Scheme for Certification of Design (Building Structures)



Certification Performance Criteria Guidance

B1.1 Certification Procedures and Records

Revision B

Performance Criteria

Certifiers shall plan and undertake the certification activities in an organised manner.

Certifiers shall identify all of the structural elements that are covered by the design certificate(s).

Certifiers shall carry out a risk assessment to determine the extent of the review of the design that they will undertake.

Certifiers shall see that the design of the project has had the appropriate level of checking.

Certifiers shall maintain records of the certificates issued, showing how compliance with the Regulations was established.

Background

The Building (Procedure) (Scotland) Regulations 2004 requires that Certifiers who are members of an approved scheme must keep records to show 'how compliance with the building regulations was established'.

Additionally, the Scheme Guide requires Certifiers to 'undertake certification in a methodical manner. They must have procedures in place that will enable them to identify the scope of their certification, plan the certification process and satisfy themselves of the compliance or non-compliance of design work described in an application for building warrant or amendment to warrant.'.

Guidance

Certification is defined in the Cambridge English Dictionary Online as "...the act of providing an official document, as proof that something has happened or been done"

It is a requirement of the SER Scheme that certification is undertaken in a methodical manner.

There are four stages to the certification process that precede the preparation of the certificate of design itself:

- 1. Scoping
- 2. Planning
- 3. Reviewing
- 4. Documenting

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Certifiers are expected to record the process of certification using suitable proforma which can be used as evidence of what they did to establish compliance.

1. Scoping the project

This is the process of identifying the elements within the building, the design for which needs to be considered during the review, determining what information is required and who is going to provide that information.

The certifier should carry out a risk assessment to determine the extent of the review that should be carried out on each element and the level of information that will be required for that element.

2. Planning the certification process and warrant submission

Having undertaken a scoping and risk assessment exercise, the certifier should liaise with the design team and agree a warrant submission plan which takes into account a realistic programme for the delivery of design information for review by the certifier. On design and build projects or where there are contractor's designed portions the delivery of design information will depend to some extent on the procurement programme and the input of the contractor and sub-contractors is likely to be required. The warrant submission stages should be agreed with the Verifier. See Building (Procedure) (Scotland) Regulations 2004 cl 5 (1) and Procedural Handbook cl 3.5.3

3. Reviewing the structural design

The Certifier must undertake a review of the structural design for the project to determine whether or not the design complies with the relevant standards. The design should be complete and should have been appropriately checked. See Guidance Notes 11 and 12. The extent of the review that the certifier undertakes will be influenced by the role of the certifier in the design and the competence of those carrying out the design and the checking.

The risk assessment carried out as part of the scoping exercise will help the certifier to take a proportionate view as to the extent of the review that needs to be carried out.

Certifiers are not expected to carry out another numerical check of the design; but they are expected to critically examine the design and to challenge the designers' methodology, assumptions and design output, where appropriate. The Certifier's review should include consideration of some, if not all, of the following:

- a) Design methodology
 Is the methodology appropriate? Has the design been undertaken to appropriate codes of practice or other guidance?
- b) Ground investigation, ground conditions and foundation solution
 Was the scope of the ground investigation adequate and is the foundation solution appropriate for the ground conditions encountered?
- c) Existing buildings appraisal Where the works are to an existing building or where there are buildings in the vicinity of the proposed works, has an existing buildings appraisal been undertaken, is the report adequate and have any conclusions been addressed within the design



- d) Loading assessment
 Have the loads on the building been adequately assessed?
- e) Stability
 Is there a statement as to how stability is to be achieved and will the requirements of the building standards be met?
- f) Disproportionate collapse
 Is there a statement as to how a disproportionate collapse will be avoided and is the methodology appropriate?
- g) Analysis and design software usedAre these industry standard? If not how has the software been validated?
- h) Design parameters used
 Have appropriate design parameters been used?
- Design output Does the design look right? The Certifier may consider undertaking spot checks on critical members?
- j) Adequacy of the information shown on the drawings Is there sufficient information to enable the design to be built? Does the information meet the requirements of BSD's Procedural Guidance on Certification? Is the information consistent with the design output?
- k) Specificationls the specification adequate?

