

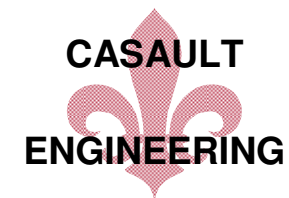
17th NATIONAL CONFERENCE ON BUILDING COMMISSIONING



EFFICIENCY • PERSISTENCE • PERFORMANCE

Existing Building Commissioning ASHRAE Guidelines Update

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AIA Quality Assurance



Learning Objectives

- 1. Understand the intended application of the proposed guidelines and how they work together to describe the process and the technical requirements for the commissioning process for existing systems and assemblies.**
- 2. Be able to identify the differences and similarities of the proposed ASHRAE guidelines for the commissioning of existing buildings and the already-published ASHRAE building commissioning process guidelines.**
- 3. Understand how to provide input to the committee and how to participate in the ASHRAE public review process for the proposed guidelines.**

Overview

- Introduction
- Genealogy
 - (of NIBS Total Building Commissioning Guidelines)
- ASHRAE guideline development
- Internal guideline success criteria
- Guideline 0.2P content (tentative)
- Public involvement

Why Existing Building Commissioning Guideline?

Many “uncommissioned” buildings

Opportunity to improve operation

- Safety
- Health
- Comfort
- Sustainability
 - Longevity
 - Resource utilization

Why does ASHRAE's Effort Matter to You?

