

Scheme for Certification of Design (Building Structures)



**Scheme for the Certification of Design
(Building Structures)**

**Procedures for Auditing the Activities of
Approved Bodies and Approved Certifiers**

February 2008

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Amendment Record

Current Version	Date Approved for issue	Comments
April 2007		
November 2007	Draft not for general release	Incorporates amendments following audit scheme implementation review.
December 2007	Draft not for general release	Incorporates further amendments following audit scheme implementation review
February 2008	General release	Incorporates further minor amendments.

1.0 Aims and Objectives of the Audit Programme

The Audit programme has been established by Structural Engineers Registration Ltd. (SER) in order to audit the manner in which, Approved Bodies and Approved Certifiers, who have been accepted as members of the scheme, undertake their duties and discharge their responsibilities. Audits will be conducted for the following purposes:

- a) To ensure that members of the scheme uphold the standards of the scheme and adhere to its requirements.
- b) To ensure that standards of performance are uniform amongst members of the scheme.
- c) To ensure that the requirements of the Building Standards (Scotland) Regulations are understood by members of the scheme and are being applied in the certification of projects.
- d) To identify areas where there are inconsistencies in interpretation in order to recognise the need for training or guidance.
- e) To identify procedures which members of the scheme find difficult to apply.
- f) To establish public confidence in the robustness of the Certification Scheme as a means of protecting public safety.
- g) To fulfil an undertaking to Scottish Ministers to provide an audited scheme.

Audits are aimed at assessing the performance, arrangements and procedures of members of the scheme (Approved Bodies and Approved Certifiers) and are not intended for the purpose of checking structural designs or specification for individual building projects.

While the audit will not go out of its way to seek design errors if a serious situation should come to light that would present a risk to public safety the auditors have a duty to have this brought to the attention of the appropriate authority. The matter should in the first instance be brought to the attention of the Approved Body who will be given an opportunity to take appropriate action. The Approved Body should keep SER advised regarding action that is being taken. If evidence of action is not forthcoming SER will consider to whom it should report the situation.

2.0 Audit Classification

SER may initiate an audit of an Approved Body or a Certifier at any time. The type of audit will depend on a number of factors however each audit will be classified under one of the following headings.

- a) **Initial Advisory Audit** - to be undertaken within a maximum of five years of an Approved Body or Approved Certifier being accepted for membership of the scheme. An important purpose of the advisory audit is to assist new certifiers fully

meet the requirements of the scheme. SER may therefore vary the action arising from the audit described in table 3, as appropriate to the particular circumstances of the case.

- b) **Surveillance Audits** are routine audits carried out after an initial advisory audit on a timescale set by SER.
- c) **Follow up Audits** are instructed by SER to investigate the introduction of Corrective Actions arising out of non-conformances identified by an Initial Advisory or Surveillance audit.
- d) **Targeted Audits** are instructed following the decision of SER to investigate the discovery of or complaints of poor practice.

3.0 Audit Methodology

3.1 The audit procedures described in this document are based on the recommendations contained within BS EN ISO19011: 2002 Guidelines for quality management systems auditing.

3.2 Audit findings will be based on the collection and assessment of objective data as far as this is possible. Audit teams are trained to undertake the audits in a systematic manner using standard audit criteria and a standard reporting methodology. A number of key tools have been developed to assist with these tasks. These are:

1. **Audit Criteria:** These are lists of items that the auditor must check in relation to each activity to be audited. Audit criteria set out the main items to be examined, describe why these are included in the audit and list the issues that auditors should focus on. Each main item has a list of sub-classifications. For each of these the actions of the auditor have been specified, some background information explaining the importance of the issue is given and a description of the evidence to be provided by the auditee provided. The audit criteria are provided in Appendices A, B and C.
2. **Major Non-Conformances:** A failure to meet the requirements of audit criteria is called a non-conformance. SER has identified a group of major non-conformances each of which represents a serious failure to meet the requirements of the scheme. The number of major non-conformances identified by the audit process will influence any action taken by the Board arising from the audit. These have been listed in Appendix E.
3. **Improvement Issues:** Non-conformances, other than those identified as Major non-conformances, have been classified by SER as Improvement Issues where the Approved Body or Approved Certifier must alter or improve their procedure before a further audit is undertaken. The number of Improvement Issues identified will influence the need for a follow up audit or the timescale to the next routine audit. These have been listed in Appendix F.
4. **Audit Checklists** require auditors to record information in a standard format against each of the audit sub-classifications in the audit criteria list. Auditors should use these checklists to record:

- Whether the item was audited and/or, in the case of projects, whether the item applied;
- Whether the item fully complied with the requirements of the audit criteria;

- Whether any Non-conformances were identified and whether these were Major or Improvement Issues;

- Details of any non-conformance;

- Comments which are intended to assist the auditee improve some aspect of their procedure but do not constitute a significant departure from acceptable practice.