There may situations where consideration of the design of a relatively minor element is outwith the competence of the Certifier. In these situations, the Certifier may rely on advice as to the adequacy of the design given by a suitably qualified and experienced person who has reviewed the design on behalf of the Approved Body. Reliance on such advice on any project should be limited. Certifiers are reminded that they should always consider whether or not they have sufficient competence to undertake the certification of any particular project.

It is not considered appropriate for the Certifier to rely solely on the competence of a third party designer employed by a supplier or sub-contractor as evidence that the design is compliant. The advice should come from a suitably experienced person who is able to give the certifier impartial advice.

Certifiers retain responsibility for the integrity of the checking process and must see that there is sufficient evidence to show that the designs have been checked by a competent person to the level set down in Guidance Note 12.

4. Documenting how compliance was established

The building standards legislation requires certifiers to keep records of how compliance with the building regulations was established. See Building (Procedure) (Scotland) Regulations 2004 cl 37 (1) and 37 (2).

In addition, certifiers and their approved bodies are required to keep records that can be made available at an audit of the certification of any project.

While SER do not wish to prescribe the records that should be kept, it is considered that many certifiers will find some guidance to be of assistance. The following should in most cases provide a reasonable content structure.



- A. Project information
 Project name
 Project location
 Project description
 Project value
 Risk Group
 Design check level
- B. Scoping

Categories (eg. 2. General design overview, 3. Reports and Investigations, 4. Design (Principal Structures, etc from Appendix B) Item/Element Design review level for each item/element (High, medium, low) Information required for review for each item/element (Report, design statement, calculations or other justification, drawings, specification)

C. Planning

Categories Item/element (from scoping) Designer/checker for each item/element Warrant stage for each item/element Identification of Schedule 1 items (if appropriate)

D. Reviewing

 Category
 Certification performance criteria
 Is criteria applicable?
 Certifier's notes on how compliance established for each of the criteria

Structure is not explicitly defined either in the Act or the Regulations and therefore must be inferred from consideration of the requirements of the Regulations. In the context of Standard 1.1 Structure it can be implied to mean any part of a building that is required to sustain and transmit load.

It should be noted that the Approved Certifier may not limit the extent of certification by alteration or amendment of the design certificate. Furthermore, certification is not limited to those items which are declared on Schedule 2 to the certificate. Certification covers the structural design of all elements that make up the project described in the application.

Where the warrant application is staged, the certificate of design for any stage will also cover the structural design of all of the elements in previous stages. The certificate of design for any stage effectively supersedes the certificate issued for any previous stage.



Examples of Major Non-conformances

Absence of or grossly inadequate evidence of an organised approach to managing the certification process.

Absence of or grossly inadequate evidence of an organised approach to identifying the scope of structural design appropriate to the scale of the project.

The approach to certification is grossly inadequate in relation to the size of the project.

Absence of or grossly inadequate evidence to demonstrate that the project has had the appropriate level of checking.

Absence of or grossly inadequate records showing how compliance with the Building Regulations was established

Absence of or grossly inadequate evidence of the Certifier having undertaken a risk assessment to deter-mine the extent of the review of the design that is to be undertaken.

Examples of Improvement Issues

Insufficient evidence of an organised approach to managing the certification process e.g. lack of or inadequate certification plan.

Insufficient evidence of an organised approach to identifying the scope of the structural design.

Insufficient evidence to demonstrate that the project has had the appropriate level of checking.

Insufficient records showing how compliance with the Building Regulations was established.

Insufficient evidence of the Certifier having undertaken a risk assessment to determine the extent of the review of the design that is to be undertaken.

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