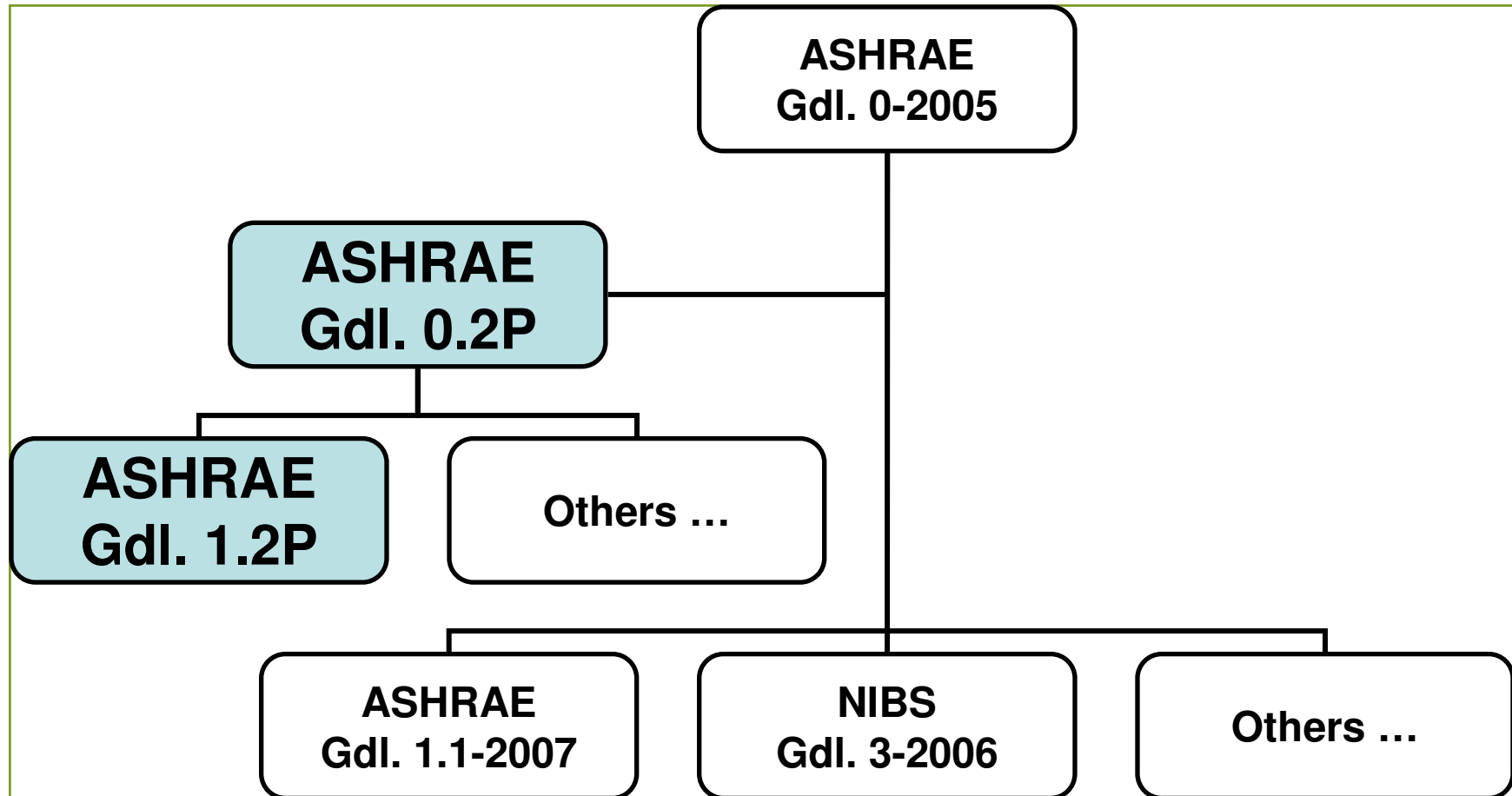
Peer-reviewed consensus documents

They will become the norm

- How many of you know the title of ASHRAE Guideline 0-2005?
- How many of you have ASHRAE Guideline 0-2005?
- How many of you have responded to RFQ's that cite ASHRAE Guideline 0-2005 as the basis of the work?

You have an opportunity to influence the content of the new guidelines

Total Building Commissioning Guidelines



ASHRAE Guideline Project Committee GPC-1.2

Previously GPC-30

Guideline 30P

- The Commissioning Process for Existing HVAC&R Systems
 - Purpose: The purpose of this guideline is to describe the commissioning process for existing HVAC&R Systems.

Need to split description of existing building commissioning process from technical requirements specific to HVAC&R systems.