4.0 Roles and Responsibilities

4.1 The SER Board is responsible for overseeing the general conduct of the audit process. The Board will:

- Select and appoint individuals to the auditors pool of the Scottish Registration Board (SRB);
- Make arrangements for the training of auditors;
- Agree audit programmes including the selection of Certifiers and Approved Bodies for audit;
- Consider the recommendations of the SRB in relation to the findings of an audit and decide on any action, including suspension or withdrawal of membership of the scheme that may be necessary arising out of the audit;
- Consider reports from the Chairman of the SRB regarding general issues or trends identified by the audit process that require to be addressed by technical guidance to members or alterations to the scheme.

4.2 The SER Administration Team are responsible to the Board of SER for the administration of the audit process. They will:

- Prepare audit programmes for consideration by SER;

- Assign auditors from the SRB audit pool to conduct individual audits;
 - Issue notification letters to Approved Bodies advising them of the projects and certifiers that have been selected for audit;
 - Monitor the audit implementation and initiate action against Approved Bodies that have failed to arrange audits within the prescribed timescale;
 - Provide advice and information to Approved Bodies and Approved Certifiers concerning the audit process;
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- Provide audit teams with information held by SER necessary to conduct the audit;
 - Collate auditors reports and recommendations for consideration by the SRB;
 - Collate Corrective Action Responses from audited bodies and certifiers and present these for consideration by the SRB;
 - Record the recommendations of the SRB and present these for consideration by the Board of SER;
 - Advise Approved Bodies and Approved Certifiers of findings of SER arising from the audit;
 - Administer the appeals process;
 - Maintain the IT systems necessary to administer the system;
 - Archive audit files.

4.3 The Scottish Registration Board is responsible to the Board of SER for the technical conduct of the audits. SRB will:

- Supply audit teams from a pool of auditors appointed by the Board of SER;
- Consider audit reports and make recommendations regarding any corrective action arising from the audits;
- Make recommendations regarding general issues or trends identified by the audit process that require to be addressed by technical guidance to members or alterations to the scheme.

4.4 Approved Bodies are responsible for the administrative arrangements necessary for conducting the audit. They are responsible for all of their internal costs and for the costs associated with the attendance of their certifiers however

there are no audit fees or costs payable to SER. Approved Bodies are required to:

- Ensure the availability of their certification coordinator/s and all Approved Certifiers who they employ and who are to be audited;
- Provide a work area within their premises suitable for the audit team to carry out the audit;
- Ensure that all information including project records, warrant plans and files necessary to carry out the audit is readily available to the audit team;
- Ensure the Health & Safety of the audit team while they are working within the premises of the Approved Body;
- Identify and implement Corrective Actions arising from non-conformances identified by the audit.

4.5 Approved Certifiers must make themselves available to the audit team at a time and place agreed between SER and the Approved Body that employs them (or employed them at the time when the project being audited was certified). It is recognised that this may not always be possible where, for example a certifier may have changed employer. SER will endeavour, where it is reasonable to do so, to arrange audits covering projects certified during a current employment. Where this is not possible SER will encourage Approved Bodies, who are members of the scheme, to accommodate these arrangements by allowing their certifiers the necessary time to attend the offices of a previous employer. If the Certifier cannot make him/herself available then the audit will take place in their absence and the reasons recorded in the audit report. Certifiers may nominate an individual to witness the audit on their behalf. Certifiers must realise that by not being available to assist auditors may place them at a disadvantage.

4.6 Certification Coordinators provide the principal point of contact between SER and the Approved Body. They will be contacted regarding the administrative arrangements for the audit. The Certification Coordinator, or a named substitute, must be available to witness the Audit on behalf of the Approved Body.

4.7 The Audit Team Leader will be designated by SER administration when the team for an audit is appointed.

The team leader is responsible for managing the conduct of the audit and will:

- Advise the SER administration team of the projects that have been selected for audit;
- Confirm administrative arrangements with the certification coordinator of the Approved Body in advance of the audit;
- Chair the opening meeting;
- Collate data gathered by members of the audit team;

- Prepare audit reports and obtain the necessary signatures;
- Chair the closing meeting;
- Update audit data on the SER IT system;
- Forward reports and recommendations to SER Administration.

4.8 Auditors are responsible for gathering information in relation to conformance with a standard set of pre determined criteria. They are required to exercise a degree of judgement as to whether a particular non conformance falls within the Major Non-Conformance or Improvement Issue categories or may in appropriate circumstance record comments. Auditors are not responsible for checking structural designs.

5.0 Implementing the Audit

5.1 The general procedure for implementing the audit programme is as shown in Figure1 below. The Board of SER will agree a rolling programme of audits to be implemented and the administrative team will set this in motion by assigning auditors who will have an opportunity to reject an appointment if they believe there to be a conflict of interest.¹

5.2 In advance of the audit the administration team will supply the audit team with the following information that will be made available electronically for download to a laptop:

- Contact details of the approved body and certification coordinator;
- List of certifiers to be audited and details of projects they have certified since last audit;
- A list of certificates issued by each of the certifiers to be audited including project costs;
- Application forms for certifier and approved body;
- Details of previous audits including auditor reports and outcome letters.

¹ SER Admin will maintain a diary of auditors availability

5.3 The audit must be normally undertaken within a maximum of six weeks of the Approved Body receiving notification. Failure of the Approved Body to agree a date within this timeframe should be brought to the attention of the SER Board for consideration of appropriate action which may include suspensions of the Body and its Certifiers from the scheme until an audit has been conducted.

