

Introduction

TC 5.2 Duct Design has crafted a Strategic Plan with feedback from the TC leadership to address four key initiatives within the committee's scope:

1. TC 5.2 Membership Recruitment and Engagement
2. Addressing Duct System Leakage in Terms of Duct Design
3. Update the Duct Fitting Database with an Accompanying User Guide
4. Develop an Education Program Upon Completion of the Duct Design Guide

These four key initiatives build upon the work accomplished by TC 5.2 and aligns the TC with ASHRAE's mission of serving humanity by advancing the arts and sciences of HVAC&R and their allied fields, specifically in the area of duct design, construction, and maintenance.

History and Background of TC 5.2

TC 5.2 was established with its current scope concerning the design, characteristics and construction of all types of ductwork for the handling of air and other gases, excluding chimneys. The TC addresses this scope through sponsoring and monitoring research projects, developing and maintaining standards, ASHRAE Handbook chapters, and publications, organizing programmatic content at ASHRAE Winter and Annual Conferences, and maintaining answers to FAQs related to duct design, construction, and maintenance.

Research

Since 1966, TC 5.2 has sponsored 35 ASHRAE- and privately-funded research projects resulting in 42 publications, an update to the Duct Design Guide that is under final revision, and numerous revisions of ASHRAE Handbook Chapters. Thousands of hours have been spent by TC 5.2 members overseeing proposal selections and project monitoring. The result of their work has advanced the HVAC&R industry's understanding of proper duct design and construction to minimize energy losses.

Standards Development and Maintenance

TC 5.2 is the cognizant committee of three standards:

1. ANSI/ASHRAE Standard 120: Method of Testing to Determine Flow Resistance of HVAC Ducts and Fittings;
2. ANSI/ASHRAE/SMACNA Standard 126: Method of Testing HVAC Air Ducts; and
3. ANSI/ASHRAE Standard 215: Method of Test to Determine Leakage Airflows and Fractional Leakage of Operating Air-Handling Systems.

These standards are on periodic maintenance and either reaffirmed or updated through SPCs composed mostly of TC 5.2 members.

ASHRAE Handbook Chapter Maintenance

TC 5.2 is responsible for maintaining two ASHRAE Handbook Chapters:

1. HVAC Systems & Equipment: Duct Construction; and
2. Fundamentals: Duct Design.

Unlike other TCs maintaining multiple Handbook chapters, TC 5.2 dedicates separate subcommittees fully composed of TC 5.2 members to update each chapter every four years.

Publication Creation and Maintenance

TC 5.2 has created and maintained the Duct Design Guide (DDG) and the Duct Fitting Database (DFDB). From the work done with the recent Duct Design Guide update, content not included in revised guide will be placed in a new publication. Furthermore, new companion guides will be created to help readers properly use the Duct Design Guide and Duct Fitting Database.

Programs Content Development

TC 5.2 has developed over 15 program sessions at Annual and Winter Conferences in the past ten years. These sessions have presented research project results, technical and conference papers, and topics of relevance and interest in the HVAC&R industry.

FAQ Maintenance

TC 5.2 is responsible for maintaining four ASHRAE Technical FAQs, which are provided as a service to ASHRAE members, users of ASHRAE publications, and the general public.

Initiative 1: TC 5.2 Membership Recruitment and Engagement

Introduction Commentary by Chris Van Rite, TC 5.2 Chair

In the past, TC 5.2 has accomplished many important research projects and provided ASHRAE and our industry with valuable reference materials and tools, but the heavy lifting has been carried out by a small, dedicated group of long-time members who spent countless hours in these efforts.

We need the continued leadership of our core group, but we also need to encourage more participation by existing and new members in ongoing and future projects to make the TC attractive to YEAs and other prospective members from around the industry.

Several in our leadership group have pointed out the need to make membership in the TC beneficial and rewarding, and we need to provide answers to the following questions.

- 1. What will I get out of TC 5.2 participation?**
- 2. How can I justify my participation to my business or my employer?**
- 3. Do I have to attend meetings to participate, or can I participate without travelling?**
- 4. How can I gain experience and expertise by participation?**
- 5. How can I contribute by bringing my experience and expertise to the TC?**

I believe that answering these questions will provide a structure and focus for the future, and I propose the following for discussion.

