

Draft Minutes
Inter-jurisdictional Regulatory
Collaboration Committee

May 22-23, 1997 Meeting

Los Angeles, California

1. Attendance

Mr Tomiyoshi Ogawa, Senior Officer, Building Guidance Division, Ministry of Construction, Japan

Dr Russell Thomas, Senior Advisor, Canadian Codes Centre, National Research Council of Canada

Mr Robert Wible, Executive Director, National Conference of States on Building Codes and Standards, USA

Mr Jon Traw, President, International Conference of Building Officials, USA

Mr Paul Armstrong, Senior Staff Engineer, International Conference of Building Officials, USA

Mr Brian Meacham, Technical Director, Society of Fire Protection Engineers, USA

Ms Beth Tubbs, International Conference of Building Officials, USA

Mr Mike Balch, Deputy Executive Director, Australian Building Codes Board

Mr Norm Bowen, Director - Technical, Australian Building Codes Board

Mr Demetrio Veteri, Director, Housing and Construction Trade, Dept of Industry Science & Tourism, Australia

2. Introductions

Mr Traw welcomed everyone to Los Angeles and invited each member to introduce themselves and provided a brief outline of their organisation

Australia stated that, whilst very supportive of the project, any outcomes from this meeting would need to be presented to relevant Australian authorities for formal consideration of ongoing Australian involvement.

3. Election of Committee Chairman and Secretary

It was decided that the election of permanent chair and secretary be held over until the next meeting to allow for the involvement of all participating countries. Mr Jon Traw was nominated to chair this meeting and Australia provided the secretariat.

4. Brief Overview of each Countries Performance Based Code Effort

Each country was asked to provide a brief overview of their performance based codes work:

a) Canada

Canada is currently working on a move towards an objective based code and is aiming to publish the new performance based code by 2001.

This is being undertaken in stages. The first stage is to obtain a clear understanding of the what is currently present under the prescriptive codes. To this end the Canadians are developing "intent statements" for each provision of the current prescriptive code to clearly identify what the intent of each provision is. In some cases the provision contains inherent intent. This process is to be completed by mid 1998. They are also looking at root core intent (Fire Safety, structural stability, etc)

The second stage will be to develop the structure and content of the new objective based code. It is anticipated that the new code will be in two parts:

Part A Objectives hierarchy

This part will include objectives (rational), sub-objectives and requirements. It is planned that in the longer term these objectives would remain stable

Part B Acceptable solutions

Acceptable solutions will contain both prescriptive solutions and, where it exists, alternative performance equivalence. Wherever possible, these will be qualitative.

These proposals are currently under discussion with the provinces.

b) United States

The International Code Council (ICC) is currently working on the development of a performance based building code to be issued in 2000.

The ICC is a not-for-profit corporation of the three model code organisations; the Building Officials and Code Administrators International Inc (BOCA), the International Conference of Building Officials (ICBO) and the Southern Building Code Congress International (SBCCI).

Currently the USA has three prescriptive based codes, and ICC is aiming to have a single performance based code covering all of the USA.

c) Japan

The activity basically started in 1989 as a result of the trade discussions concerning wood products.

In 1993 basic research for the code was started by the BRI. This research deals with the fire and structural safety aspects for buildings. In Nov. 1995 the Building Council of the Ministry of Construction commenced discussion on the performance based code and in March 1997 issued the final report. The outline of the new

performance based code is expected in June 1998. The new performance based building code is expected to come into effect in July 1999.

The new performance based code is expected to come into effect in July 1998.

The performance based code is being developed on the basis of comparability of prescriptive provisions. The code will contain the following:

Required Performances:

- Structural Safety
- Fire and Evacuation Safety
- Sanitation and Environment
- Daily Living Safety
- Others

Code Verification Methods:

- Calculation Methods
- Testing Methods

Deemed to satisfy specifications:

- Standard Specifications
- Approved Specifications

Education of the public as to the expectations of the minimum standards will be a major component of the new code.

d) Australia

The Building Code in Australia (BCA) is the responsibility of the Australia Building Code Board (ABCB). The Board is made up of senior representatives from the Commonwealth and each of the State and Territory Department responsible for building and construction

The performance based building code will be developed in two stages.