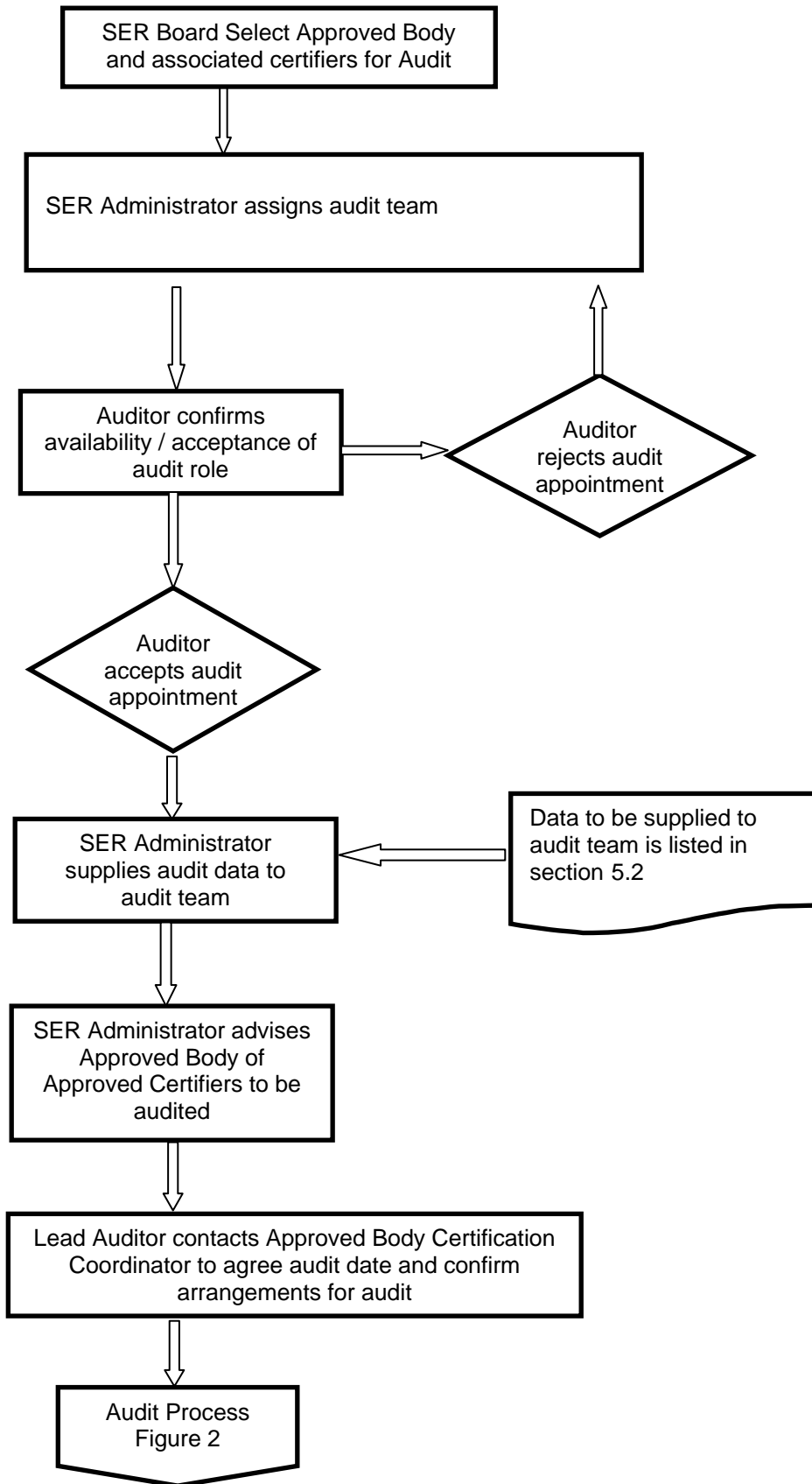


Figure 1: Procedures for Arranging Audits

6.0 Conducting the Audit

6.1 General: The conduct of the audit is the responsibility of the lead auditor who will chair the opening and closing meetings with the auditee and oversee the preparation of the audit report. The general procedure for conducting the audit is shown in Figure 2.