- 1. What will I get out of TC 5.2 participation?**
 - a. Marketing on the TC Website**
 - i. Highlight past accomplishments and ongoing initiatives on the web site.**
 - ii. Provide links to publications, papers, DFDB, DDG and ongoing committee reports so interested parties can see what we've done and what we are doing.**
 - iii. Promote upcoming presentations and workshops**

- b. Get new members engaged immediately
 - i. Strongly encourage PCMs to select a project or sub-committee to participate in. We might even consider assigning them to an initiative, rather than just adding them to a TC general mail distribution list.
- 2. How can I justify participation to my business or my employer?**
- a. Encourage members and prospects to bring their interests, concerns and problems encountered in their business to the TC for consideration and encourage them to propose solutions and ways the TC might provide a platform for addressing the issues.
- 3. Do I have to attend meetings to participate, or can I participate without travelling?**
- a. In the past it was an unwritten requirement that members demonstrate a willingness and ability to attend meetings in order to be recognized and invited to participate. Some of this was due to the need to achieve quorum, but it was also a way of making sure that people were committed and reliable before they were assigned responsibilities.
 - b. Going forward we should find ways of allowing people to be engaged in TC initiatives without requiring them to travel to all the meetings.
 - i. Remote participation via webinars and conference calls is a viable and sensible way of increasing participation.
 - ii. I believe that quorum can be achieved even with remote participation.
- 4. How can I gain experience and expertise by participation?**
- a. Encouraging participation in TC initiatives (not just attending meetings)
 - i. We should list TC initiatives and make it a practice of having everyone assigned to at least one such initiative. These could include;
 - a) Participation in a research Proposal Review Subcommittee and Project Monitoring Subcommittee
 - b) Participation in proposing research and drafting RTARS
 - c) Assisting in literature research for a publication or presentation
 - d) Reviewing papers for ASHRAE Conferences and articles for the ASHRAE Journal
 - e) Helping to maintain and update DFDB, DDG and Handbook Chapters
 - f) Proposing, coordinating, and assisting in future programs, speakers and publications
 - g) Assistance in providing, maintaining and updating content for TC web site
- 5. How can I contribute by bringing my experience and expertise to the TC?**
- I think this is maybe the best opportunity for us to increase interest, enhance the quality and impact of our projects and initiatives and insure growth and sustainability. We need to be better at understanding what new members bring to the table.***
- a. We need to ask new members to either submit or present a bio listing their interests, expertise, experience and concerns so the TC can benefit from them.

- b. The Duct Leakage/Sealing initiative is a great opportunity to get a lot of people (especially new members) engaged. Bob Reid has provided an initial breakdown on three main parts of this project. I will overlook some items, but the following are areas where I think we can put a lot of people to work.
 - i. Update (if necessary) and distribute the duct leakage questionnaire that Gus Faris has drafted.
 - ii. Research and report on existing standards and codes and whether they are being enforced or ignored.
 - iii. Research and report on existing duct leakage and the impact on efficiency, cost and environmental impact.
 - iv. Determine reasonable and efficient, allowable duct leakage and draft new standards where appropriate
 - v. Submit new content to SSPC 90.1 and other appropriate committees.
 - vi. Research and report on current testing methods and standardized measurement reporting methods (% of system capacity vs CFM leakage)
 - vii. Research and report on sealing materials and make recommendations on whether ASHRAE should engage in specifying materials or leave it to industry to provide materials to meet ASHRAE leakage standards.
 - viii. Research and report on material application “best practice” and determine whether ASHRAE should engage in providing guidance in this area or leave this to industry to provide recommended application for their products.
 - ix. This list can probably grow and expand as we break down the broad scope of this initiative.

I have discussed with John Constantine, the TC 5.2 Vice Chair, my inclination towards keeping our focus on relatively few projects and initiatives so we can build and maintain momentum and show progress.