Stage One: Involved putting in place the performance statements related to each of the prescriptive provisions. Stage Two: will involve the review of the prescriptive provisions for appropriateness.

The BCA consists of two volumes: Volume One covers commercial buildings whilst Volume Two covers residential buildings (attached or detached dwelling units except stacked units). The new code comes into effect in July 1997.

ABCB is pursuing a train the trainer program as the method of providing training on the performance code for the country. An amendment will be issued to correct errors and define common terms to understand the code. A commentary on the code is under development.

5. Discussion as to scope of committee activities

The scope of the project as discussed at the previous meeting held on the 5 March 1997 was re-affirmed.

The agreed scope, therefore is:

To develop a model performance regulatory framework which will encompass policy issues, administrative issues, legislative and legal elements, verification and validation methods.

It was agreed that the document should be capable of providing assistance to key players in a country to clarify issues that will need to be addressed and suggest possible approaches in the move to a performance based code.

Mr Ogawa stated that he felt this was a valuable process and agreed to the scope as it would provide a forum to exchange ideas between countries. However, Mr Ogawa said that Japan was unable to provide significant input until early next year. This arises from the fact that they are currently working on the release of their new code.

6. Membership

The membership of the group was discussed with representatives agreeing that in the first instance countries with performance based code experience (either PBC in place or being developed) be invited to participate.

The following countries are to be approached to participate:

<i>Country</i>	<i>Person responsible for approach</i>
United Kingdom	????
New Zealand	Australia
Spain	Dr Russell Thomas
(Norway/Sweden/Finland) ?????	Brian Meacham

Existing Participants

United States

Japan

Canada

Australia

Existing participants to inform the interim secretariat as to how they wish their representation listed. eg USA represented by ICBO, ICC or listed individuals.

7. Workgroup Status

The status of the working group was discussed.

Dr Russel Thomas proposed that the group work within the parameters of the CIB TG11. Concern was expressed regarding the ability to move the process along and the need for the group to remain task focused.

Dr Russell indicated that the flexibility existed within TG11 to excellerate the meeting timetable of TG11 to cater for this project.

Discussion centred on the belief that the group should remain separate of existing structures and pursue the agreed scope within a 1-2 year timeframe. All representatives agreed.

8. Structure of Proposed Framework

The group discussed a structure for the proposed framework including the various components that the group will need to develop.

Attached is the draft structure was agreed to.

It was agreed that individual countries prepare a detailed outline of the allocated sections of the structure for consideration at the next meeting.

The following was the agreed allocation of work:

<i>Section</i>	<i>Country</i>
1.0	USA (with input from Japan)
2.1	USA (with input from Japan)
2.2	USA (with input from Japan)
2.3	Australia (with input from NZ and Dr Thomas)
2.4	Australia
2.5	Canada

9. Future meeting dates

Future meetings were discussed with the following agreed to:

<i>Meeting</i>	<i>Date</i>	<i>Location/Host</i>
August 1997	Option 1 18-20 Aug Option 2 27&28 July	British Columbia (Canada)
November 1997	10 - 13 Nov	Tokyo (Japan)
February 1998	TBC (not last week of Feb)	Sydney (Australia)
May 1998	WOBO Conference 2-9 May 1998	Maui (USA)

It was agreed that the final report should be available for release by the 30 June 1998.

DRAFT OUTLINE

RESOURCE MANAGEMENT TOOL FOR PERFORMANCE-BASED REGULATORY DEVELOPMENT, IMPLEMENTATION, USE, AND ENFORCEMENT

This document is intended to be an overview of the process for implementation of a performance-based regulatory system, and how the reader can use the information provided in the various sections to identify and address the key issues of the development and implementation process in a logical and orderly manner.