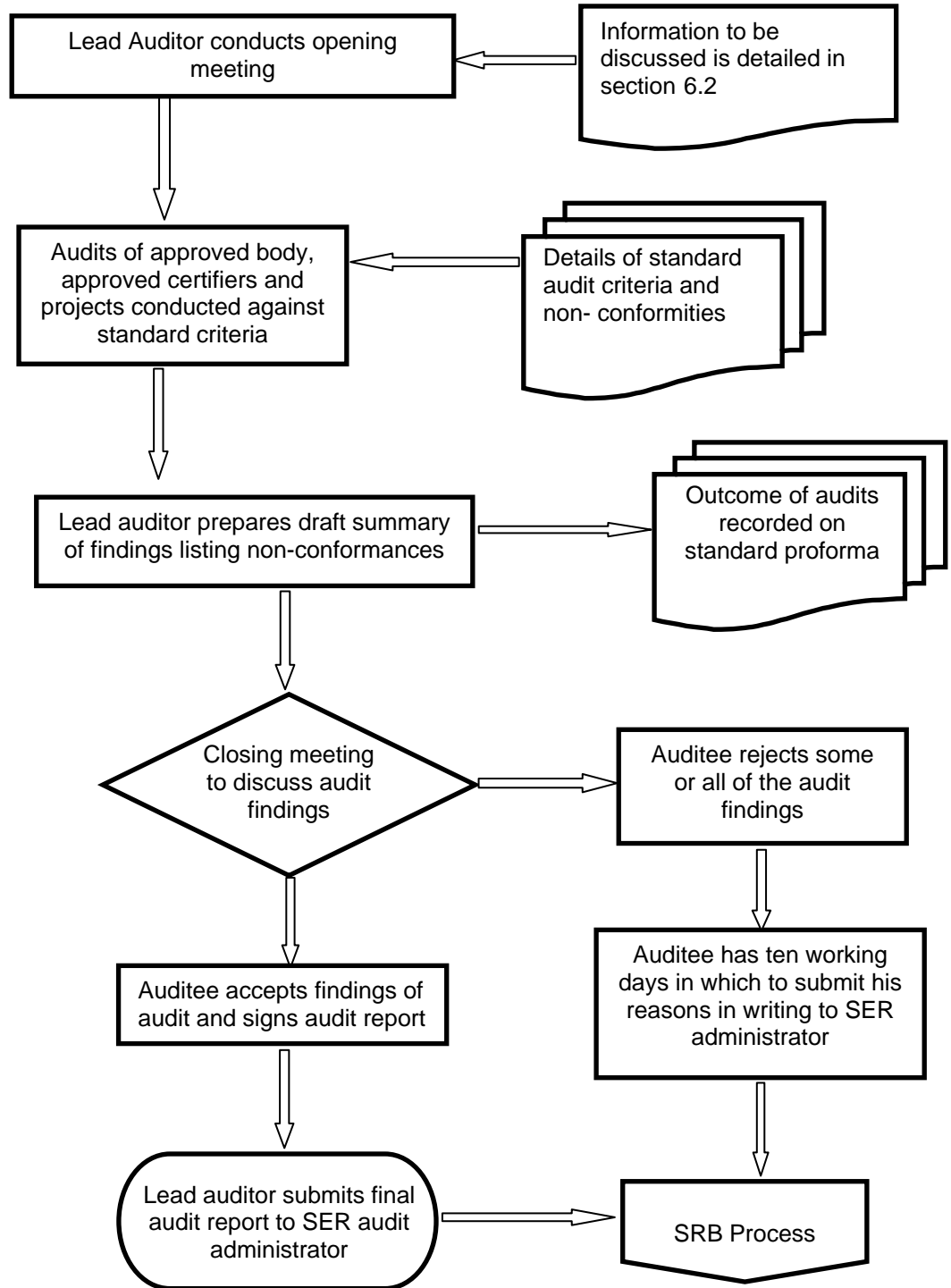


Figure 2 Procedures for Conducting the Audit

6.2 An opening meeting should be held with those responsible for the functions and projects to be audited. This should be used to explain the audit process and arrange access to information. In the case of small organisations, particularly sole practitioners, this may take the form of an informal discussion. Matters that should be covered during this meeting include:

- Introduction of the participants and an explanation of roles;
- Explanation of the objectives of the audit, the scope and the criteria;
- The method and procedures to be employed including an explanation of how performance will be measured and recorded;
- An explanation of how non-conformances have been graded and their importance to establishing the audit rating of the Body or Certifier;
- Confirmation that the resources and facilities required by the audit team are available;
- Confirmation of work safety and security measures relevant to the audit team;
- Where necessary in large offices the availability, identity and roles of guides;
- The method of reporting and the role of SRB and SER in dealing with non-conformances;
- Information about appeals against the audit findings;
- Arrangements for the closing meeting.

6.3 Collecting and verifying Information: Auditors will work through the lists of audit criteria for each of the projects selected for audit. Only information that is verifiable may be admitted as audit evidence. The auditor will work through the criteria listed in the appropriate appendix to this manual. Evidence should be presented in accordance with the guidance given. If the auditor finds a criteria that is not being satisfied he/she must check whether the matter appears on the list of major non-conformances or improvement issues. If neither then the matter is recorded as an audit comment only.

6.4 Normally the approved certifier audit will be carried out in conjunction with the audit of projects for which he/she has been responsible. Certifiers should be prepared to present evidence in the form required by the audit criteria lists. Auditors will record the findings of the audit on standard record sheets. Where the availability of audit evidence indicates that the audit objectives are unlikely to be met the audit team leader should report the facts to the auditee and to the Head of Certification at SER with a recommendation for action. Such action may include the termination of the audit.

