

**Inter-jurisdictional Collaboration Committee**

**7<sup>th</sup> Meeting**

**17 - 19 April 1999  
Gold Coast, Australia**

**Summary Record Of Discussions**

**AGENDA****7<sup>th</sup> Meeting****Gold Coast, Australia****17 - 19 April 1999****Saturday 17 April**

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## IRCC Meeting 7 - Summary Record of Discussions

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### ATTENDANCE IRCC 7

Mike Balch	Australian Building Codes Board	Australia
Olav Berge	National Office of Building Technology and Administration	Norway
Bob Bowen	National Research Council	Canada
Wayne Bretherton	Australian Building Codes Board	Australia
Brian Cashin	Building Industry Authority	New Zealand
Ivan Donaldson	Australian Building Codes Board	Australia
Steve Durnford	Department of Local Government, New South Wales	Australia
Paul Everall	Department of Environment, Transport and Regions	United Kingdom
Waturu Gojo	Building Research Institute	Japan
Ain Karu	Department of Housing, Local Government and Planning, Queensland	Australia
Brian Meacham	Society of Fire Protection Engineers	United States
Tomiyoshi Ogawa	Ministry of Construction	Japan
Tony Rackliffe	British Board of Agreement	United Kingdom
Bob Summerville	Department of Industry, Science and Resources	Australia
Russ Thomas	National Research Council	Canada
Jon Traw	International Conference of Building Officials	United States
Beth Tubbs	International Conference of Building Officials	United States
Peter Van Rens	Department of Industry, Science and Resources	Australia

**Saturday 17 April**

**OPENING REMARKS**

The Chairman, Mr Ivan Donaldson, welcomed members to the meeting.

Apologies were received from Mr David Stone, Scottish Office.

Mr Peter Van Rens represented Ms Margaret Brassington from Department of Industry, Science and Resources, Australia.

The proposed draft Agenda was adopted as the basis of discussion.

**AGENDA ITEM 1 RECORD OF IRCC6 EDINBURGH, SCOTLAND**

The minutes were confirmed as an accurate record of the 6<sup>th</sup> meeting of the IRCC in Edinburgh, Scotland.

Advice was received that minor editorial changes had been carried out to the minutes based upon comments received from members.

**AGENDA ITEM 2 1999 DRAFT WORK PROGRAM**

The Committee agreed that the table (attached in Appendix A) provided in the minutes for IRCC6 accurately reflected the division of work between CIB and IRCC

Comment was sought from the European IRCC members to determine if had had any suggestions for input to the proposed work plan.

**AGENDA ITEM 3 IRCC MEMBERSHIP CHARTER**

The draft paper was discussed and it was suggested that the first 2 paragraphs could be expanded to clearly detail who is eligible to participate in the IRCC.

Members commented that they believed that the function of the IRCC was to provide a forum where people with an interest in performance-based building codes could discuss issues. We should not be too restrictive on membership.

The development of some additional words took place with input from around the table.

It was generally agreed to endorse the charter subject to the inclusion of the additional agreed wording on liaison

**AGENDA ITEM 4**

**COUNTRY UPDATES**

**United Kingdom**

Paul Overall reported to the meeting of the current amendments and issues that are being considered in the United Kingdom.

The regulations are currently goal based which encompass broad requirements that are supported by 'approved documents'. These documents are regarded by some as being prescriptive. More work is required on the intermediate level between functional/objective requirements and prescriptive solutions.

**Energy**

Department of Environment, Transport and Regions (DETR) have finished analysis of documents related to energy efficiency. Work will proceed to amend regulations. This is in response to UK Government's Kyoto commitment.

It is proposed that the new energy provisions will also to apply to existing buildings.

Government has recently published a new paper regarding the buying and selling of houses.

In the UK a survey of a house being sold is required. This currently is the responsibility of the buyer. There are proposals that will impose this responsibility on the vendor. The information is also likely to include an energy efficiency rating. The energy efficiency rating also applies to all new houses.

**Accessibility for persons with a disability**

All new houses must be accessible by disabled persons. This will come into force in October 1999. This is the first time that it will be applied to new housing. The proposals initially received a great degree of resistance from the building industry.

The requirements include that all new houses must have a disabled WC on ground floor and that all entrances are accessible. The proposed amendments have taken 5 years to introduce.

Disability Discrimination Act (DDA) was passed in 1995, is complaints based and is required to be implemented over a 10-year period. Most of requirements relating to workplaces are now in force.

Major feature of DDA will come into force by end of 2003 requiring all existing buildings to comply with DDA. DETR are working on an existing buildings protocol on how the DDA will apply.

**Fire safety**

Update of approved documents on fire safety is nearing completion.

Present proposals include considering the inclusion of a mandatory requirement for sprinklers in all single storey retail buildings over 2000 m<sup>2</sup>.

Consolidation of fire safety legislation will likely be developed. There are approximately 55 different forms of fire safety legislation that apply in England and Wales.

### General

Amendments to present provisions relating to heat producing and electrical appliances is currently underway.

