

**Building EQ Committee
Fall Web Meeting
October 29, 2021**

ATTENDANCE

Participants: Rob Risley, Chris Balbach, Michael Deru, Trent Hunt, John Constantinide, Dan Redmond, Anoop Peediyakkan, Doug Cochrane, Bruce Hunn, Tim McGinn

Not Available: Charles Eley, Mahroo Eftekhari

Staff: Lilas Pratt, Mark Owen,

Guests: Stephen Roth, Bill Dean, Daryl Collerman (GAC liaison)

NEW AND OPEN ACTION ITEMS

October 29, 2021 Building EQ Fall Web Meeting

- **AI 1:** Lilas Pratt to explore what is needed to develop a letter of intent for GBI and Green Globes.

October 12, 2021 Business Development Subcommittee Web Meeting

- **AI 1:** Lilas Pratt to mockup label with letter grades and send to Kelvin Chan (who requested it) and Region XIII DRC for feedback (mock up completed, waiting to be sent)

September 15, 2021 Business Development Subcommittee Web Meeting

- **AI 2:** BDSC to reconsider whether a not a liaison is needed to or from YEA for the 2022-23 SY (*Placeholder item for next SY*).
- **AI 3:** Anoop Peediyakkan and Doug Cochrane to review the GRESB website and make recommendations to the BDSC on how the committee should proceed

September 9, 2021 Technical Development Subcommittee Web Meeting

- **AI 5:** Lilas Pratt to reach out to SSPC 55 to ask about the validation warning on air velocity parameters.
- **AI 6:** Michael Deru to write up an approach and response on the question about IP units for biomass fuel.

August 10, 2021 Business Development Subcommittee Web Meeting

- **AI 2:** Lilas Pratt to ask Charles Eley about POC for AIA.

January 18, 2021 Building EQ Virtual Winter Meeting

- **AI 5:** Lilas Pratt to set up a meeting with ASHRAE IT and Stephen Roth regarding ASHRAE's single log-in (i.e., synchronized or unified log-in system) for Building EQ. (Include Chris Balbach, Charles Eley, John Constantinide, Rob Risley, Trent Hunt.) **On-going**

November 12, 2020 Technical Development Subcommittee Web Meeting

- **AI 3:** Technical Development SubC to determine what system level KPI information would be useful to Portal users and whether or not the database information is robust enough to be used to generate targets for those KPIs. **On-going**

February 2, 2020 Business Development Subcommittee Orlando Winter Meeting

- **AI 2:** Lilas Pratt to mine some data from the list of universities downloading course material and provide to the committee for follow-up by the committee. **On-hold**

January 13, 2019 Atlanta Winter Meeting

- **AI 1:** Lilas Pratt to contact Montana University regarding ASHRAE use of their one hour course. **On-hold**

January 12, 2019 Business Development Subcommittee Meeting

- **AI 3:** Lilas Pratt to develop French Portal examples (screens/reports/etc.) for use on sales calls to Hydro Quebec. **On-hold**

PRINCIPAL MOTIONS¹

Motion #1: It was moved that the June 14, 2021 Virtual Annual Meeting minutes be approved

Vote: Approved by unanimous voice vote (5-0-0, CNV)

MEETING NOTES

1. Call to Order – **Meeting convened at 1:01pm EDT.** Quorum was established.

2. Review of Agenda (Risley) 1:02pm

3. Report from Staff (Lilas Pratt) 1:05pm

- The Committee leadership continues to work with the ASHRAE HQ Ad hoc to finalize the As Designed Rating for the ASHRAE HQ Building. A preliminary In Operation rating was calculated and forwarded to the committee on 10/22.
- Updates to the Building EQ Manual of Operations (MOP) and Reference Manual have been initiated. These documents get reviewed every year and updated as needed. The updated versions will be sent out to the full committee for review and comment prior to being put to a vote for approval via letter ballot.
- Life to Date Portal Statistics as of October 3, 2021
 - Users: 1469 (*1416 at beginning of SY*)
 - Projects: 1002 (*958 at beginning of SY*)
 - Submitted/Approved projects: 59/57 (*57/57 at beginning of SY*)
 - Reports purchased: 9 (*9 at beginning of SY*)
 - Paid credentials: 62 (*56 at beginning of SY*)

4. Approval of June 14, 2021 Virtual Annual Meeting minutes

Motion #1: It was moved that the June 14, 2021 Virtual Annual Meeting minutes be approved

Vote: Approved by unanimous voice vote (5-0-0, CNV)

¹ All votes are recorded as yes-no-abstain.