ASHRAE GPC-1.2

Guideline 0.2P

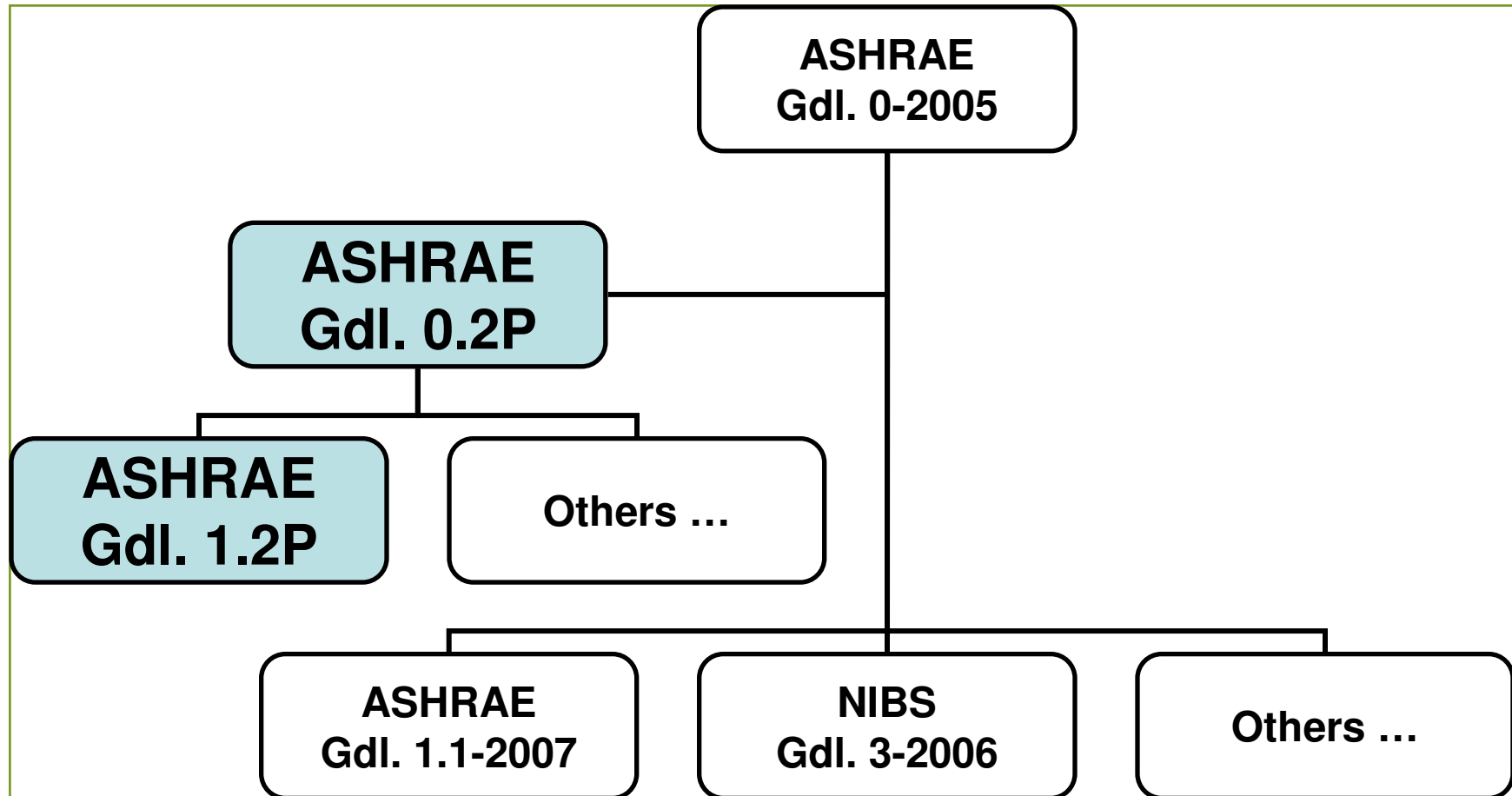
- The Commissioning Process for Existing Building Systems and Assemblies
 - Purpose: The purpose of this guideline is to describe the procedures, methods, documentation requirements and physical activities of the commissioning process using the principles developed in ASHRAE Guideline 0, The Commissioning Process.
 - Scope: This guideline applies to existing building systems and assemblies.

ASHRAE GPC-1.2

Guideline 1.2P

- HVAC&R Technical Requirements of the Commissioning Process for Existing Building Systems and Assemblies
 - Purpose: The purpose of this guideline is to describe the technical requirements of the commissioning process for existing HVAC&R systems and assemblies, based on the processes described in ASHRAE Guideline 0.2P-200X, The Commissioning Process for Existing Systems and Assemblies.
 - Scope: The guideline applies to existing HVAC&R systems and assemblies.

Total Building Commissioning Guidelines



Guideline 0.2P (Process) Schedule

Now:

- Internal review of draft body
- Writing annexes
- Hold for completion of Gdl. 1.2
 - Lesson from Gdl. 0 and Gdl. 1.1: changes to process document identified during development of technical requirements document

June 2011

- First public review

January 2012

- Vote for publication

Guideline 1.2P (Tech Req) Schedule

Now:

- Starting work on body

January 2011:

- First draft for internal review

June 2011

- First public review

January 2012

- Vote for publication

Process vs. Technical Requirements

Process Guideline

- Similar to general requirements of a construction contract – provisions apply to all systems

Technical Requirements Guideline

- Similar to the construction contract specifications for a single system, but still governed by the general requirements

Terminology

What is the difference between
“Basis of Design”
and
“Design Intent”?

Much confusion, right?