0.0 Executive Summary

1.0 Managing the Change Process (Introduction)

This section provides guidance for managing the entire development, implementation, use, and enforcement process for performance-based regulatory system, including include:

1. Interdependence of issues.
2. Timing/phasing.
3. Costs (resources, cost-benefit analyses, etc.).
4. Resource management.
5. Opportunities for collaboration (technical and non-technical, intra- and inter- jurisdictional)
6. Communication (dissemination)
7. Developing ownership
8. Trade impact (intra- and inter-jurisdictional)
9. Benefits
10. Concerns
11. Promotion (marketing)
12. Who manages (public/private)
13. Managing relationships with other agencies.

2.0 Issues

This section identifies the critical (key) issues that needs to be addressed, how they interrelate, and how they may be addressed. Detailed treatment of each issue is provided in the appendices.

2.1 *Current Technology Assessment*

This category is intended to identify and assess:

- a. What we have with regard to technology to support a performance-based system.
- b. How well the current technology works.
- c. Does the current technology do what we need.
- d. What gaps exist in the current technology.

Areas to be addressed include:

1. Engineering evaluation tools.
2. Engineering design tools.
3. Basic material data
4. Material test data.
5. Construction methods.
6. Information access tools (e.g., documents, computer technology, etc.)
7. Enforcement tools (e.g., prescriptive code).
8. Validation tools.
9. Verification tools.
10. Data (e.g., validation, verification, design, loss, test, etc.)

Additional concerns:

1. Agents (outside influences, such as seismic, fire, wind, etc.).
2. Objects being impacted by agents (buildings, components, systems, materials, etc.)
3. Response of objects to impact by agents (collapse, deformation, off-gassing, etc.).
4. Who is going to perform assessments?
5. Who will keep track of assessments?
6. Who will disseminate information?
7. How will information be disseminated?
8. Test methodologies.
9. Technology availability (user and developer).
10. Information management.
11. Usability of technology.
12. Consensus of need and needs.

13. Construction practices (traditional practices/methods/mindsets)
14. Identification of technology area (fire, materials, durability, etc.).
15. Research capabilities/availability.
16. Reliability of solutions.
17. Funding (who and how).
18. Assessment of test results and methods (perception of test results and data).
19. System versus component assessment.
20. Recognition of assessing authority (special interest bias).
21. Sensitivity, Uncertainty Analysis, safety factors.
22. Reliability of data.
23. Collaboration on assessments.
24. System tools versus component tools (and solutions).

2.2 Technology Development

This category is intended to identify :

- a. What new technology is needed.
- b. How will the new technology get developed.
- c. Who will develop the new technology.
- d. Where will the resources come from for technology development.
- e. How will the gaps (identified in Current Technology Assessment) be filled.
- f. Do the gaps (identified in Current Technology Assessment) need to be filled.

Areas to be addressed include:

1. Engineering evaluation tools.
2. Engineering design tools.
3. Basic material data
4. Material test data.
5. Construction methods.
6. Information access tools (e.g., documents, computer technology, etc.)
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17. Funding (who and how).
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19. System versus component assessment.
20. Recognition of assessing authority (special interest bias).
21. Sensitivity, Uncertainty Analysis, safety factors.
22. Reliability of data.
23. Collaboration on assessments.
24. System tools versus component tools (and solutions).

25. Recognition of developer/recognizing authority (who accepts/recognizes/deems developer and technology to be "ok")
26. Compatibility of solutions across borders (language, computing environment, assumptions, terminology/taxonomy, etc.).
27. Understanding of terminology/taxonomy used.
28. Repeatability, scale-ability, applicability of test data to design solutions.
29. Development of test technologies, materials, methods, etc.
30. Understanding, use, and application of existing and emerging science (see above).
31. Information "push" (availability, distribution, need to ensure user gets required info, acknowledgment that information received... especially when problems found with technology and change/modification is required)
32. Identify and disseminate limitations.
33. Data/information gathering tools, methods, mechanisms (ENFIRS, CONFIRE, etc., raw and analyzed).
34. Liability related to development and use of tool.
35. Liability related to restraints on solution development (e.g., environmental impact of fire tests).
36. Quality assessment and quality control (e.g., ISO 900X).
37. Quantitative versus qualitative analysis.
38. Outside influences affecting development (i.e., political, cultural, societal, moral, etc.)
39. Limitations on development due to return on investment (ROI).