Private and public building control as it exists will continue. However, to prevent a reduction in standards, a common set of requirements on the approval process including mandating the minimum number of site inspections, etc is being drafted. The proposals have been released for public comment and should be adopted later in the year (1999). The proposals also consider auditing of the performance of building control bodies.

The prescribing by Central Government of Local Government fees for building control has been abolished. Minimum fees must ensure that Local Governments break even over a 3 year period

British Board of Agrément has been changed from Government body to private sector organisation. No changes will really occur in operation

Consultation on 'cowboy' builders is currently underway. Proposal is for an industry run scheme based on quality assurance.

### UK involvement in European Community.

Mandates have nearly been completed and issued to EC standard writing bodies to commence publication of standards that includes a single fire test standard – which has now been agreed.

Harmonisation of building regulations across the EC is presently not being considered. However, this may become an agenda item in the future.

Information can be obtained on some issues from DETR web site.

### Canada

Bob Bowen reported to the meeting of the current amendments and issues that are being considered in the Canada.

For a detailed status of Objective-based codes, refer to Bob Bowen's paper that was presented at the Global Building Model Conference in Melbourne prior to the IRCC meeting.

A debate on the building code objectives has resulted in interest from Ministers. This is due to;

- Moisture performance in buildings in British Columbia resulted in major damage to building fabric and contents. This resulted in a review which found that the building code was sound but the overall system failed.
- Pine shingle roofing. Pine shingles failed earlier than expected.

An issue for policy makers is the realisation that the building code does not cover consumer protection.

Homebuilders association is interested in the Australian reforms and has a consultant actively studying its success.

NRC will also be holding discussions with the US Performance-based Codes Committee to look for opportunities to align the two codes' structures.

## **Japan - Ministry of Construction (MOC)**

Tomiyoshi Ogawa reported to the meeting of the current amendments and issues that are being considered in the Japan.

### **Code development**

Privatization of code verification process is to be enforced from 1st May 1999.

Performance code writing is now advancing inside the Ministry of Construction with cooperation of the Building Research Institute.

### **Issues**

Management of transition process

1. Treatment of the already approved
2. Information sharing by related groups
3. Provision of guidance documents

Design of performance criteria for effective enforcement (Route A, B, or C)

Quality assurance scheme (Law, Article 37)

Treatment of Standards (JIS, JAS)

## **Japan - Building Research Institute (BRI)**

Wataru Gojo reported to the meeting of the current work being carried out by BRI in the Japan.

ISO SC 15 held its first meeting in January 1999.

BRI is presently involved in the work being undertaken by ISO SC15 on performance-based code for single dwellings.

Performance framework as outlined in Resolution 6 of that document may include qualitative, quantitative and verification methods.

New work item proposals for structure and durability have been circulated for SC 15 work group member voting.

## **US - ICBO**

Jon Traw reported to the meeting of the current amendments and issues that are being considered in the United States.

### **Performance Code**

Performance code is still being developed and it is envisaged that the draft document will be completed in 2000. US is not subject to any time frames so this enables a greater ability to develop the code in more detail.

2 committees have been established;

- fire; and
- building

The reports of these committees will be published August 1999 and will include draft codes and qualitative statements for public comments.

Last rounds for the public comments are aimed for mid 2000. Final reports will be produced August 2000. It will be a report only and will not be an actual building code.

The performance code will be 'stand alone' code. The prescriptive code will still exist and continue to be published.

### **General**

Energy efficiency is currently the subject of a debate between builders and ASHRAE regarding likely requirements.

In summary, ASHRAE is taking the position that all buildings must be engineer designed. However, builders would prefer energy regulations to provide certainty of requirements. The biggest issue is in relation to siting/orientation

Structural community is considering multiple levels of performance. These results may be transposed into building code policy.

### **US - SFPE**

Brian Meacham reported to the meeting of the current work being carried out by SFPE in the United States.

Guide for performance-based engineering guidelines has been sent out in draft for member comment. Should be available mid June 2000. This document is similar to FEG (Aust) and DD240 (UK) and is trying to co-ordinate and standardise the format taken by various countries in fire engineering design guides.

ICC has set up task groups to review and work on various sections of the design guide.

### **New Zealand**

Brian Cashin reported to the meeting of the current amendments and issues that are being considered in the New Zealand.

Clause B2 – Durability of the NZ Building Code has been revised. However, this is not seen as a consumer protection recourse.

A revision of Clause H1 Energy efficiency has been recommended to the Government for inclusion in the NZBC.

Issues with the NZ Fire Service and the role of the NZBC and other administrative matters are ongoing, especially in relation to the retro-fitting of fire safety systems in buildings.

2 major amendments to Building Act are currently underway to;

- extend maintenance requirements for dams; and
- review provisions for existing buildings and the 'trigger' for upgrade or demolition.

### **Norway**

Olav Berge reported to the meeting of the current amendments and issues that are being considered in the Norway.

### **General**

Transition for procedural rules for performance codes expired in July 1998 and for the Procedural Rules in January 1998. The approval system is now quality assurance (QA) based.