So Guideline 0-2005 uses “Owner’ Project Requirements” instead of “Basis of Design”

Terminology

Is “Owner’s Project Requirements” applicable to the commissioning process for existing buildings?

Probably not ...

- No (capital) project
- Original OPR probably not applicable at some later time in the life of the building

So we are using “Current Facility Requirements” for existing buildings instead of OPR

Terminology

What is the difference between

“Retrocommissioning”

and

“Recommissioning”?

More confusion, right?

Terminology

So we use the phrase “Existing Building Commissioning Process”

- We recognize that if a building has been commissioned previously, some steps may not be needed, or would not require the same level of effort compared to a previously uncommissioned building.

Guideline 0.2P Content (tentative)

5 Steps

- Discovery / Planning
- Investigation
- Implementation
- Hand-off
- Ongoing Commissioning

Steps are Iterative

- “Do-loops” between Steps are the norm

Discovery / Planning

Preparatory activities for the existing building commissioning process, including an initial facility survey, and development of documents:

- Strategic plan
- CFR
- Initial existing building commissioning plan

Investigation

Involves conducting the site investigation to compare the actual building conditions and system performance with the owner's current operational needs and requirements defined by the CFR.

A written investigation plan guides site investigation activities, including performance monitoring and testing.

Investigation concludes with the compilation and evaluation of a master list of findings and recommendations to improve building and system performance to meet the CFR.

Implementation

The owner makes the final decisions on which Investigation recommendations to implement.

Accepted recommendations are implemented and then inspected, tested, and verified to meet the CFR.

Design and/or construction service contracts may be needed to complete some of the work.

Hand-off

Activities ensure a smooth transition between the existing building commissioning team, the owner, and the personnel responsible for operating and maintaining the facility.

Activities include finalization of the systems manuals, training and evaluation of training, gathering lessons learned, and reporting.

Ongoing Commissioning

More than a step; it is a process designed to continually track the performance of commissioned buildings to ensure the benefits obtained through the preceding steps are maintained over the life of the facility.

Used to monitor the performance of all identified building systems and operational strategies, identify deviations from acceptable performance parameters, correct any identified faults and update all building documentation.

Also includes scheduled, periodic activities to evaluate performance of systems and personnel and to intervene as necessary.

GPC Project Requirements

What:

- Internal quality goals

How:

- Nominal group technique (highly modified)

Why:

- To evaluate the success of our work

When:

- During first meetings of GPC-30

Top Ten GPC Project Requirements

1. Written to be highly usable – clear, simple, concise – its structure and content encourage its universal application
2. Industry-wide adoption
 - Widespread use in RFQ's and RFP's
 - Utilities adopt Guideline 30 for their programs
 - States mandate Guideline as part of codes
 - Published articles citing the Guideline 30 as a used standard
 - LEED EB adopts Guideline 30 (“LEED Certified”)
 - Adoption and market penetration, high participation
3. A clear set of requirements for the EB commissioning process
4. Create a standard framework that is repeatable

Top Ten GPC Project Requirements (cont.)

5. Guideline has universal application for most/all building and system types
6. Sustainable operating results, persistence into the future
7. Set a clear goal for the EB commissioning process, include key components of the goal
8. Users find Guideline 30 useful, few outstanding questions
9. Guideline 30 is consistent with Guideline 0-2005
10. Provide the required tools for executing the process

Public Involvement

GPC Membership

- GPC members present: Introduction & *THANK YOU*
- Open to public; ASHRAE membership not required
- Full house now

GPC Meetings

- Open to public
- Monthly phone/web meetings
- On-site meetings at ASHRAE Winter & Summer meetings

Public Involvement

Public Review

- Open to public
- Generally 45-day review period
- On-line comments and responses
 - Directions in the paper for this session
 - <http://www.ashrae.org/technology/page/331>
 - Each comment will receive a response, to which the commenter may further comment

AIA Quality Assurance



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Rick Casault, P.E., CCP, CDT | welcome your question
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Thank you!

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