Continue Technology Assessment with the newly developed technologies.

2.3 Education

This area is intended to identify who needs to be educated, what the education issues are, and what concerns need to be addressed. These issues should be considered in the context of the cultural, societal, economic, and legal environment in which the performance-based system will be implemented and used. These issues include:

1. Curriculum (to be expanded and detailed).
2. Audiences (to be expanded and detailed)
3. Attitude of participants (e.g., building surveyor, insurer, owner, designer, public, etc.).
4. Attaining "buy-in" from the participants (i.e., getting them to have a sense of ownership). This includes organizational (professional groups,

government, code developers, enforcers, trade groups, public, etc.) and individual buy-in.

5. Address the perceived threat to individuals (e.g., employment, liability).
6. Providers.
7. Availability and accessibility of education (e.g., cost, time requirements, location, etc.).
8. The delivery system (to be expanded and detailed).
9. Train-the-trainers.
10. Qualifications, competency, and certification (developers, providers, users of education)
11. Reduction of societal risk and maintenance of standards.
12. Timing (i.e., when and how much for each audience).

Additional items:

1. Limitations on use of tools.
2. Evaluation of current curriculum (availability and content of "institutional" programs)
3. Encouragement of new programs (make it clear why education is needed).
4. Availability of formal curriculum (offering of programs by institutions).
5. Maintenance of qualification, accreditation, and certifications (teachers, professionals,..)
6. Identify who, what, where, why, how, at what level, and by whom.
7. Tuning (tailoring) of material to audiences and refining course materials (feedback).
8. Development of effective training tools (understand recipient mindsets and prejudices, and still provide what is needed).
9. Establishing formal feedback mechanism.
10. Funding opportunities (where are funds, can one assess fees, grants, etc.)
11. Provide mixed-constituency education and discussion forums (i.e., engineers and enforcers, public and legislators, etc.).
12. Continuing education (mandatory and voluntary).
13. Practical versus academic (faculty, content, and need).
14. Public education and awareness (impact, needs: second and third tier effort).

15. Who is responsible for organizing and delivering education and professional training (designer, building, etc... consensus of need).
16. Identify and address outside influences that impact a performance system.
17. Include how a performance design impacts continued building, system, and component use and maintenance.
18. Need to maintain design documentation and keep it available.

2.4 Public Policy Issues

This area is intended to address the public policy issues that need to be addressed for successful development, implementation, use, and enforcement of a performance-based regulatory system. These issues should be considered in the context of the cultural, societal, economic, and legal environment in which the performance-based system will be implemented and used. These issues include:

1. Legislative reform.
2. Tort reform (legal system reform).
3. Public expectations (e.g., safety, property loss, risk, etc.).
4. The "buy-in" (feeling of ownership and inclusion) of all parties involved.
5. Education of the non-technical segments and associated funding.
6. Funding for needed research.
7. The need for regulation (i.e., how much regulation is needed).
8. Cost - benefit issues (and analyses).
9. Relationship and "fit" with other public policies.
10. Trade ramifications (internal, external, and intragovernmental).
11. Levels of government affected (responsibility, span [horizontal], and depth [vertical]).
12. Other legislation (relationship with other regulatory systems, internal and external).

Additional issues:

1. Identify and address outside influences that impact a performance system.
2. Include how a performance design impacts continued building, system, and component use and maintenance (all participants, education).
3. Need to maintain design documentation and make it available.
4. Develop tools to aid decision-making with regard to public expectations (e.g., risk and risk perceptions).