6.5 Closing Meeting: A closing meeting, chaired by the audit team leader, should be held to present the audit findings and conclusions in such a manner that they are understood and acknowledged by the auditee. Matters that should be covered during this meeting include:

- Any circumstances encountered during the audit that may decrease reliance on the audit findings;
- The nature of any non-conformances found by the audit team. The auditee should be invited to agree the facts of these findings and have that agreement formally recorded;
- Where non-conformances have been identified and agreed the auditee should be advised of the manner in which any action arising from the findings of the audit will be considered by SER;
- Where non-conformances have been identified but not agreed the auditee should be advised of the manner in which representations against the findings of the audit may be made to SER;
- Where non-conformances have been identified and agreed the auditee should be advised of the manner in which any corrective actions together with timescales and a corrective action plan may be presented for consideration by SER. (While auditors may comment on proposed corrective action the responsibility for agreeing that action rests solely with SER).

6.6 Additional Guidance for Audit Team:

Certifier assessment

Step 1
Certifier
Interview The audit of the Approved Certifier should commence with an interview based around the items listed in Appendix B of the Audit Scheme procedures.

The purpose of this interview is to obtain a general overview of the certifiers approach to the role in order to inform the selection of issues to focus on during the project assessment phase.

There are no Major Non-Conformances or Improvement Issues associates with these items though Auditors should record any concerns that emerge as comments on the audit report form.

The interview should conclude with a review of the projects that have been identified in advance for audit and a selection made of those which are to be targeted for a detailed assessment

Project Assessment	<p>The following procedure will apply in turn to each of the projects selected for detailed assessment.</p>
Step 2 Plan assessment	<p>The individual project assessment will commence with a review of the plans that were submitted to the local authority with the building warrant application. These warrant plans must be available (4.4).</p> <p>The auditor will identify aspects of the design that are to be audited by reference to the checklist. It is necessary to audit every relevant aspect of the design listed in the checklist.</p> <p>The output from this assessment will be input to the checklist (Audit Y/N column)</p>
Step 3 Evidential display	<p>For each of the items identified for audit in the checklist the certifier will be asked to display the evidence of compliance described for that item in Appendix C – Criteria for the Assessment of Projects.</p> <p>If the evidence meets the compliance standard described in the corresponding section of Appendix C then this can be recorded on the checklist. If the evidence fails to meet the standard then only one of three possible outcomes can be recorded by the auditor on the checklist:</p> <ul style="list-style-type: none"> • The evidence fails to meet the compliance standard in a way that is described in Appendix E in which case a major Non-Conformance is recorded • The evidence fails to meet the compliance standard in a way that is described in Appendix F in which case an Improvement Issue is recorded • When the failure to meet the standard is not described in either Appendix E or Appendix F then the finding is recorded as a comment.
Classification and recording of findings	<p>The auditor must now proceed to consider all of the information obtained from the project audits and decide an appropriate rating for the certifier.</p>
Step 4 Collation of results	<p>The auditor should add up the total number of counting non-conformances and improvement issues for all of the projects audited. Non-counting non-conformances and improvement issues will arise when these are either repeated or linked. (For guidance refer to section 10.2 of the audit scheme manual).</p> <p>Weighted scores are applied in accordance with section 10.1 of the audit scheme manual.</p>

Step 5 Auditor Rating	The auditor must now decide on an audit rating for the individual certifier this will be obtained by reference to the table to section 10.3 of the manual however the auditor may apply discretion to adjust the outcome by up to one grade. Where this is done the auditors reason must be recorded in the audit report.
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7.0 Selecting Projects for Audit

7.1 The lead auditor will select the projects to be audited from a list of projects certified since the last audit (or, in the case of a first audit, since membership of the scheme was granted) from a list supplied by the SER administrator. The selection will take account of the range and complexity of work certified and the declared experience of the certifier. Where the certifier has worked for more than one body the lead auditor should consider whether it is necessary to select projects from more than one of these bodies

7.2 The number of projects selected for audited will also be determined by the lead auditor who will take into consideration the time available to conduct the audit and also the time required by the Approved Body to assemble project information. As a guide this should be calculated in accordance with the following table:

Projects certified	Up to 5	6 to 10	11 to 20	21 to 50	More than 50
Projects selected for audited	2	3	4	5	5 to 7

Note: The number of projects selected should be calculated for each certifier individually and not on the basis of the total number of projects certified by the body

8.0 Classification of Non-Conformances

8.1 A failure to satisfy prescribed audit criteria is called a non-conformance. These have been classified into the following categories:

Major Non-Conformance	This is a gross failure to meet or apply a particular aspect of an audit criterion and carries a medium or high risk that persistent failure to apply this criterion will result in loss of life or injury to those using buildings that have been certified this way.
Improvement Issue	This is a failure to fully meet or apply a particular aspect of an audit criterion but carries a low risk that persistent failure to apply this criterion will result in loss of life or injury to those using buildings that have been certified this way.
Comment	A comment will be recorded where the auditor has taken the view that the audit criteria has not been fully met however the failure is not sufficiently serious to attract one of the above classifications.
	Comments do not count towards a general audit classification.

Table 8.1: Classification of non-conformances

8.2 SER has identified non-conformances which attract Major or Improvement issue status and these have been listed in Appendices E and F respectively.

9.0 Reports and Recommendations

9.1 The lead auditor is responsible for overseeing the preparation and submission of reports arising from the audit in a standard format. Separate reports should be submitted covering the Approved Body and each of the Approved Certifiers audited. Reports should contain the following information:

- Type of audit (Approved Body or Approved Certifier);
- Audit classification;
- Name and SER reference number of auditee;
- Date of audit;
- Composition of audit team;
- Facilities made available to the audit team (Optional);
- General classification of audit findings;
- General comment on audit findings;
- List of non-conformances agreed with auditee;
- List of non-conformances rejected by auditee.

