

National Online Consenting System

Comment on the Statement of Requirements 5 November 2012

Construction Information Limited welcomes the opportunity to make comments and suggestions on the above proposal. However we are concerned that the period available for providing such comment is only 14 days (16-30 November 2012). This timing is far too short for the industry to provide a useful response on such a comprehensive and vitally important project.

However in the time available we wish to comment on five key areas of the proposal:

1. On line consenting versus electronic code checker
2. BCAs – and the potential for a national BCA bureau
3. Building Information Modelling
4. A National Product Database
5. The lack of definitions on key aspects of the system.

Our reason for wishing to respond on these matters is that your call for comment states that “the finalisation of this document is a precursor to the issue of a request for information to determine what is available from potential suppliers, the cost of any service offering, and the timeline for implementation”. In our view moving directly to a “request for information” on what is essentially the establishment of a sophisticated online portal and database requires a much greater level of detail. Without this detail there is the danger that the proposals received will fall well short of expectations, and/or will not deliver any of the benefits envisaged.

We would respectfully point out that, although a number of attempts at implementing such a system have been made in a number of countries, none have yet achieved anything like the results and/or benefits set out in your proposal. For example, a system able to cope with both paper-based and electronic documents, projects ranging in size from small to large and from simple to technically complex.

The reasons for the lack of success of online consenting and automatic code checking systems from a technological viewpoint are:

- Insufficient research and/or understanding of the IT challenges involved and
- An inability to energise the design and construction industry enough to take the necessary steps to ensure both interoperability of building models and development of the tools needed for an effective change to a collaborative approach to design and construction – key precursors to any effective move to Building Information Modelling.

We firmly believe that a national online consenting system is achievable, but that a great deal more research is required, in particular in the area of Building Information Modelling, before any “request for information” is either prudent or possible.

1. On line consenting versus electronic code checker

There is an overall lack of clarity regarding the proposed system’s capability. Is it merely a sophisticated method for submitting and distributing building consent documents, or is it intended to (in the future) provide elements of electronic code checking? The proposal appears to indicate that it will do both, but lacks sufficient detail for potential providers to develop the necessary IT solutions.

Some specific references:

Page 10. 5.1 Overview. *...enable applicants to prepare and submit consent applications electronically...*

Page 17. 7.1 Overview. *...enable BCA processing officers to process consent applications electronically via a centralised processing engine.* What is a “centralised processing engine”?

Page 23. 9.1 Overview. *...complete inspections electronically.* Assume this is some form of Skype-based “inspection”. Difficult to see how this would provide the necessary rigor required to confirm compliance on site.

Page 34. 12.1 Business requirements overview. ... *a centralised, digital, internet-based hub that receives, captures and allows the electronic processing of consent applications*. No information provided on the capability and capacity of such a hub.

2. Building Consent Authorities

There is an intimation made, but no detail provided, that some form of central BCA bureau will be established to act as a first port of call for all building consent applications. While this is in our view a positive step, there is no indication on how the relationship between this central bureau and the current regional BCAs will operate.

It is difficult to see how such an approach can be effectively implemented without significant change to current legislation. However without some degree of detail around what statutory changes are envisaged it would be difficult if not impossible for someone to provide a viable service proposal.

Some specific references:

Page 9 Overview of the consent process. Second panel: *The NCOS system verifies the completeness (not the quality) of the information to be submitted*. How is this to be achieved and by whom?

Page 10 High level process. 6th bullet point. ...*the application will be sent to the appropriate processing centre or in the case of a technically complex application, to the most experienced and technically appropriate BCA*. What is a "processing centre" and who determines which BCA is "technically appropriate"?

Page 14 6.2 High level process. 2nd bullet point. *The Building Control officer*. Who is this person and what is their role/qualifications? Similarly on Page 15 3rd bullet point down. *BCO notes*.

3. Building Information Modelling

BIM-based online consenting assumes that applicants provide, via a national file server (one able to cope with the very large files involved) a fully populated digital model of the building project. The project model is then interrogated electronically by a building consent software system to confirm (or not confirm) code compliance.

Such a system has already been trialed in Singapore, but has proved to be only marginally successful; and only on very large projects. Core reasons for such modest success are the inability of design-build teams to cooperate in creating a single digital model and the lack of interoperability of data, leading to checking software being unable to interrogate and interpret the project model.

Note: The necessary model server to cope with rich BIM models is not defined. Suitable commercial model servers have been developed overseas. However similar developments in New Zealand are still at an early stage. The development of such a model server would be an essential element in any consenting system capable of dealing with Building Information Models, even if the system did not incorporate automatic code checking.

Interoperability of software systems and related data sources is an essential element in allowing a design/construct team to create a single project model and the ability of other software systems (such as consenting software) to interpret the project model. A number of countries are moving towards, or have already established, agreed National BIM guidelines. Without such agreement any system introduced by government will remain vulnerable to uncoordinated changes introduced by providers of commercial BIM software.