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Practitioners can obtain registration under the new QA based system either;

- locally (through Local Government); or
- centrally (through Norwegian Central Government).

A review of the QA system of practitioners will happen randomly over the next year.

Norway is presently experiencing problems with finding quantitative methods for environmentally sustainability. Regulations allow a 'trade off' between different building systems (i.e. energy efficiency Vs environmentally friendly building components)

Acceptance of European Standards when not excepted in Norway has been challenged. Mainly over emissions from wood burning appliances.

Experiences with performance-based code and fire engineering

- growth in fire safety engineering in engineering consultancies
- greater public awareness on fire safety
- rules of local fire chiefs have been challenged with fire engineered solutions

### **Australia**

Mike Balch reported to the meeting of the current amendments and issues that are being considered in the Australia.

Education Strategy developments are proceeding.

Accreditation of Building Surveyors/Officials – identification by Board of the need for standard qualifications nationally. Discussion paper is currently out for public comment.

### **AGENDA ITEM 5**

### **CIB UPDATE**

Bob Bowen provided the meeting with an update of the current work schedule of CIB TG37.

David Stone (Scottish Office) has been appointed convenor.

Bob Bowen tabled activities of TG37. The activities fit into the CIB program committee. This TG37 program has been considered and the following points have been identified:

- Review of computer modelling for performance-based solutions; and
- Undertaking of a study on the role of a performance-based building code on an economy - this may be extended to look at codes in general not just performance-based building codes.

No clear statement has come from the CIB program committee with regards to TG37.

General discussion took place around the table regarding the constitution of the new TG37.

**AGENDA ITEM 6**

**REPORTS ON PROGRESS WITH REDRAFT OF DISCUSSION DOCUMENT**

A re-organisation of the agenda papers took place to determine what papers have been tabled for consideration.

General discussion around the table occurred regarding how the information could be released to the public earlier such as discussion papers on the IRCC web site, etc.

It was proposed that the IRCC might need to look at releasing individual papers instead of collating all papers and re-releasing a new discussion paper. However, if we take this approach, we need to determine when and who decides what documents are released.

The IRCC members agreed there was a need to consider its credibility and supported the proposal for a release of individual papers and documents.

The members were advised that the CIB World Congress is to be held in New Zealand in April 2001 which could provide an opportunity for the launch of some of the IRCC work.

Members were reminded that we did commit to delivering some of our work at the 3<sup>rd</sup> International Conference on Performance-based Building Codes and Fire Safety Design Methods in Lund, Sweden and we need to determine exactly what we will deliver.

Consideration also needed to be given to the need to identify which documents fit into which section of Lund conference. Conference is split into two streams – performance-based codes and fire engineering design methods.

Paul Everall pointed out to the meeting that the Millennium Conference of UK Building Control was on from the 6-9 June 2000 in Northern Ireland.

The group agreed that the working plan is to go through each individual paper and discuss any issues.

### **Technology**

General concepts were outlined to the members as contained in the two papers that were circulated to the group.

Comments that were received from around the table were that there was not enough detail, that the paper needs to be more detailed and expanded to include more examples.

It was suggested that the second diagram be deleted to avoid any confusion.

Comments were also made that;

1. the paper should start with details instead of concepts.
2. examples should be upfront rather than using the examples to underpin the explanation.
3. present diagrams do not tell the story and may be there are diagrams that do. A series of diagrams may work.

General discussion took place as to how the diagrams may work.

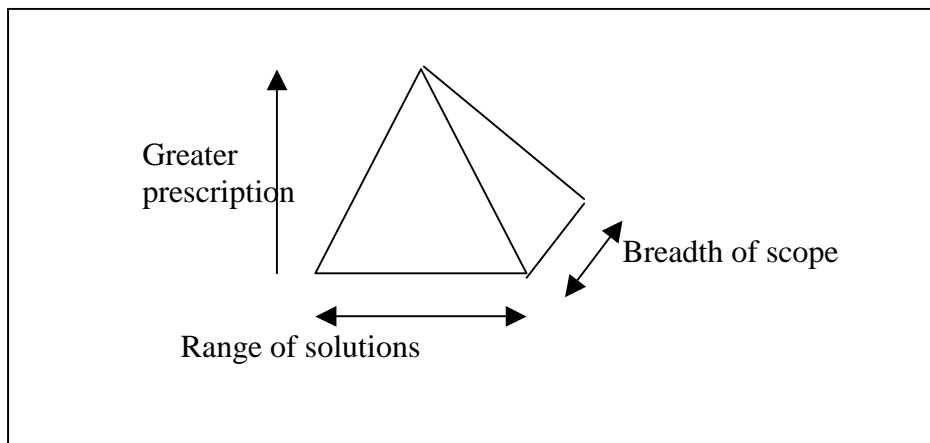
Discussion also took place regarding the concepts addressed in the paper.