5. Review of [Action Items](#)

6. Business Development Subcommittee (BDSC) Report

- Trent Hunt provide updates on the activities of the BDSC.
- Communication Initiatives
 - The Journal Article will be published in the upcoming January Issue.
 - The YEA Sound Bite is complete and should be available on the YEA web pages on the ASHRAE website.
 - Development of the case studies is continuing. The original case study is complete and just waiting to post after the Journal article is published in January. The goal is to have several case studies online before the Las Vegas meeting.
- Organizational Outreach Initiatives ([Value Talking Points](#))
 - The Building EQ Standard Operating Procedures are now complete and will be posted to the Building EQ Portal web pages.
 - The subcommittee has been working with Rick Hermans on outreach to ASHE focusing on Level 1 Energy Audits and how Building EQ can help member facilities to do improve their energy performance and the program complements their Energy to Care program.
 - The question was raised about how to best utilize the Value Talking Points. One suggestion was to include a “what’s in it for me” hook on the website that would link to the talking points. Another suggestion is to update the SOPs to provide a link to the talking points.

7. Technical Development Subcommittee (TDSC) Report

1:30pm

- Michael Deru provided an update on the activities of the TDSC.
- Development Updates
 - The NYSERDA [FlexTech Program](#) provides cost share for building audits. The committee approached NYSERDA about using Building EQ for that process. They are very interested, but they need to have some automated cost information included in the tool. This feature could be provided through the DOE BETTER tool.
 - The [DOE BETTER](#) Tool has an API that would allow Building EQ to pull a report with this information. This would be a new feature for the tool that would provide additional information for users. Chris Balbach is working on a user interface mock-up for the next TDSC. The report provides Level 1 type feedback.
 - The Green Building Initiative (GBI) reached out to the Building EQ Committee about [Green Globes](#) collaboration and promotion. GBI had requested an update to the ASHRAE-GBI MOU that would put an emphasis on Building EQ, but ExCom has been rethinking the MOU process. A letter of intent has been suggested in the meantime. Green Globes is very interested in working with ASHRAE both at the Society and chapter levels, specifically in regard to the use of Building EQ and would like something in writing for facilitate their work with chapters.

- As per Tim McGinn, ExCom is reexamining the whole MOU process due to the large number of MOUs that are somewhat difficult to manage and are often not active.
- The BEQ Portal API (application programming interface) Documentation is being finalized by Stephen Roth. The API was developed through the SBIR grant to Carmel Software at no cost to ASHRAE. Having the API and associated documentation will allow for scalable external access. An API is the first step to offering and monetizing services for software as a service (SAAS) such as licensing.
- The TDSC has been looking at System Level KPIs. The intent is to provide more detail on energy performances for users of the Portal at the system level and not just the whole building level. There is a whole range of ways that this type of information could be incorporated into the Portal.
- The November TDSC meeting will feature researchers from LBNL and PNNL to discuss this topic and the results of research coming out of those labs.
- The DOE 3-year project on end-use profiles for commercial buildings report was formally released yesterday that provides validated system level data on commercial buildings across the country. This could be another source of data for the system level KPIs.
- Work on the As Designed update to the PRM methodology is underway. The Beta version should be available for demonstration to the TDSC at their December subcommittee meeting. The goal is to have the changes live online and ready for demonstration at the meeting in Las Vegas.