A further challenge will be in having access to a BIM object library on a neutral (i.e. interoperable) platform. A key aspect in this will be defining the property sets required to enable objects to consistently offer the rich data required.

The interoperability challenge is a significant one. However the associated challenge of persuading industry organisations to establish the systems, protocols, contracts and protections (including liability) for a more cooperative approach to design and building, is yet to be seriously addressed.

Some specific references:

It is concerning that there are no more than 9 or 10 references to BIM or Building Information Modelling in the whole document. There is also no definition of or reference to a “Building Information Model” (as against “modelling”). The “model” is the critical element and not the “modelling” process which occurs prior to submission of a building consent application.

Page 5. 1.1 Integration with the GeoBuild Strategy. *The National Online Consenting System must be able to receive BIM files and store them in a manner and format that permits.....* How can a proposal be prepared when there is no definition of a “model” or “modelling”?

Page 7. Glossary. *BIM = Building Information Modelling* This is meaningless without some definition of BIM.

Page 47. Plan check. *BIM tool.* Meaningless without some definition. No definition of “model”.

4. A National Product Database

The statement of requirements quite rightly states that a National Product Database is an essential adjunct to a National Online Consenting System. An excellent guide to the establishment of such a product database has already been published as a guidance document by the previous Department of Building and Housing as: *Using the Product Assurance Framework to Support Building Code Compliance. April 2010.*

However the statement of requirements fails to establish what form a “product specification” will take; i.e. is it to include a statement of compliance to the Building Code? Without such a statement a “product specification” is meaningless in the context of a consent application. There is also no definition of what a “specification” is, or any connection between an isolated “product specification” and the detailed technical and contractual specification of the complete project.

Our company has already done a great deal of work, using the principles set out in the above guide, towards establishing a way for product manufacturers to confirm their product’s compliance with the building code. While our approach is not in conflict with the proposals set out in the report on this matter, as with other key areas the devil is in the detail. One essential requirement is the parallel establishment of a national archive of product information.

No compliance statement or outline product “specification” can incorporate all the detail necessary to ensure that a product is manufactured and installed correctly. Nor can it establish a clear relationship in time with the supporting data necessary to confirm this, be it an independent appraisal, a statement of compliance with a standard, or other means of ensuring quality. This is the key reason for BCAs currently requiring consent applications to have attached full product details from manufacturers’ and suppliers’ catalogues. A requirement for such product suppliers to archive such information alongside their provision of a statement of compliance in a national product database, would overcome this current dilemma.

Some specific references:

One specific matter we wish to comment on is contained on page 11 of the report, where it is allowed for an applicant to find and upload a product “specification” not already contained in the national product database for assessment by “technical experts”. It is our firm view that all and any applications for acceptance into a national product database must come directly from the product manufacturer/supplier. This is to establish a clear legal responsibility between the manufacturer’/supplier and their statement of compliance (or “specification”). Without such a clear link a product manufacturer would be likely to refuse liability for such an application submitted by a third party.

Page 6. Product database. *...link the application to product information held in an online database.* This somewhat naively suggests that product data simply being electronic will on its own overcome the current BCA dilemma of confirming that products comply with the Building Code. Without a statement of code compliance by the manufacturer it will not achieve this end.

Page 11. Second and third to last bullet points. *...applicants can search the national product database. ...for inclusion in the national product database.*

5. Definitions, or lack of them

Some have already been mentioned in the body of this submission. However the key elements needing definition of both terminology and functionality are:

Product specification

Project specification

BIM

Building Information Modelling

Building Information Model

BCO

BCA (assuming there is some form of national BCA)

There is also a lack of information on how different types of application will need to be processed; such as an application based on an acceptable solution or verification method, versus an alternative solution. These processes would need to follow quite different paths through the approval process.

There is also no mention of the following key bodies or qualifications:

CCC (both new and old definition)

NZRAB

IPENZ

LBP (and the differences between design LBP and trade LBP)

Architect or Engineer – versus an LBP (see pages 9, 11, 30)

Conclusion

Construction Information Limited is owned by key members of the construction industry – BRANZ, NZIA and RMBF. We are therefore keenly interested in ensuring that such an important initiative such as a national Online Consenting System is successfully introduced. While it is disappointing that a more practical length of time was not provided for comment we trust that the comments we have been able to make will be given due consideration.

CIL is also willing to offer its knowledge and experience in this field, as long-standing members of both the International Construction Information Society (ICIS) and BuildingSMART, in taking this important project to its next stage of development. We would respectfully point out however that a premature call for proposals, particularly in a field as fraught with false steps as IT, could seriously restrict such a project's likelihood of success.

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