It was added that maybe the concepts should be separated from examples so that readers do not get caught up in the technical component of the example and miss the concept. The paper is only trying to highlight the concept that the lower the range of specifics in the performance statement, the lesser the amount of solutions that are available. The paper is not trying to determine where the line should be drawn on the inverted triangle.

Further general discussion took place with regards to the range of possible solutions when measured against the specificity of performance statements.

It was recommended that the concept be tied to the model.

**It was agreed by the group that the finalisation of this document is high priority**

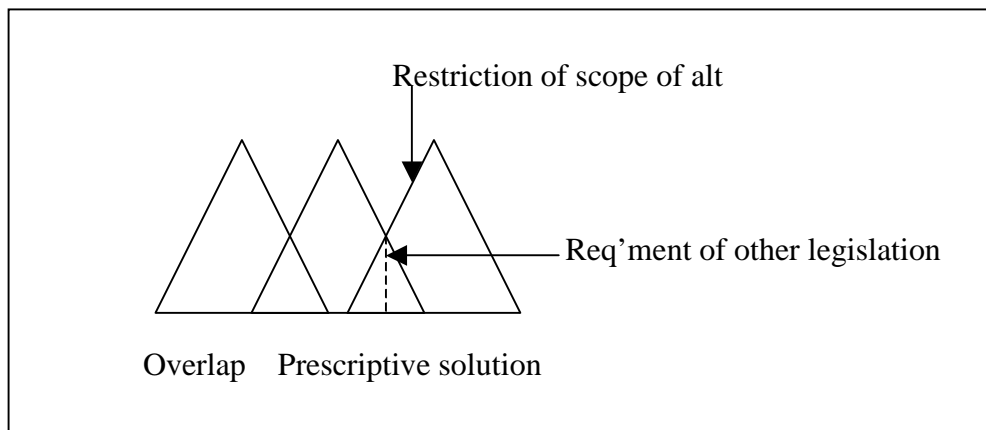


**Action: Russ Thomas to revise document including links to Brian Meacham's document and circulate to other members for comments.**

### Related legislation

Comments included:

- the paper needed to include general topic areas in lieu of specific examples;
- the paper needs to blend with the existing words for Section 4.3 of the May 98 discussion document;
- we need to include how do we embrace the differing legislation in terms of consolidation or at least inter-action;
- Section 4.3 needs re-writing to a general viewpoint to include the points raised;
- that a Canadian country specific example should be added to highlight how the impact of related legislation was addressed. This was done by entering into discussion with other code writing bodies and increasing their understanding of the building regulatory environment;
- the paper should promote the main concepts of Section 4.3 including the concept of consolidation of legislation;
- the focus should be on the general concepts so that a frame work is evident;
- in some instances there may be political pressure seeking to actually remove building code requirements and insert them into other legislation;
- there was not enough reference to performance-based regulations. Paper is meant to be discussing the impacts of other legislation on performance-based building codes;
- a paragraph discussing the advantages of consolidation should be included in the paper;
- the paper needs to focus on issues that are particular to performance-based codes;
- a diagram to show how prescriptive codes will restrict the degree of alternative solutions should be included as illustrated below;
- Section 4 be restructured and that Sections 4.3 and 4.4 switched around. Section 4.6 Scope of Legislation should also be reviewed to decide how we are going to deal with the issues in these sections (Sections 4.3 and 4.6).



**Action: Wayne Bretherton/Tony Rackliffe to revise paper and circulate to other members for comment**

### Existing buildings

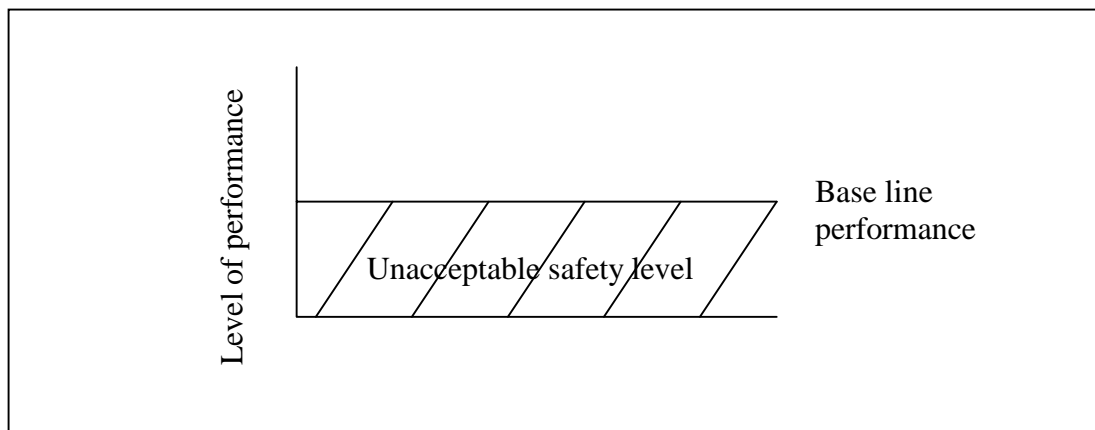
- Existing buildings – life safety same as new buildings.
- Property protection and other types of issues for existing buildings may be more/less than new buildings depending upon the significance of the building (i.e. building of a historical nature, etc.)
- Brings maintenance to surface and highlights issues that have been previously ignored.