Actionable Objectives for Initiative 1:

- 1.A. Recruit at least two (2) Technical Committee members from each of the following industry segments, outside of North America if possible, who will participate in subcommittees:**
 - a. Duct Design Engineers;**
 - b. Academics and Researchers Focused on Duct Design;**
 - c. Code Authorities/Authorities Having Jurisdiction;**
 - d. Building Owners/Managers and Owner Authorized Representatives; and**
 - e. General Contractors, Mechanical/Sheet Metal (including SMACNA) Contractors, and Associated Technicians.**

Background: To better balance the committee and provide additional perspectives, TC 5.2 needs to engage more industry experts in order to become more informed on issues related to duct design and construction and address issues facing our industry through content development in standards, guidelines, publications, and conference sessions. Recruitment of TC members outside of North America would provide unique perspectives and ideas to add to technical discussions.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 2 of maximizing member value and engagement, specifically through the goal's Objective b of expanding the impact of collaboration and partnerships with industry organizations, universities, and government agencies. The implementation aligns best with Initiative 2, indoor environmental quality (IEQ), of the Strategic Plan by improving balance of the committee to provide more inclusion in the committee's approach towards advancing the industry's approach to duct design, construction, and operation towards the improvement of IEQ.

Responsible Point of Contact (POC): Randy Young

Responsible Subcommittee: Membership Subcommittee

Timeline: Overall, at least two (2) from each of the mentioned industry segments would need to be recruited over three (3) years.

1.B. Create at least one (1), with the goal of six (6), additional endowed Travel Grants through the ASHRAE Foundation for Young Engineers in ASHRAE (YEAs) in critical positions or with critical knowledge to travel to ASHRAE Annual and Winter Conferences.

Background: TC 5.2 needs to better engage and incentivize YEA involvement, especially in regards to TC leadership and content development of standards, guidelines, and publications. Many YEAs may not be able to attend ASHRAE Annual and Winter Conferences due to lack of employer support. Providing travel grants for YEAs will overcome some of the financial hardships associated with attending these conferences.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 3 of optimizing ASHRAE's organizational structure to maximize performance, specifically through the goal's Objective c of cultivating industry and member philanthropy to extend ASHRAE's impact and reach. The implementation aligns best with Initiative 2, IEQ, of the Strategic Plan by maintaining critical knowledge in the discussion of duct design, construction, and operation towards the improvement of IEQ and generating future leadership in the duct industry within the TC.

Responsible POCs: **??????**, **??????**, and Margaret Smith (ASHRAE Foundation)

Responsible Subcommittee: Membership Subcommittee

Timeline: By July 1, 2024, at least one (1) additional Travel Grant endowment shall be established through the ASHRAE Foundation for TC 5.2's use to award to YEAs in critical TC leadership positions or who require attendance at ASHRAE Annual and Winter Conferences to complete critical TC work. Should funding be available to create additional YEA travel grants, coordination will be conducted with the ASHRAE Foundation to strategically create additional YEA travel grants to maximize YEA attendance between the Annual and Winter Conferences.

1.C. Organize at least one (1) ASHRAE Chapter seminar every six (6) months addressing a topic within the scope of TC 5.2.

Background: TC 5.2 needs to better engage and educate the HVAC&R industry at the grassroots level. Organizing chapter seminars presenting TC-generated/reviewed presentations on TC-generated content (e.g. DDG, DFDB, Handbook Chapters), with a particular focus on joint chapter seminars with other relevant organizations (e.g. IAQA, SMACNA, etc.) will aid in this grassroots engagement. Scripts may be created as guides for presenters to use, permitting flexibility based on local relevance. Use of the

ASHRAE Distinguished Lecturer (DL) program should be considered to advance this objective. The TC should publish presentations and FAQ content that are addressed by TC-generated content

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective a of taking part in utilizing a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental, and social impact through innovation in building design and operations. The implementation aligns closely with Initiative 4, of improving chapter engagement, capacity, and support, of the Strategic Plan by facilitating chapter programming of qualified and credible professionals to present valid information on duct design, construction, and maintenance.

Responsible POC: Dr. Allison Bailes

Responsible Subcommittee: Programs Subcommittee

Timeline: Every six (6) months, one ASHRAE Chapter seminar must be schedule to address a TC 5.2 topic, with the seminar providing information about the TC and its scope.