- 9.2 Standard checklists are available to assist the audit team to make notes of items audited and findings as the audit proceeds. The audit checklist should be completed during the course of the audit either by hand on a standard proforma or on line if the auditor prefers and web access is available. The checklist should be retained by the lead auditor for reference at the SRB meeting after which it should be signed and posted to the scheme administrator for filing. Unlike the audit report the checklist is not a public document and copies are not given to the auditee.
- 9.3 The audit report form must be completed on-line by the lead auditor within 24 hours of completion of the audit. The audit report may be completed in the presence of the auditee, who may add responses to the report. If the auditee is not present then he or she will need to access the report at a later date on the SER website. The information entered on the audit report form is required for submission to the SRB.

10.0 General Classification of Audit Findings

- 10.1 The audit score will be based on the sum of the weighted scores calculated from the number of non-conformances as follows:

Major non-conformance Weighted score = 3

Improvement Issue Weighted score = 1

Example: where the audit team found two major non-conformances and three improvement issues:

$$\text{Audit score} = (2 \times 3) + (3 \times 1) = 9$$

- 10.2 When counting the number of major non-conformances and/or improvement issues the same issue repeated across a number of projects counts as one non-conformance. Occasionally the situation may arise where a single omission can cause a number of "linked" non-conformances. In this situation the auditor will need to decide whether these should be counted as single or multiple occurrences. Some guidance on this may be had from considering the number of corrective actions that the auditee would have to implement to resolve the situation.
- 10.3 It is possible that the same issue may arise as a Major Non-conformance in one project and as an improvement issue in one or more other projects. In this case the issue will be counted only once but will attract the higher score.

10.4 The auditor rating will be classified under one of five grades A to E based on the audit score. The following ratings have been provided for the guidance of the auditor in the preparation of the audit report. They apply to both the audit of an approved body and an approved certifier each of whom must be given a separate rating. They may be adjusted by up to one grade at the discretion of the auditor depending upon the circumstances of a particular case. Matters that may influence the auditor in making a grade adjustment might include the relevance of the non-conformance to the particular project audited, the overall number of projects that were audited or in the case of an Approved Body a failure to present evidence of PI insurance. The audit grade will be used by the SRB to arrive at a recommendation for action to SER.

10.5 The grade awarded to an Approved Body should also reflect the general competence of its Approved Certifiers. Auditors must take this into consideration and may reduce the Grade of the Approved Body to that equivalent to the average rounded score of the certifiers.

Example: An approved body is audited and obtains two Improvement issues giving a score of 2 and an auditor rating of B. It has three certifiers audited who attain scores of 3, 6 and 8 respectively giving an average certifier score of 5.67 which is rounded to 6. This gives an equivalent certifier rating within the band 6 to 15 of C. The Approved Body Rating should therefore be downgraded to a C.

Audit Score (Certifier)	Audit Score (Body)	Description	Auditor Rating
0	0	Certification carried out to a consistently high standard, with examples of best practice. The effective application of certification procedures delivers the required standard.	A
1 to 5	1 to 3	General conformance with the principles of the scheme. Some examples of incomplete records or procedural errors:	B
6 to 15	4 to 6	Inconsistent application and conformance with the principles of the scheme	C

16 to 30	7 to 10	Failure to conform to the principles and requirements of the scheme.	D
More than 30	More than 10	Serious concern with regard to the ability of the Certifier to understand or apply the requirements of the scheme or, in the case of a Body, to support the activities of a Certifier.	E

11.0 Actions Arising from the Audit

11.1 Action by an Approved Body:

11.1.1 At the conclusion of the audit the certification coordinator will be presented with a copy of audit findings by the lead auditor and invited

to agree or reject these. It is the intention of the procedures that these findings be as far as possible an agreement of fact. This may be done in hard copy or electronically if internet access is available. The final agreed list should be signed by both the auditor and the certification coordinator on behalf of the Body though this may be done at a later date by post if necessary.

11.1.2 Within 10 working days of the conclusion of the audit the Approved Body shall furnish the SER administrator with details of any corrective action that the body proposes to take to avoid a reoccurrence of agreed non-conformances. These shall be brought to the attention of the SRB when it considers recommendations to SER on actions arising from the audit.

11.1.3 Within 10 working days of the conclusion of the audit the Approved Body shall furnish the SER administrator with details of reasons why any findings of the audit have been rejected. These shall be brought to the attention of the SRB when it considers recommendations to SER on actions arising from the audit.

11.2 Action by an Approved Certifier

11.2.1 At the conclusion of the audit the certifier will be presented with a copy of audit findings by the lead auditor and invited to agree or reject these. It is the intention of the audit scheme that these should be as far as possible an agreement of fact. This may be done in hard copy or electronically if internet access is available. The final agreed list

should be signed by both the auditor and the certifier though this may be done at a later date by post if necessary.