Members commented that the policy maker should be making decision regarding the safety factor issue. We should be highlighting that performance may be the tool that you use to achieve the safety factors. What we should be doing is not allowing a lower level of safety but differing performance requirements.

It was added that better knowledge allows better solutions. Building codes as applied to new construction are trade off's of the benefits that they are trying to achieve. The same process is used for existing buildings however, the types of trade off's are different. The thought process for this process should be that trade off's and judgement calls are based upon the best available information. It is not a safety factor but a different decision making process.

The advantages of performance codes in application to existing buildings should be highlighted. Application of regulations is on a case by case basis that takes into consideration the economic environment and constraints of the existing building. Performance-based codes provides flexibility and have the ability to be applied to existing buildings.

It was also added that the document needs to look at discussion on the legal standing of existing buildings. In most countries existing buildings have a right to remain. These buildings were built under requirements that are the result of acceptable levels of performance. There is a burden of proof issue concerning existing buildings in terms of the acceptable levels of safety, etc. needs to be discussed in the paper. Jon Traw proceeded to sketch the following illustration on the white board:



Further general discussion took place regarding the general safety of existing buildings:

- an example was cited where there can be a change in risk based upon changes in building occupancy (i.e.occupants growing older in a residential building);
- the paper should be expanded to include other issues not just fire safety
- should clearly identify that renovations need to be considered on a case by case scenario;
- an example of burden of proof - retrospective application of requirements moves the base line performance upwards.
  - With a new building, a regulator asks the designers to prove that it complies.
  - With an existing building, a regulator is asked to prove compliance to policy makers.
- there is an issue with the 'trigger criteria'. Some information does exist in Section 4.6. This should be drawn out and covered in paper;
- there is a further issue on how to deal with existing buildings that have already been built using a performance-based building code;
- it was pointed out that this approach is already used in Norway by the fire brigade.

It was generally agreed that more detail needs to be included in the paper on the categories and approaches that need to be taken.

This paper to be written for incorporation into the existing document.

**Action: Beth Tubbs to re-draft paper for incorporation into IRCC document and circulate for comment.**

**Olav Berge to circulate the 6 levels of the essential criteria to all members.**

## Mandatory line

A mandatory line document that was prepared as part of CIB TG11 work program.

General feeling was that the mandatory line diagram should be updated and used by IRCC as a 'snap shot' for the approaches taken by various countries.

General discussion took place on the mandatory line and various frameworks that are used in each country.

Each country representative to provide a diagram on their system and a single paragraph describing the system. This will then form the basis of the new diagram.

**Action: All members to prepare their relevant diagrams together with a single paragraph description and forward to Bob Bowen.**

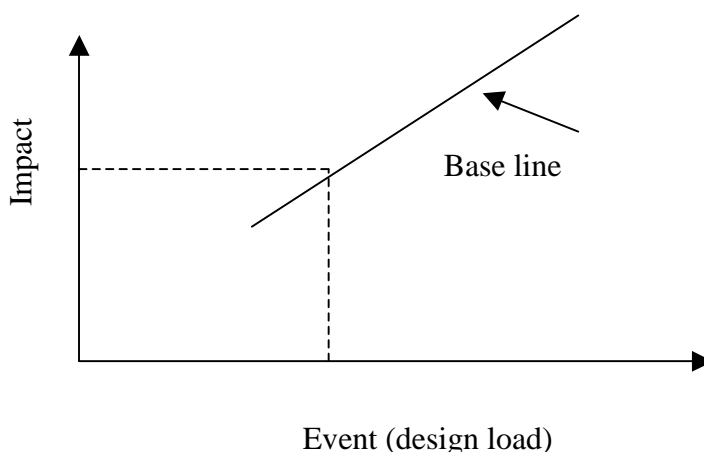
**Bob Bowen to co-ordinate with working group to develop base diagram for circulation to members.**

**Paul Everall to provide input on various approaches taken in Europe to Bob Bowen.**

## Multiple levels of performance & Chapter 3 document

Discussion took place regarding the concepts used in this paper and the following comments were made:

- is this structure being proposed for other building characteristics such as moisture performance;
- general agreement that this approach can be applied to any building regulatory requirement;
- discussion took place on the anticipated level of performance and the role of code/standard writing bodies in policy decisions and the following diagram was sketched:



- with multiple levels of performance there is a need to determine what are the acceptable levels of risk for various building types;
- this concept is helpful as it creates a transparent process for policy formulation. However, it would be good to see this concept developed into an overall model that can be applied to all types of building components/characteristics;

- policy makers are going to have to make decisions in regards to the level of risk as with the use of performance, questions by industry practitioners are increasingly asking what level of risk the performance code is meant to achieve;
- the 4 level system has been taken from structural engineers on seismic design and is used in the US in the nuclear industry;
- this approach is also usable beyond the building regulatory environment as it can be used in the interface between the client and the designers. A designer can go to a client and set out the varying levels of risk that the owner can take. The owner can then make an informed decision in regards to the level of risk that they can take. Minimum acceptable levels can still be set;
- it was pointed out that community expectations are changing and hence we will most likely need to consider multiple levels of performance in future building codes.