Initiative 2: Addressing Duct System Leakage in Terms of Duct Design

Introduction by John Constantinide, TC 5.2 Vice Chair

Duct system leakage is a topic of increased interest in the construction and facility maintenance sectors, directly connecting the integrity of a duct system with energy efficiency. According to Energy Star, a typical house in the United States loses 20 to 30 percent of conditioned and heated air in forced-air heating and cooling systems due to duct system leakage.¹ In commercial settings, testimonials have pointed to duct replacement and repair in buildings resulting in reductions of energy consumption, such as significant energy savings with duct system replacement completed at the University of Central Florida.² Although a topic not often discussed, resolving duct system leakage issues is an overlooked energy efficiency measure that can make significant reductions in energy consumption.

Organizations have taken steps to address duct system leakages at various levels. From a code standpoint, requirements for duct leakage testing are incorporated in the 2009 and 2012 versions of the International Energy Conservation Code. The California Energy Commission outlines in the state's 2019 Building Energy Efficiency Standards requirements for duct system leakage sealing. From an educational standpoint, several government agencies, companies, and industry organizations, including Energy Star and ASHRAE, inform and teach the public about the importance and benefits of duct sealing, including energy conservation benefits. Standard 215 is a step towards addressing leakage with air handling equipment. Although steps have been taken to start addressing duct system leakage, ASHRAE has a unique opportunity to lead the industry in further defining appropriate standards and requirements for duct system leakage.

¹ U.S. Environmental Protection Agency. 2020. "Duct Sealing." Accessible via https://www.energystar.gov/campaign/heating_cooling/duct_sealing.

² Boyd, N. 2019. "Application of Building Energy Quotient at the University of Central Florida." Seminar presented at Workshop Energy Audit 101 + Building EQ. Orlando, FL.

Actionable Objectives for Initiative 2:

- 2.A. Establish a Duct System Leakage Subcommittee with the following action items completed.**
- a. A transition of materials from past work addressing duct sealants and duct system leakage;**
 - b. Recruitment of engineers and owner’s representatives who have completed projects addressing duct system leakages;**
 - c. Conduct a critical literature review on past work with duct design in relation to duct system leakage, leading to identifying gaps in understanding how to best address duct system leakage through design, construction, operation, and maintenance of HVAC&R systems;**
 - d. Bridging duct system leakage with other aspects of duct design, including duct system construction, operation, and maintenance, to engage in a wholistic approach and result of the work done by the subcommittee;**
 - e. Update the Duct Design and Duct Construction Handbook chapters to incorporate the final product of the subcommittee; and**
 - f. A timeline of documents (e.g. Technical Bulletins, conference papers) to be published to address best practices in design, construction, operation, and maintenance of HVAC&R systems to minimize duct system leakage.**

Background: TC 5.2 needs to be the leader in addressing the issue of duct system leakage, including its impacts on energy consumption, the operation, maintenance, and life cycle of HVAC&R equipment, and indoor air quality (IAQ).

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective b of expanding capabilities globally to create, aggregate, and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by addressing the issue of duct system leakage that has primary and secondary impacts on (IEQ), including air distribution and human comfort.

Responsible POC: Larry Smith

Responsible Subcommittee: Duct System Leakage Subcommittee

Timeline: A timeline of documents to be published must be issued by the 2021 ASHRAE Winter Conference, which will dictate subsequent deadlines.

- 2.B. Organize at least one (1) program session or a TC-sponsored training session for each upcoming ASHRAE Annual and Winter Conference addressing duct system leakage.**
OR
Create a duct design and construction track at an upcoming ASHRAE Annual and Winter Conference.

Background: TC 5.2 needs to better engage and educate the HVAC&R industry in regards to duct system leakage. Program session submissions for ASHRAE Annual and Winter Conferences may vary between seminar, forum, panel, and debate types and should encourage education and dialogue about how the industry should best construct, operate, and maintain HVAC&R systems to minimize duct system

leakage. Alternatively, the TC may organize training sessions during a subcommittee meeting or during a dinner (i.e. outside of conference hours) with presentations being posted on the TC website.