5. Understanding other public policy systems.
6. Does the public know what they what?
7. Government regulation or self-regulation?
8. Development of regulatory tools (alternatives to regulations).
9. Impact of performance-based codes on affordability.
10. Emphasis on maintenance.
11. Provide forums to discuss risk and acceptable risk.
12. Understand the concepts (ramifications) of multiple levels of performance.
13. Socio-economic system fit within performance system.
14. Who should pay (regulation, losses, research, ...)
15. Framework for professional services.
16. Level of technical competence of industry.
17. Develop mechanism for determining societal goals, objectives, and related criteria.
18. International standards activities relationship (viewpoints on).
19. National/local policy on adopting/referencing standards.
20. Value of developing model legislation in multijurisdictional countries.
21. Dealing with protectionism.
22. Should performance be quantifiable and if so how?
23. Public policy implementation (phasing, staging, etc.).
24. Communication in layman's terms.
25. Impact of language policy (multiple languages, etc.).
26. Managing the political environment.
27. Proactive versus reactive (policy based on addressing hazard instead reacting to disaster).
28. Voluntary change versus forced (enforced) change.
29. Freedom on access to information (policy for access to information).
30. Method of/for identification of players (who can effect a change and who cannot).
31. Creation, recognition, and maintenance of a responsive environment.

32. Commitment (to the policy) by the people who can and do effect policy change.
33. Sustaining policy direction.
34. Retrofit issues caused by change in requirements (existing building, accessibility)

2.5 Regulatory Infrastructure Support

This area is intended to address the regulatory infrastructure components and requirements that need to be addressed for successful development, implementation, use, and enforcement of a performance-based regulatory system. These issues should be considered in the context of the cultural, societal, economic, and legal environment in which the performance-based system will be implemented and used. These issues include:

1. The performance-based code (the structure, content, context, support documents, etc.).
2. Enabling legislation.
3. Standards of practice for design.
4. Test standards.
5. Maintenance standards.
6. Installation (and construction) standards.
7. Enforcement tools and methods.
8. Compliance tools and methods.
9. Interpretation availability (and services).
10. Appeals methods (and guidance).
11. Peer review process guidance (structure, methods, support, qualifications, etc.)
12. Qualifications, competency, and certification (registration/licensing).
13. Insurance issues (needs, changes, availability, etc.).
14. Liability concerns.
15. Accountability.
16. Self-certification (for compliance).
17. Accreditation.
18. Conformity assessment.
19. Evaluation of products (evaluation services).
20. Legal precedent.

21. Tort reform.
22. Other legislation.
23. Levels of government.

Additional issues:

1. Identify and address outside influences that impact a performance system.
2. Include how a performance design impacts continued building, system, and component use and maintenance.
3. Record keeping and availability of design information.
4. Value of developing model legislation in multijurisdictional countries.
5. Assured access to redress.
6. Maintain fair competition.
7. Professional staff.
8. Require specific maintenance program for a specific building and design.
9. Accreditation solutions to maintenance systems.
10. Need for multiple levels of performance and infrastructure to support multiple levels of performance.
11. Method for recognition of solutions (accreditation, peer-review, 3rd party certification).
12. Method for consistency in acceptance of solutions.
13. Fair compensation (accountability) for errors and omissions.
14. Guidance (rules) for going from widely accepted performance solution to standard to prescriptive solution.
15. Process for accepting new solutions.
16. Recognition of infrastructure impacts on solutions.
17. Who funds the "alternative" acceptance of "alternative" solutions.
18. Solutions available as public records (intellectual property rights)?
19. Increased need for record keeping technology.
20. Does one meet the performance requirement and/or objective?
21. System for determining competency and performance.
22. Who sets acceptance criteria and how are they set?
23. Maintenance of the performance-based code and related standards.

24. Legislative exclusion (exemption for requirements/compliance).
25. Handling of historical buildings (heritage issues).
26. Guide documents for users of performance-based systems.
27. Mutual recognition (i.e., laboratory, quality control/quality concerns standards)
28. Need to follow new technology.
29. Access to fair and impartial assessment of acts.
30. Non-compliance ramifications.
31. Data sharing (intra- and inter-jurisdictional).
32. Impact of governmental immunity on regulatory system.

3.0 Conclusions and Recommendations

4.0 Appendices