8. EXECUTIVE SESSION

9. Other Business – Discussion Deferred

- a. Review of 21-22 SY MBOs (File: [Building EQ 21-22MBO Tracking 2Jul21.xlsx](#))

10. Upcoming Meetings (Information Item)

- BEQ Business Development SubC, 2nd Tuesday at 11:30am
- BEQ Technical Dev (Method) SubC, 2nd Thursday at 11:00am
- Las Vegas Winter Meetings
 - Business Development Subcommittee – Virtual Meeting – Tuesday, January 11, 11:30am-1:00pm EST
 - Technical Development Subcommittee – Virtual Meeting – Thursday, January 13, 11:00am-12:30pm EST
 - Building EQ Main Committee – Virtual Meeting – Thursday, January 20, 11am-12:30pm EST
 - Building EQ Main Committee – In-person Vegas Meeting – Sunday, January 30, 8am-10am Local Vegas Time (11am-1pm EST)

11. Adjourn – **Meeting adjourned at 2:39pm EDT.**

ASHRAE Value Proposition Talking Points

General Bullet Points on Benefits of Building EQ

- Building EQ helps building owners/operators understand their building's current energy usages and more importantly how they can improve their building's energy performance, either through physical renovation or changes in operating practice.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- Building EQ helps ASHRAE members offer valuable services to their clientele through benchmarking and energy auditing
- Through the projects entered, the Building EQ Portal is developing a database that can support ASHRAE committees and ASHRAE research with the use of aggregated/anonymized data on building energy performance.
- Access to the aggregated/anonymized data on building energy performance will also provide valuable information to policy makers, building developers, and equipment manufacturers.

MOU/Organization Specific Bullet Points

For State/Local Municipalities in General:

- Building EQ provides a rigorous and effective process to implement building energy disclosure and energy efficiency regulations in a systematic and coordinated way.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- With a customizable platform licensed from Building EQ. the processes and reports can be further customized to meet the municipalities specific energy regulations and mandates.
- A customized platform allows Building EQ to be integrated more seamlessly into existing state platforms and requirements.

For NASEO:

- Building EQ supports state sustainability mandates and goals to reduce energy and carbon use and ordinances by providing a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- When used in conjunction with Standard 211, Building EQ will empower municipalities to understand the energy performance and efficiency of the building assets in their jurisdiction and, more importantly, how to improve those buildings' performance, reduce costs, and comply with any energy regulations and mandates in force, either through renovation or changes in operational processes.
- With a customizable platform licensed from Building EQ. the processes and reports can be further customized to meet a state's specific energy regulations and mandates.
- A customized platform allows Building EQ to be integrated more seamlessly into existing state platforms and requirements.

For NYSERDA:

- Building EQ supports New York State energy benchmarking and auditing requirements by providing a consistent approach to an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ connections to the DOE Asset Score Audit Tool via BuildingSync allow information from the Audit tool to be pulled into the Building EQ Portal to and to utilize standardized reports that meet the Standard 211 reporting requirements for a Level 1 Energy Audit.
- Because additional information beyond a Level 1 audit is collected as part of the Building EQ In Operation assessment, those fully editable reports can easily be augmented to meet additional NY state requirements.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager by offering actionable recommendations as part of the Level 1 Energy Audit.
- When used in conjunction with Standard 211, Building EQ will empower New York building owners to understand the value and efficiency of their building assets and, more importantly, how they can improve their buildings' performance, reduce costs, and comply with the state's energy regulations with concrete building solutions.
- *NOTE: Specific bullets on the Flexible Technician (FlexTech) Program can also be added here.*

For ASHE:

- Building EQ supports the ASHE Energy to Care program as it builds upon and goes beyond ENERGY STAR Portfolio Manager by offering actionable recommendations as part of the Level 1 Energy Audit.
- Building EQ supports ASHE goals to improve energy performance while optimizing health care by providing a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits
- Building EQ helps health care facility owners and users to better understand their building's energy performance and how they can reduce consumption without sacrificing quality of patient care.
- The Building EQ Portal provides concrete energy conservation measures that can be adapted to any health care facility environment.
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.