### **Understanding the interrelations between performance requirements and design criteria**

General discussion took place in regards to the concepts of the paper and the following comments were made:

- Level 3a and 3b will be in the ICC (US) code. This gives a greater degree of guidance on what needs to be complied with to meet performance requirements.
- should performance criteria be part of the system somewhere and are we willing to advance the concept as part of the IRCC model.
- one of the problems is that it is open to exponential explosion. Especially when trying to associate it with existing solutions. How we associate and link this concept with an existing prescriptive solutions need to be considered.
- the document maybe too detailed and requested that the remainder of the group provide input to Brian Meacham for inclusion in the paper.
- the paper needs further consideration and should be continued to be considered by the group.
- it was suggested to combine the 3 papers into a single paper for further discussion by the group and inclusion in the document.
- is there merit in pursuing in the expanded levels of performance for inclusion in the document?

We should try and develop the IRCC model and express it in similar fashion to those proposed in the US.

Brian Meacham will generalise the diagram so that it can be discussed as the possible IRCC model.

**Action: Brian Meacham to create a single generic paper to be circulated for discussion by the IRCC members.**

## **Transition process**

A view was expressed that the principles needed to be expanded to include other key issues such as communication with key stakeholders, etc. Feedback was requested regarding the change in the format.

General consensus was that the format/breakdown country by country was the most appropriate format.

**Action: Bob Summerville to co-ordinate the inclusion of communication issue from various countries and circulate revised document to members for comment.**

## **Legal/legislative systems**

It was suggested that each country's system should be circulated to each specific country for confirmation of accuracy prior to publishing.

The issue of why NZ information was included in the paper, as the idea was to gain a European flavour, was raised. Tomiyoshi Ogawa asked if it was possible to include English translation of French, German, etc. as it was difficult to translate into Japanese.

A question was put forward seeking information if the Italians are currently working on a performance-based code and what status it was at. Paul Everall volunteered to report back to the group as he will be going to Italy shortly.

General discussion took place in regards to CIB TG37 activities and their possible input into this paper.

Members commented that for countries that are not involved in the IRCC, we could include other country specific details in an appendix and qualify our inclusion, stating that the details relate to the system at the time of publication.

Concern was raised about the amount of information that we are collecting. We need to be clear on the overall aim objectives of the discussion document. Members felt that while we are trying to develop guidelines, we could also publish papers on other issues sharing various country experiences.

It was added that the intent of the inclusion of European countries is to get a European flavour into the IRCC document.

**Action: Interpretation of Italian and French language into English to be reviewed and included (as necessary) by Tony Rackliffe**

**Paul Everall to provide some feedback to Tony Rackliffe concerning the current status of the Italian performance-based code for inclusion in the document.**

## Quality Systems

Olav Berge outlined contents of the two papers regarding Quality Assurance (QA). QA is probably not as important for builders however, it is very important for designers.

It was recommended commented the paper should be written in a format that better reflects use with a performance code, and noted that QA is extremely important and the 3-page paper expanded.

Russ Thomas commented that some work that has been carried out by NRC maybe of assistance.

**Action: Small working group to be formed consisting of Olav Berge, Mike Balch, and Brian Meacham to work together to develop paper into a format for inclusion into IRCC document.**

## Trade Issues and Opportunities

Bob Bowen outlined contents of paper and the impacts of building codes on trade.

General discussion took place on trade issues and the following comments made:

- the IRCC performance model could be argued as providing a framework to demonstrate how a performance-based code applies, in turn, helping to remove trade barriers
- a performance code allows flexibility to accept products and lower trade barriers.
- the paper should cover the need to standardise building terminology to enable easy common description so those products can be compared.
- a summation be added to the paper.

**Action: Bob Bowen to revise document and circulate for comment from IRCC members.**

## AGENDA ITEM 7

## ADDITIONAL DOCUMENTS TABLED FOR DISCUSSION

### Agenda Item 7(A)

Additional papers tabled were discussed as part of agenda item 6

### Agenda Item 7(b)

Brian Cashin described the documents that were tabled.

Generally it is feedback on the IRCC document

The two possible points from the feedback received that should be considered are quantifiable performance and standard defined building terminology.

This was generally agreed around the table.

Discussion took place with regards to the key topic issues that the discussion document was to address. Reference was made to the minutes of the 1<sup>st</sup> IRCC meeting in Los Angeles. It was considered worthwhile for the members to review the initial list and reconsider these the scope and extent.

General discussion then took place regarding the LA scope list

It was suggested that a sub-committees could be formed to look at each Chapter of the discussion document and look at the scope and extent, and that maybe the best option would be to develop the work of the IRCC as stand alone papers rather than as a single document as this requires significant resources and editing.