As an alternative actionable objective, the TC may organize a duct design and construction track at an ASHRAE Annual or Winter Conference to include duct system leakage. This track may consist of the program session submissions mentioned, as well as conference and technical paper presentations that are relevant to the track.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective a of taking part in utilizing a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental, and social impact through innovation in building design and operations. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by addressing the issue of duct system leakage that has primary and secondary impacts on IEQ, including air distribution and human comfort.

Responsible POC: Micah Dawson

Responsible Subcommittees: Programs Subcommittee & Duct System Leakage Subcommittee

Timeline: Organize a program session, whether a seminar, forum, panel, and debate session, or TC-sponsored training session for every ASHRAE Annual and Winter Conference in the coming two years that addresses duct system leakage. **OR** Create a duct design and construction track at an upcoming ASHRAE Annual and Winter Conference in the coming two years.

2.C. Nominate at least one (1) TC 5.2 member to become an ASHRAE Distinguished Lecturer (DL) to address one or more topics on duct system leakage.

Background: TC 5.2 not only should educate about duct system leakage at the Society conference level, but also at the grassroots level where practicing engineers, mechanical contractors, and building owners and representatives are working. Nominating an ASHRAE DL to CTTC to address duct system leakage will be a significant step towards addressing this grassroots education.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective a of taking part in utilizing a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental, and social impact through innovation in building design and operations. The implementation aligns closely with Initiative 4, of improving chapter engagement, capacity, and support, of the Strategic Plan by providing chapters with the option of programming of qualified and credible professionals to present valid information on duct design, construction, and maintenance through the ASHRAE DL Program.

Responsible POC: John Constantinide

Responsible Subcommittee: Duct System Leakage Subcommittee

Timeline: By Society Year 2023-2024, at least one (1) ASHRAE DL nomination must be made, with the DL being submitted to present on one or more topics addressing duct system leakage.

Initiative 3: Update the Duct Fitting Database with an Accompanying User Guide

Introduction by John Constantinide, TC 5.2 Vice Chair

Featuring pictorial outlines of each fitting, this database is useful to design engineers dealing with a variety of duct fittings.

- From the DFDB webpage at the ASHRAE website

The DFDB is a useful resource for professionals designing duct systems to obtain loss coefficient data and associated pressure loss. Despite its capabilities, a User Guide will enable professionals to understand and utilize the database properly, providing a higher quality design product to the client that translates to more energy efficient designs.

User Guides with accompanying products are not foreign to ASHRAE and have led to similar success. Notable ASHRAE publications with user guides and manuals include ASHRAE Standards 15, 55, 62.1, 62.2, and 90.1. Utilization of user manuals with these standards clarify intent and provide guidance to users of the standards. Likewise, a User Guide accompanying the DFDB will lead to more proper usage of the database with fewer misinterpretations and unintended cases of misuse.

Actionable Objectives for Initiative 3:

3.A. Create a user guide assisting practitioners with utilizing the Duct Fitting Database, with a timeline for publication of the user guide.

Background: To make the DFDB more user-friendly, TC 5.2 should publish an accompanying user guide, which may be sold as a package with the database. This type of publication follows the model of ASHRAE Standard 90.1 publications, where accompanying user guides are subsequently published for practitioners to better understand how to implement the Standard.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective b of expanding capabilities globally to create, aggregate, and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by training practitioners and users to properly use the DFDB, resulting in positive outcomes associated with IEQ elements of air distribution and human comfort.

Responsible POCs: Pat Brooks, Bob Reid, & David Dias

Responsible Subcommittee: DFDB Subcommittee

Timeline: A timeline for the publication of the user guide, with a draft timeline of associated milestones, must be presented to the TC at the Annual or Winter Conference following the publication of the updated DFDB, which will dictate subsequent deadlines.

3.B. Organize at least one (1) conference workshop or a TC-sponsored session that trains professionals on the Duct Fitting Database and accompanying user guide.