For Higher Education Organizations:

- The Building EQ Portal is a tool to engage young members and to connect with students and colleges/universities by providing the following benefits:
 - Education –colleges and universities can expand their course offerings in building energy auditing/assessment, while engaging local ASHRAE chapters. This is of great value to students, faculty, and local ASHRAE members.
 - Hands on experience– students can study and evaluate the buildings on their campuses (both to apply what they have learned and to gain valuable networking experience in the industry...right at their front door)
 - Improved operation – campus building operators can reduce school operating costs and enhance the credibility and visibility of the school as "green" organizations
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.

For Multi-building owners, Commercial property managers, and developers:

- Building EQ helps building owners and users to better understand their building's energy performance and how they can reduce consumption without sacrificing operation or occupant satisfaction.

- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- Building EQ supports sustainability, carbon reduction goals, and "green" credibility through the conducting of an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.
- They can more effectively promote their Building EQ scores across their management portfolio while customizing their display/presentation of these energy efficiency credentials.

For Utilities:

- Building EQ supports state sustainability mandates and goals to reduce energy and carbon use and provides a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- When used in conjunction with Standard 211, Building EQ helps utilities understand the energy performance and efficiency of the building assets in their territory and provides information on how to improve those buildings' performance, reduce costs, and comply with any energy regulations and mandates in force, either through renovation or changes in operational processes.
- The information collected in the Building EQ Portal can be used in conjunction with utility sponsored incentives to help further energy and carbon reduction goals.
- With a customizable platform licensed from Building EQ. the processes and reports can be further customized to meet a utility's specific energy reporting requirements.
- A customized platform allows Building EQ to be integrated more seamlessly into existing utility platforms and requirements.

DOE BETTER Open-Source Engine

From: Chris Balbach
Sent: Monday, June 7, 2021 3:14 PM
To: Pratt, Lilas
Subject: RE: TDSC Agenda - DOE Better open-source engine

No Problems – can we also add an item to discuss the BETTER open-source engine?

Notice that Harry is the DOE contact – adopting this open source engine could be a first step towards developing the structure needed for comparison kpi's. We already have all of the information needed to generate a 'better' report – either by calling their API or just re-using the open source code available from github (licensing needs to be looked at)

As a talking point with Harry, I want to see what other people feel about the 'value' of integrating analysis from 'BETTER' – it's recommendations are based on measured (not modeled) data and the cost savings breakdowns it generates may be enough to meet the needs of NYSERDA, etc.

If nothing else, Better's analytics can help an auditor prevent over-prediction of savings if they end up assigning savings to individual measures, even if just a ratio of the % of the category *(heating, cooling, etc). Many years ago, NOESIS Energy (they were merged with a company called LeaseQ who took them a

different direction) had an approach for ECM savings that worked like this – users had to ‘allocate’ percentages of the annual heating / cooling and baseload energy to each ECM with a freeform description of how they justified the allocation. In other words, if you claimed 50% of heating energy saved with an individual ECM, that ECM better have been ‘state of the art’ as well as the existing condition (heating slope) very bad.

I’m looking for a low cost yet accurate enough method to move the “In Operations” Rating (with/without improvements) and customizable 211 Reports to something useful for ASHRAE membership and that does not attempt to replace what many firms already have.

The ‘a chicken in every pot, a model of every building in America’ stuff that I shared on Friday just is not all that useful without a great deal of information refinement. Not likely to happen with a “level 1” audit. But, the 5 data points required by Better are a slam dunk (we already have them)

NYSERDA-ASHRAE FlexTech Discussion – Meeting Notes from Tuesday, May 18, 2021

ASHRAE Building EQ Committee: John Constantinide, Rob Risley, Chris Balbach, Trent Hunt,

ASHRAE Staff: Emily Porcari, Lilas Pratt

NYSERDA: Joanna Moore

Discussion Notes:

The Building EQ Committee provided a high level overview of the Building EQ program.