Brian Meacham added that essentially what we wanted to was to establish a framework document and if we are all in agreement (subject to some editing) we could use the initial document as the base from which a new document could be drafted. The IRCC could also release more detailed papers from time to time on specific topics.

General consensus was reached with this model that was put forward.

It was added that we should reconsider what was really intended from the LA meeting and reconsider the scope and content of the document to ensure that we have not omitted something or that topics already covered are no longer applicable.

Comments included that maybe the framework document should be based more on principles. The current document is heavily based on fire. The framework document should address principles of how to develop performance-based codes. The fire papers could be released as separate papers.

This concept was generally supported around the table.

Comments and discussion on how will country specific experience be handled, included:

- the main framework document should not really contain country experiences in the text
- it would be better to keep country experiences in the document as they are useful. However, these could be included in an appendix rather than throughout the document.
- there is a need to be careful about 'who is the consumer' He generally supported the removal of country experiences from document and included in a more detailed document (not being the framework document).
- the document needs to be comprehensive as it lets people know what reforms are taking place. It also provides a useful tool to show how much regulatory diversity exists around the world. The document should reflect that due to these diversities the concept of a model international building code or regulatory system is not possible. There are many fields in technology, etc. still need to be explored. This should be spelled out in the document.
- the guidance document should be a 'snap shot' of the type of issues and matters that need to be considered with brief country experiences in an appendix. The supporting document addresses the topics in the framework/guidance document in more detail. Brian Meacham is willing to co-ordinate a working group to put forward a recommendation to the October meeting on the future framework and format of the discussion document.

A working group consisting of Brian Meacham, Mike Balch, Russ Thomas, and Tony Rackliffe was formed.

Jon Traw volunteered his editorial staff to assist the working group.

**Action: Brian Meacham to co-ordinate working group to review format and framework of the document and report back to the October meeting of the IRCC**

**Ivan Donaldson stood down from chair for this section.**

Jon Traw took chair and lead discussion with regards to the relationship between IRCC and TG37.

Russ Thomas commented that TG37 would be (provisionally) meeting in New Zealand at the CIB conference in April 2001. As the IRCC will most likely be meeting in October 1999 and April 2001, it is possible to organise a joint TG37 and IRCC meeting (1 day).

General discussion took place with regards to the processes and procedures for a joint IRCC/TG37 meeting.

Brian Meacham pointed out that it might be useful for a joint meeting to be held as well as a separate IRCC meeting. If TG37 were to make a presentation at the CIB conference, it would be useful if the IRCC made a joint presentation with TG37.

Jon Traw suggested that IRCC could be a joint sponsor with TG37 at the CIB conference.

Bob Bowen added that if TG37 is presenting. Papers from IRCC members who will be involved in a joint presentation should co-ordinate this with CIB. There was some question with regards to who will be co-ordinating this.

Jon Traw suggested that we proceed on the premises that we will;

1. be involved in a joint workshop with TG37; and
2. hold an IRCC meeting; and
3. have some overlap with TG37's activities at the CIB conference in April 2001 subject to more clarification at the joint meeting in October 1999.

Bob Bowen outlined APEC task groups role in performance-based standards, etc. and the proposed activities.

**Action: Bob Bowen to contact David Stone, Chair TG37 and discuss these proposals and report at the next IRCC meeting in October 1999**

Jon Traw passed chair back to Ivan Donaldson.

**AGENDA ITEM 12      DATE AND VENUE OF NEXT MEETING**

General discussion took place with regards to the location and date for the next meeting. It was agreed that the next meeting would be in October 1999.

Brian Meacham proposed the dates of 17, 18, 19 or 23, 24, 25 October 1999. He also added that SFPE are having a workshop in Washington DC on October 21-22 1999 to review future research proposals. IRCC members could attend this meeting if they wished.

General discussion took place and it was agreed to tentatively have the next IRCC meeting 28, 29, 30 October 1999

**Action: Jon Traw/Bob Bowen to confirm with David Stone, Chairman TG 37 that these dates are acceptable and circulate details on October meeting to IRCC members.**

**AGENDA ITEM 12  
(con'd)**

**DATE AND VENUE OF NEXT MEETING**

General discussion took place regarding future meeting after October 1999. Brian Meacham proposed that the next meeting be held June 18, 19, 20 in Oslo, Norway after the Lund fire conference in Sweden. Details for this meeting to be discussed and finalised at the October 1999 meeting.

**Action: Olav Berge to provide details for discussion at October meeting.**

Tentative dates for meetings for 2000/2001 were discussed as follows:  
October-November 2000 in Japan  
April 2001 in New Zealand

**AGENDA ITEM 9**

**3<sup>RD</sup> INTERNATIONAL CONFERENCE ON PERFORMANCE-BASED CODES AND FIRE SAFETY DESIGN METHODS**

Brian Meacham outlined the proposed conference in Lund, Sweden in June 2000 and put forward a proposal that IRCC be co-sponsor of the conference. It is a 3-day event

Day 1 - outline of various building codes

Day 2 - fire engineering designs

Day 3 - case studies in which countries get to apply their respective codes to a common building.