Background: TC 5.2 should utilize the ASHRAE Annual and Winter Conferences as forums to train professionals using the DFDB and its user guide. The ideal program session submission for this training would be a workshop, permitting fluid and dynamic dialogue between the instructor and attendees. Alternatively, the TC may organize training sessions during a subcommittee meeting or outside of conference hours, with presentations being posted on the TC website. The latter may provide more flexibility in scheduling and logistics.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective a of taking part in utilizing a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental, and social impact through innovation in building design and operations. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by training practitioners and users to properly use the DFDB, resulting in positive outcomes associated with IEQ elements of air distribution and human comfort.

Responsible POC: Vikram Murthy

Responsible Subcommittees: Programs Subcommittee & DFDB Subcommittee

Timeline: Organize a conference workshop session or TC-sponsored training session at one or more ASHRAE Annual and Winter Conferences within two years of publication of the accompanying user guide for the Duct Fitting Database.

Initiative 4: Develop an Education Program Upon Completion of the Duct Design Guide

Introduction by John Constantidine, TC 5.2 Vice Chair

Duct system layout, fitting selection, system leakage, acoustics, and equipment selection are the most important aspects of duct design.

- *From the "Overview" section of the DDG*

The DDG has evolved to be a complete guide for professionals, including engineers and designers, "to design energy efficient HVAC systems that deliver's the proper quantity of air to specific areas of the building or zones," as stated in the first goal in the DDG's "Goals of Duct Design" section. The large and details amount of information in the DDG merits an education program to educate engineers and designers on how to properly use and interpret the Guide.

However, with evolving technologies and research on improved methodologies, the DDG will undergo additional revisions and require input from industry to bring the publication up-to-date with current trends. An education program developed for the DDG will not only educate, but also solicit feedback and input from industry on the DDG, creating the forum to discuss duct design topics and revisions to the Guide.

An education program for the DDG is a win-win proposition, benefitting industry with experts on duct design and creating a forum to discuss and solicit ideas and perspectives that can lead to a more current and accurate Duct Design Guide.

Actionable Objectives for Initiative 4:

4.A. Create an education program utilizing content from the Duct Design Guide.

Background: The DDG has a wealth of content that can be used for creating continuing education seminars targeting design and consulting engineers responsible for duct design. To harness this potential, TC 5.2 should create an education program that addresses the guide's content and create a conversation about current duct design trends. Collaboration should be sought after with the ASHRAE Learning Institute (ALI), which can provide resources in properly structuring an HVAC&R-related education program. In turn, these presentations create a mechanism for audiences to present feedback for future revisions of the guide.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective b of expanding capabilities globally to create, aggregate, and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by training design and consulting engineers about the principles and best practices addressed in the DDG, resulting in positive outcomes associated with IEQ elements of air distribution and human comfort.

Responsible POCs: Dr. Steve Idem and Karen Murray (ALI)

Responsible Subcommittee: DDG Subcommittee

Timeline: A timeline for publicizing the education program of the Duct Design Guide, with a draft timeline of associated milestones, must be presented to the TC at the Annual or Winter Conference following the publication of the updated DDG, which will dictate subsequent deadlines.

4.B. Create a plan to publicize the Duct Design Guide education program to ASHRAE and non-ASHRAE members.

Background: TC 5.2 should work with ALI to create a publicity plan for the DDG education program. The connections of TC 5.2 members in the HVAC&R industry and the social media channels of ASHRAE should be leveraged to maximize visibility of this program.

Alignment with ASHRAE Strategic Plan: This Actionable Objective aligns with the 2019-2024 ASHRAE Strategic Plan Goal 1 of positioning ASHRAE as an essential knowledge resource for a sustainable high-performance built environment, specifically Objective a of taking part in utilizing a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental, and social impact through innovation in building design and operations. The implementation aligns best with Initiative 2, of IEQ, of the Strategic Plan by addressing the issue of duct system leakage that has primary and secondary impacts on IEQ, including air distribution and human comfort.

Responsible POC: Akshay Bhargava and Karen Murray (ALI)

Responsible Subcommittees: DDG Subcommittee

Timeline: At a near-completion benchmark of the education program, a publicity plan should be presented to the TC and ALI to review collaborative strategies and identify roles and specific outreach by the TC and ALI.

Approval

The TC approved this Strategic Plan on February 4, 2020, at the 2020 ASHRAE Winter Conference in Orlando, FL, with a vote of 12-0-0 CV.