- In summary, the program is wrapped around a number of ASHRAE standards and primarily aligned with ASHRAE Standard 211 Standard for Commercial Building Energy Audits and provides a standardization and quality assurance around a Level 1 Energy Audit (In Operation assessment).
- Free offering for anyone to register on the Portal and get a Building Energy Performance Score.
- The reports are available to credentialed users for submitted and approved projects.
- Building EQ connects to Portfolio Manager by allowing the import of metered energy data from Portfolio Manager to the Building EQ Portal.
- While ENERGY STAR is a percentile score, Building EQ benchmarks on a scale moving towards net zero energy which makes it easy to track and compare a building’s performance and improvement over time.

Joanna Moore provided a quick overview of the FlexTech program as it relates to Level 1 audits

(<https://www.nyserdera.ny.gov/All-Programs/Programs/FlexTech-Program/FlexTech-Documents-and-Resources>).

- FlexTech is a cost sharing program that does provide a 50% cost share for a Level 1 plus audit (up to \$10,000). There are some eligibility requirements that must be met.
- The program has a list of pre-vetted providers, but the buildings can also use their own providers. The pre-vetted providers need to verify that they have a PE on staff.
- There is a check list of requirements – they don’t verify that a full ASHRAE Standard Level 1 energy audit is performed. FlexTech has been around a long time, but Standard 211 is only about 18 months in the marketplace, so the Level 1 audit is relatively new offering.
- They are required to report back impacts both on customers served and energy savings – so that an engineering analysis based on some of the calculations provided by NYSERDA would need to be included.
- NYSERDA meets quarterly with the FlexTech consultants and could use one of those meetings to provide an overview of Building EQ to see if they could leverage the program for the customers that they are working with. The next meeting is schedule for September.

- Participation in the FlexTech program does not mandate statutory requirements on audits, but rather only mandate adherence with the FlexTech program requirements for cost sharing.

Next Steps to investigate alignment between Building EQ Portal and FlexTech requirements.

- First thing would be to see how Building EQ Portal outputs align with the FlexTech Level 1+ Report Guidelines. Specifically, item #3 Methodology would need to be met including the use of New York State Technical Resource Manual (TRM). The TRM is really the base analysis requirements – trying to get away from best practices, rule of thumb to ensure that there is some level of thought behind the analysis.
- Building EQ does not dictate the methodology to be used in the analysis for the EEMs and their impacts, so it would be totally compatible with the use of TRM as a minimum level of analysis.
- Chris Balbach has volunteered to develop a case study to demonstrate how Building EQ works for the FlexTech consultants at their next scheduled meeting in September. A planning meeting in early August has been suggested to facilitate this overview.
- Lilas Pratt will do a Doodle Poll for that August meeting.

Green Globes – Meeting Notes from May 13, 2020

Discussion:

- GBI is about 10 years into the development of their New Construction product. NC 2013 is currently approved. Current update (NC 2021) is completing redline, and public review version will be made available to us. Expected publication will be in late 2021 to early 2022.
- Existing Building version has been more recently developed and is not yet in circulation.
- NC 2021 will be established as first ANSI approved building performance assessment product.
- Keen interest in compliance interpretations and synergies offered by Building EQ with support for ASHRAE standards, in particular ASHRAE Standard 211.
- GBI reach is primarily based in the US market. Very interested in ASHRAE member reach in and outside of N America.
- Keen interest in refreshing an MOU with focus on collaboration in development, marketing, and education associated with building assessment.
- Consider prioritizing PRM methodology discussions with regard to use of available budgets for SY 21-22
- Place GBI interest and developments front and center in next Board report and presentation

Initial actions:

- John and Chris: Take a look at compliance interpretation strategies in light of Building EQ's As Designed and In Operation ratings and how best to align ratings with Green Globes point structure
- John will build off of a proposed compliance mechanism submitted to USGBC for incorporating Building EQ into LEED O+M.
- Lilas, following up on you circulating prior MOU to GBI, determine process by which we can support discussion for drafting update. Work with Bill on appropriate ExCom inclusion.
- John, Rob, and Bill, leverage this opportunity as we look to summer meeting agenda discussions, BOD reporting, and budget considerations.