

GSA Green Building Advisory Committee
Monday, September 18, 2023
Notes for the Meeting on the
P100 Facilities Standards

Attendees

GBAC Members

- Ralph DiNola, New Buildings Institute (NBI), Committee Chair
- Fernando Arias, Clark Construction, Acting Committee Co-Chair
- Nicolas Baker, Council on Environmental Quality (CEQ)
- Kevin Bates, Sharp Development
- Brett Bridgeland, Rocky Mountain Institute (RMI)
- Roger Chang, Buro Happold
- Projjal Dutta, New York State Metropolitan Transportation Authority
- Whitney Gray, International WELL Building Institute
- Joyce Lee, IndigoJLD Green + Health
- Jane Rohde, JSR Associates
- Costa Samaras, Office of Science & Technology Policy
- Timothy Unruh, National Association of Energy Service Companies (NAESCO)

GSA Participants

- Michael Bloom (DFO), Ken Sandler and Bryan Stevenson (Alt DFOs), and others from GSA Office of Federal High-Performance Green Buildings (OFHPGB)
- Lance Davis and others from GSA Public Buildings Service (PBS)
- Additional observers from GSA Office of Government-wide Policy and Regions

Observers included individuals from the following organizations:

- Federal: DOD OSD and Air Force, EPA, HHS, USDA, NREL
- Non-federal: Acuity Brands, AIA, ASHRAE, AWC, IAPMO, ICC, IDeAs Consulting, IUPAT, NBI, WAP Sustainability

I. Welcome and Introductions

Michael Bloom, GSA, OFHPGB, Designated Federal Officer

- The Green Building Advisory Committee (GBAC) was established to develop recommendations and findings to advise the federal government on moving its portfolio to sustainability, as required by the Energy Independence and Security Act of 2007 (EISA).
- All proceedings are open and public. It is not binding on GSA to accept any advice shared. The advice ought to be implementable, feasible, and practical.

- Membership is limited to specific individuals appointed by the GSA Administrator.
- All other attendees and press are welcome to the meeting as observers. Committee materials including notes from this meeting can be found at gsa.gov/gbac. There will be public comments at the end of the meeting.

Introductions

- Committee Members all briefly introduced themselves.

Ralph DiNola, NBI, Committee Chair

- Ralph noted that the objective of this meeting is for committee members to provide comments and feedback on the Public Buildings Service (PBS) P100 Facilities Standards, with the goal of reaching consensus on a single set of recommendations for updating the Standards.
- This is happening within the context of Executive Order 14057, particularly the requirement for the entire federal building portfolio to reach net zero greenhouse gas (GHG) emissions by 2045 and achieve a 50% reduction by 2032.

II. About the P100

Lance Davis, GSA PBS

- The Facilities Standards for the Public Buildings Service (PBS) establish design standards and contain both performance-based standards and prescriptive requirements to be used in the programming, design, and documentation of GSA buildings.
- It should be noted that these buildings will be held for as long as 100+ years so recommendations should be made for sustainable long-term ownership.
- P100 is MANDATORY; it is not a guide, textbook, handbook manual nor a substitute for technical competence.
- P100 is required for all new construction, minor renovations and alterations, major renovations, operations and maintenance, historic preservation, reimbursable work authorizations and privately financed projects (i.e., Energy Savings Performance Contracts). It is not generally applicable to spaces that the federal government leases from the private sector.
- P100 comments will be accepted from all stakeholders until October 1, 2023. The next edition is planned to be released in May 2024.
- Current sustainability requirements in P100 include:
 - Energy:
 - 30% better than ASHRAE 90.1 baseline
 - Net zero-ready design
 - All-electric HVAC
 - All-electric water heating
 - Emissions:

- 80% fossil fuel-free if lifecycle cost-effective
 - 30% solar thermal water heating
 - Embodied Carbon:
 - Asphalt and concrete requirements (distinct from Inflation Reduction Act (IRA) rules)
 - Carbon-smart material palette
 - 20% whole building reduction
 - Structure and enclosure whole building lifecycle analysis (WBLCA)
 - Environmental Product Declarations (EPDs):
 - EPDs are required for asphalt, concrete and [Federal Buy Clean Initiative](#) items (mainly for interior finishes)
 - Systems and Tools:
 - LEED Gold for New Construction and Major Modernization projects
 - SITES Silver
- Potential sustainable change approaches for P100 revisions:
 - Energy
 - For all new construction and major modernization projects, cooking should be all electric
 - Update energy use intensity (EUI) Guidance
 - Clarify net zero energy
 - Set requirements for grid-integrated efficient buildings (GEBs)
 - Water
 - Increase baseline for water net zero
 - Update for water reuse
 - Emissions
 - For New Construction and Major Modernization projects, buildings 25,000 gsf entering design in 2022+ should be net-zero emissions by 2030
 - Net zero emissions portfolio by 2045 including 50% by 2032
 - New definitions for net zero emissions
 - By 2030, 30% applicable facilities should have zero scope 1 emissions
 - Embodied Carbon
 - Update asphalt and concrete requirements (to be more aligned with IRA requirements)
 - Add glass and steel requirements
 - EPDs
 - Increase salvaged or reused materials (an area that still needs to be defined)
 - Equity
 - Better addressing community needs in building design projects
 - Systems/Tools to Potentially Cite
 - The Carbon Leadership Forum's [MEP 2040 Challenge](#)
 - Structural Engineers' SE [2050 Commitment](#)
 - Design for Freedom (ensures that materials and design are coming from equitable labor)

