reported on a voluntary basis in the AHRI listing process, so could easily be added as an optional NEEP data field. As a metric that accounts for the combined impact of capacity maintenance along with the compressor-only COP at 5 °F.
- Recommended thermostat. If the AHRI rating for the model depends on a particular thermostat as indicated in the required field, that thermostat model should be listed here. If not, this is an optional field for any particular thermostat that is recommended by the manufacturer.
- C-700 test results matrix. If the product has been tested in accordance with C700, a set of resulting metrics may be reported for reference.
- NEEP proposes to eliminate the "Integration" field due to under use, and replace "Connectivity" with "Demand response/Load flexibility"

Proposed changes to the existing set of Optional fields reflected in blue highlights

OPTIONAL - Manufacturers are strongly encouraged to provide additional information related to the following capabilities/functionalities.

Table 9. Proposed Optional Reporting

~~Integration: Describe any capabilities this ASHP system or its controller(s) have related to integrating other heating systems/third-party thermostats, including "works with," etc.~~	
~~Connectivity: Describe any capabilities this ASHP system or its controller(s) have related to communication with the consumer or utility (e.g. AHRI 1380 compliant, meets ENERGY STAR "Connected" criteria, system/controller have an interface that allows for remote communication with the consumer or utility, wi-fi connected, etc.)~~	
Demand Response/Load Flexibility: Describe any capabilities this ASHP system or its controller(s) have related to managing its operation in concert with utility/grid signals (e.g. AHRI 1380 compliant, meets ENERGY STAR "Connected" criteria, etc.)	
Quality Installation/Operational diagnostics: List any criteria that the system meets that involves self-report or self-diagnose of its operation or the quality of its installation. Criteria could include ENERGY STAR's Installation Capabilities criteria, NEEA's Connected Commissioning Criteria (forthcoming), etc.	
Recommended Thermostat (Series, model #)	
COP_{peak}	
CSA-700 Testing Results	

[8] ACCA indoor design conditions are 75 DB and 50% RH, which is 62.5 WB.

Key Questions for stakeholder feedback

NEEP strongly encourages any interested stakeholder to submit written comments regarding the proposed specification to NEEP via email (ccASHP@neep.org) by August 28th. Please include "ccASHP Specification" in the subject line to ensure your comments are received and recorded. While feedback is welcome on any subject or element related to the proposed revisions, we have listed below a number of questions for which we are particularly interested in feedback.

Please note that while written comments are the requested vehicle to provide input, feel free to contact us at the same email address if you seek additional accommodation. While NEEP may share parts of received comments publicly, we will not be attributing any specific feedback to the submitting organization.

Key Questions that we are interested in feedback on:

- Which aspects of the proposal do you support most strongly, and why?
- Which elements of the proposal are you most concerned about, and why?
- Are there additional updates or modifications that you would recommend for inclusion in Version 5.0?
- To what extent do you agree that the proposed Version 5.0 of the NEEP specification and product list reporting requirements provide a strategic complement to other cold-climate heat pump specifications and lists, such as ENERGY STAR, CEE, and DOE? Do you support our proposal to more closely align with ENERGY STAR and CEE or would you prefer that the performance requirements remain less stringent?
- Do you have recommendations for alternative or additional performance thresholds/levels that should be considered as part of Version 5.0?
- Do you believe the proposed changes to performance data reporting improve the quality, consistency, or usability of the data? Are there alternative approaches you would recommend?
- Does this proposed revision represent a value-add to the marketplace?
- What additional information or analysis would be helpful to inform any potential revisions?
- What would be helpful to hear about at the upcoming stakeholder webinar?

Appendix A- Example of Detailed performance view on NEEP's ccASHP Product List

FUJITSU

Central Air Conditioning Heat Pump (HP)
Singlezone Ducted, Centrally Ducted
AHRI Cert #*: **202843128**
Outdoor Unit Model #*: **FO3620RVJCAB**
Indoor Model #*: **FCC6021ESA**
Maximum Heating Capacity (Btu/h) @5°F: **31,743**
Rated Heating Capacity (Btu/h) @47°F*: **32,800**
Rated Cooling Capacity (Btu/h) @95°F*: **34,200**

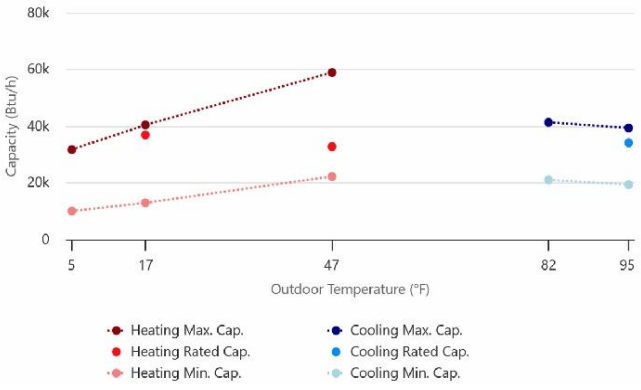
Information Tables

Brand	FUJITSU
Series	
Ducting Configuration	Singlezone Ducted, Centrally Ducted
AHRI Certificate #*	202843128
Outdoor Unit Model #*	FO3620RVJCAB
Indoor Model #*	FCC6021ESA
Indoor Unit Type*	
Furnace Model* #	FF75214LT80D
EER*	13
SEER*	19.5
HSPF (Region IV)*	11
EER2*	
SEER2*	
HSPF2 (Region IV)*	
HSPF2 (Region V)	
ENERGY STAR V6.1	✗
ENERGY STAR V6.1 Cold Climate	✗
ENERGY STAR V5.0	✗
Federal Tax Credit Eligibility North	
Federal Tax Credit Eligibility South	
CEE Tier 1 Path A (2025)	✗
CEE Tier 1 Path B (2025)	✗
Capacity Maintenance (Rated 17°F/Rated 47°F)	112%
Capacity Maintenance (Rated 5°F/Rated 47°F)	%
Capacity Maintenance (Max 5°F/Rated 47°F)	96%
Variable Capacity	✓
Integration	
Connectivity	
Operational Diagnostics	
Refrigerant	R-410A
Created At	2022-10-27
Updated At	2024-04-22
Sold In*	USA, Canada

Performance Specs

Heating / Cooling	Outdoor Dry Bulb	Indoor Dry Bulb	Unit	Min	Rated*	Max
Cooling	95°F	80°F	Btu/h*	19,400	34,200	39,400
			kW	1.18	2.5	2.82
			COP	4.82	4.01	4.09
Cooling	82°F	80°F	Btu/h*	21,100	-	41,400
			kW	0.99	-	2.5
			COP	6.25	-	4.85
Heating	47°F	70°F	Btu/h*	22,300	32,800	59,000
			kW	1.23	2.24	5.43
			COP	5.31	4.29	3.18
Heating	17°F	70°F	Btu/h*	13,000	37,000	40,500
			kW	1.18	4.56	4.56
			COP	3.23	2.38	2.6
Heating	5°F	70°F	Btu/h*	10,075	-	31,743
			kW	1.17	-	4.13
			COP	2.52	-	2.25

Heating/Cooling Capacity Graph



Pan Heater

Type	N/A
Input Power (W)	
Operation	