11.2.2 Within 10 working days of the conclusion of the audit the Certifier shall furnish the SER administrator with details of any corrective action that he/she proposes to take to avoid a reoccurrence of agreed non-conformances. These shall be brought to the attention of the SRB when it considers recommendations to SER on actions arising from the audit.

11.2.3 Within 10 working days of the conclusion of the audit the Certifier shall furnish the SER administrator with details of reasons why any findings of the audit have been rejected. These shall be brought to the attention of the SRB when it considers recommendations to SER on actions arising from the audit.

11.3 Action by SRB

11.3.1 The SRB will consider the auditors report and any information that has been supplied by the Certifier or the Approved Body. Where non-conformances have been identified but no corrective action proposed

the SRB may consider recommending suspension from membership of the scheme until this is forthcoming.

11.3.2 The general procedure to be followed in arriving at a recommendation for action is shown in Table 3. The SRB will confirm or alter the audit rating in the light of information presented to the meeting and will make recommendations in line with the following table.

Auditor Rating	Proposals for corrective action received from Auditee	Recommendation
A	Not applicable	No action required next audit to be routine surveillance
B	SRB agree proposals for corrective action	Implement corrective action next audit to be routine surveillance
B	SRB reject proposals for corrective action	Advise on modifications to corrective action to be checked at next routine surveillance.

C	SRB agree proposals for corrective action	Implement corrective action and schedule follow up audit within six or twelve months
C	SRB reject proposals for corrective action	Advise on modifications to corrective action to be checked at follow up audit within six or twelve months.
D	SRB should consider whether further training or revised procedures are required to enable Certifier / Body to meet the requirements of the scheme.	Suspension of membership pending a general review of competence to retain membership of the scheme.
E		Withdrawal of membership

Table 3

11.4 Action by SER. SER is responsible for confirming or amending the recommendations of the SRB. The Head of Certification will advise Approved Bodies and Approved Certifiers of the outcome of the audit and any action that has been decided by SER Board.

When an Approved Certifier or an Approved Body is the subject of a follow up audit (within six or twelve months) SER will, where possible, assign the same lead auditor in order to maintain consistency of audit. The second auditor will then be changed in order to provide a fresh approach. Should the lead auditor not be available then SER will, where possible, reverse the above action.

12.0 Retention of Records: The lead auditor will pass all records of the audit to SER audit administration for filing. Records will be retained for five years or until the completion of the next surveillance audit whichever is the longer period.

13.0 Appeals

13.1 Approved Bodies and Approved Certifiers may lodge an appeal individually or in the case where a finding concerning the actions of a certifier has arisen

from the procedures and/or practices imposed by his/her employing Approved Body a joint Appeal may be made.

- 13.2** Appeals may be lodged concerning an individual finding of an audit, concerning any action that has been imposed by the Board of SER arising from the audit or where the Board of SER has failed to respond to a representation made to them on either of the above matters within three months of receiving the representation.
- 13.3** Appeals may only be lodged if a representation on the matter has been made to the Board of SER.
- 13.4** An appeal will be considered by an Appeals Panel which will be constituted and will operate under the powers and procedures described by the scheme guide. When the subject of the appeal is of a technical nature the Panel may be assisted and advised by a Chartered Civil or Structural Engineer appointed by the President of the Institution of Civil Engineers or The President of the Institution of Structural Engineers.

Scheme for the Certification of Design (Building Structures)

Audit Rules

Criteria for the Assessment of Approved Bodies

1 Requirements for Membership of the Scheme

Approved Bodies will have made a number of declarations, in their application, demonstrating compliance with the criteria for membership of the scheme. The accuracy of these declarations will be checked by the audit.

Key Factors

The Building (Scotland) Procedures Regulations 2004 have set out criteria which can be considered to promote good practice. These are financial probity, insurance relevant to certification, adoption of quality assurance systems with regard to checking design and ready access to appropriate standards and guidance documents. SER has incorporated these into the criteria for membership of Approved Bodies to the Scheme and added an additional requirement in relation to training of certification staff.

Reference	Sub-Classifications and auditor action	Background and Evidence
AB1A	<p>Appointment of Certification Coordinator</p> <p>Auditors should seek evidence that the Certification Coordinator understands and carries out the duties described in the Scheme.</p>	<p>The certification coordinator is responsible for ensuring that the conditions under which membership of the scheme was granted are being fulfilled and maintained. The coordinator must be able to show that he/she is aware of these conditions, is able to monitor their implementation and draw any shortcomings to the attention of the Approved Body management organisation.</p> <p>Evidence may be gained through interview that the certification coordinator is aware of the criteria declared in the application for membership and has access to the systems necessary to monitor their implementation. The coordinator should be able to describe the management reporting structure which can ensure implementation.</p>
AB1B	<p>Quality and Checking Procedures</p> <p>Auditors should assess whether the checking procedures described by the Approved Body in its application are appropriate to the work being certified and are being universally applied. Where Bodies have declared auditable QA systems are in place these should be verified.</p>	<p>Proper checking of design is at the heart of the certification process. The level of checking required is dependant on a number of factors which will include the complexity of the design and the risk associated with structural failure. On small projects checking procedures may be straightforward however on larger or more complex projects the appropriate level of check will be arrived at by a more formal assessment of risk. Guidance on these matters is provided in technical Bulletin 2.</p> <p>Approved Bodies will have been required to describe the checking arrangements that they have in place when making their application. For an Approved Body certifying only small projects it will be sufficient to demonstrate that the procedure described in the application is applied. For Bodies certifying larger or more complex projects it will be necessary to demonstrate that an appropriate risk based procedure has been documented and adopted on projects.</p> <p>Where Bodies have declared auditable QA systems current independent audit certification should be presented.</p>
AB1C	<p>Access To Information</p> <p>Auditors should confirm that the information access is as described in the Approved Body application and that this is adequate for the type of work be certified.</p>	<p>It is a requirement of both the procedure regulations and the SER Scheme that Approved Bodies provide the certification staff with access to the necessary technical information and publications. This will include the various British and European Standards listed within the relevant guidance sections of the Scottish Building Standards Technical Handbooks and relevant publications produced by professional bodies such as the Institution of Structural Engineers.</p> <p>Evidence should take the form of a technical library containing hard copies of the relevant publications or access via a computer link to soft copies provided by a technical information subscription service or via a readily accessible arrangement to borrow documents from a Technical Library.</p>