- GSA's [Responsible Business Conduct page](#) on SFTool.gov addresses topics of social justice and forced and enslaved labor
 - Increase references to [Green Proving Ground](#) (GPG)-verified technologies
 - [Passive House](#)

III. Questions and Comments

- The National Fire Protection Association (NFPA) offers design guidance on integration of photovoltaics into roof design including insulation specifications, which could be considered for design principles in the P100.
- How are healthy building certifications considered in P100?
 - Indoor Air Quality (IAQ), filtration systems, healthy building materials, and filters for outside air intakes from buildings are all currently included.
 - The Fitwel standard for existing buildings and the WELL system have been considered. Specific suggestions are welcomed.
 - Members suggested increasing P100's citation of healthy buildings resources and requirements.
- How are minor improvements defined within P100 and when are net zero requirements triggered?
 - Currently existing projects that are budgeted back in 2018 and earlier that are moving forward into design are being looked at more specifically for their electric systems to meet net zero requirements.
 - The hope is to better establish how project managers plan to meet net zero requirements in this next iteration of P100.
- To what extent are private partners engaged in the P100 and GSA projects?
 - GSA makes extensive use of Energy Savings Performance Contracts (ESPCs), partnering with Energy Savings Companies (ESCOs). Some paybacks (e.g., electrification) may not fall within the typical 20-year timeline common to, so IRA funding allows for GSA to supplement ESPC funding to help get projects all the way to net zero greenhouse gas emissions.

IV. Proposed Committee Comments to the P100

Ralph DiNola, Committee Chair

Ralph proposed the following general comments for the GBAC to consider supporting:

GSA GBAC P100 Review and Recommendations

1. Shift from energy to carbon-based targets and metrics
2. Shift from operational energy performance to whole-life emissions, or including construction-phase, or embodied carbon targets and metrics: i.e., design, construction, and operational excellence

3. Embed equitable decarbonization criteria / environmental justice and equity / Justice 40 principles and practices
4. Embed electrification requirements, aligned with Federal Building Performance Standard
5. Embed building-grid integration/ flexible demand management
6. Integrate smart surfaces and criteria to address heat islands
7. Review all past GBAC Advice Letters for recommendations

Committee Discussion and Comments

- Consider integrating ASHRAE 90.1 Decarbonization Code Overlay for a more advanced standard that will support net zero and decarbonization goals and targets:
<https://newbuildings.org/resource/building-decarbonization-code/>
- Include a more holistic view of health and wellness, including as a cost effective way to reduce energy consumption in building projects. Require project teams to use a “health and wellness” lens to apply to projects.
 - Also consider the relationships among human health, climate change, resilience and how to manage people flexing in/out of offices with energy targets.
- The P100 has added strong embodied carbon provisions, specifically directing the asphalt and concrete procurement. Consider adding a reference to the [EC3 tool](#) into the Embodied Concrete section.
- Provide more clarification on EPD tools, resources & quality, with consideration for the tools to be aligned with [EPA definitions and programs](#) on embodied carbon construction materials per the IRA.
- Address whole building life cycle carbon targets through construction management practices. See [NBI resources](#) on the topic.
- Consider adopting ASHRAE Standard 229 decarbonization definition.
- A note on timing and the rate of change that recognizes the dynamic nature of language and terminology should be included since in a few years these terms may not be the standard.

Committee members unanimously consented to Ralph’s above list of changes, modifications, and adaptations to the P100 Standard.

V. Public Comment

- Commenters suggested:
 - Monitor updates to International Construction Code (ICC) standards to include in P100. In addition to the International Green Construction Code (IGCC), this includes the International Plumbing and Mechanical Codes.

VI. Next Steps and Closing Comments

- The next full GBAC meeting will take place on **November 2nd, 2023**