Brian Meacham would like to see presentation paper(s) from IRCC on day 1.

Mike Balch suggested that we should discuss who would be presenting on behalf IRCC.

It was agreed that Russ Thomas and Jon Traw would write a joint paper outlining IRCC activities.

There would be one paper from IRCC and any other papers would be from individuals.

**Action: Brian Meacham to forward copies of brochure to each IRCC members for information.**

**AGENDA ITEM 11**

**SUMMATION OF MEETING OUTCOMES AND CLOSE**

Ivan Donaldson summarised meeting outcomes and provided some closing remarks.

**Meeting closed at 12.05.**

**A summary of actions arising from meeting is attached as Appendix B.**

**APPENDIX A****Review of actions arising from the document reviews**

IRCC	CIB
Document – next version – June, 2000 [Russ put this up on the web and add annotation]	Technology examples
Process management/change management info (transition process) – [Bob Bowen, Bob Summerville]	Implementation strategies
Technology – prescriptive performance (Russ’s triangle) [ Russ]	Methods of assessing performance
Multi level performance – introduce concepts [ Jon Traw – Brian Meacham, Dug Beller]	Multi-level performance – case studies
Objective “Tree” -> requirements (Brian’s slide) [ Jon Traw – Brian Meacham, Dug Beller]	Objective tree
Incorporate input from other legal systems [Brian Cashin – Tony R]	Education – increase manufactures awareness of PBC’s – workshops
Trade discussions– collect discussion under one heading [T Ogawa, Bob Bowen]	Related legislation – cases, application
Related legislation [Mike Balch, Tony R]	Application to existing buildings
Expand discussion on existing buildings [Beth Tubbs, Dug Beller]	Specific guidance to stds. Used in PCB’s framework
Make sure that mandatory line issue is discussed [David Stone, Dug Beller, Russ Thomas]	Relationship to component conformity, assembly/system to overall system performance
Quality systems – relationship to “privatization” [Olav Berge, Mike Balch]	Role of quality systems to support PBC’s
Technology examples to explain concept (needs to pull in the old TG11 material) [Brian M, Olav, Dug]	Mandatory “line”
	Relaxation/equivalence
	Implementation strategies – case studies

## APPENDIX B

### Action Arising

<b>Work Item</b>	<b>Action</b>	<b>Responsibility</b>
<b>Technology paper.</b>	Revise 'Technology' paper with links to Brian Meacham's papers and circulate to members for comment.	Russ Thomas.
<b>Related Legislation.</b>	Revise 'Related Legislation' paper and circulate to members for comment.	Wayne Bretherton & Tony Rackliffe.
<b>Existing Buildings.</b>	Re-draft paper on 'Existing Buildings' to enable incorporation into IRCC document.	Beth Tubbs.
	Paper on 6 levels of essential criteria to be circulated to members.	Olav Berge.
<b>Mandatory Line.</b>	Prepare mandatory line diagrams and one-paragraph descriptions.	All members.
	Base diagram to be developed by working group.	Bob Bowen.
	Input on various European approaches to be included in diagram.	Paul Everall.
<b>Multiple Levels of Performance.</b>	Papers to be consolidated and circulated for discussion.	Brian Meacham.
<b>Transition Process.</b>	Paper to include communication as a key issue and be circulated to members for comment.	Bob Summerville.
<b>Legislative Systems.</b>	Translation of French and Italian words into English to be reviewed and included (as necessary). Feedback on current status of the Italian performance-based code required.	Tony Rackliffe. Paul Everall.
<b>Quality Systems.</b>	Working group to review documents and format for inclusion into IRCC document.	Olav Berge, Mike Balch, Brian Meacham.
<b>Trade Issues &amp; Opportunities.</b>	Document to be revised and circulated for comment.	Bob Bowen.
<b>Format &amp; Framework of IRCC Document.</b>	Working group to review format and framework of IRCC document and report back to IRCC October meeting.	Brian Meacham, Russ Thomas, Mike Balch and Tony Rackliffe.
<b>Joint IRCC/TG37 Workshop, NZ 2001.</b>	David Stone, Chair TG37 to be contacted regarding proposal.	Bob Bowen.
<b>Joint IRCC8 and TG 37 meeting.</b>	David Stone, Chair TG 37 to be contacted to confirm that dates and location of joint IRCC8 and CIB TG37 meeting is acceptable.	Jon Traw & Bob Bowen.
<b>Future IRCC meetings.</b>	Details of IRCC9 meeting in Oslo, Norway to be discussed at IRCC8 in October 1999.	Olav Berge.
<b>Lund Conference.</b>	Details of the 3 <sup>rd</sup> International Conference on Performance-based Codes and Fire Safety Design Methods, Lund, Sweden to be circulated to members.	Brian Meacham.

## Appendix C

### IRCC/TG 37 membership contact details

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