Reference	Sub-Classifications and auditor action	Background and Evidence
AB1D	<p>Training</p> <p>Auditors should seek evidence of investment in training at the level declared by the Body in its application.</p>	<p>Approved Bodies are expected to support the CPD of Certifiers that they employ by providing time and financial support for attendance at training courses etc. In their application for membership of the scheme Bodies are required to declare this level of investment as a percentage of turnover.</p> <p>Evidence will comprise training records and/or receipts for relevant training courses attended by certification staff.</p>
AB1E	<p>Insurance</p> <p>Auditors are required to check that the Approved Body has PI insurance arrangements in place but are not required to comment on the adequacy of that insurance in relation to specific projects.</p>	<p>Approved Bodies are required by the terms of the scheme to maintain PI insurance at a level appropriate to the scale of work being certified. It is the responsibility of the Body to determine an appropriate level of insurance.</p> <p>Evidence will comprise a letter from the Body's insurers confirming that PI cover is maintained at a level commensurate with the work being certified.</p>
AB1F	<p>Employment (not required for sole practitioners)</p> <p>Auditors are required to check that Approved Bodies employ at least one Approved Certifier.</p>	<p>Approved Bodies must employ at least one Approved Certifier. The Certification Coordinator of an Approved Body must not countersign certificates for any period during which the Body does not employ at least one Approved Certifier.</p> <p>Evidence will comprise a statement demonstrating that at least one Certifier is paid by the Approved Body using the PAYE scheme with income tax and NIC deducted and is entitled to benefits such as paid annual leave. Exceptions to these requirements are in the case of a) a self-employed sole practitioner who is both an Approved Certifier and an Approved Body, or b) an Approved Body which trades as a partnership and where one of the partners is an Approved Certifier.</p> <p>Subject to the above criterion an Approved Body may also employ additional Approved Certifiers on a freelance contract basis to provide certification services.</p>

2 Duties Of An Approved Body

The Approved Body is required by the Scheme to provide an environment that supports the Certifiers that it employs and must ensure that adequate resources are allocated to the certification role.

Key Factors Contractual arrangements for the provision of certification services must be made on the basis of appropriate terms and conditions which take account of the risks and liabilities associated with the certification role and provide a reasonable degree of protection to certifiers employed by the Approved Body.

	Sub-Classifications and auditor action	Background and Evidence
AB2A	<p>Protection Of Certifiers From Financial Loss (Not required for sole practitioners)</p> <p>Auditors are required to ensure that Approved Bodies have adopted a responsible approach to protecting their employed certifiers against the consequences of claims arising from certification appointments.</p>	<p>Individual design certificates must be signed by Certifiers who are not required to carry personal PI insurance. It is a requirement of the scheme that Approved Bodies must ensure that certifiers employed by them are protected against financial loss from claims arising out of design certification. SER expects that Approved Bodies make appropriate arrangements to ensure that their certifiers are suitably indemnified against any actions or claims that may arise from certificates signed by a certifier while in their employment.</p> <p>Approved Bodies should be able to provide evidence that their procedures are in line with the recommendations contained within SER Guidance Note 6</p>
AB2B	<p>Management Of Risk</p> <p>Auditors are required to check that appointments are being made on the basis of a realistic assessment of risk and that contractual terms and conditions have been introduced to manage the risk.</p>	<p>Structural design certification covers all structural elements and frequently will embrace items not normally within the scope of a consultants design appointment or components that have been designed by specialist sub-contractors. This can introduce liabilities that can be disproportionate to the fee received for undertaking the certification work. Approved Bodies must make a judgment of the risks associated with accepting an appointment to undertake certification on a project by project basis and should ensure that appropriate clauses controlling liability have been introduced to the contract.</p> <p>Approved Bodies should be able to provide evidence that their procedures are in line with the recommendations contained within SER Guidance Note 6</p>

Scheme for the Certification of Design (Building Structures)

Audit Rules

Criteria for the Assessment of Approved Certifiers of Design

1 Requirements for Membership of the Scheme

Approved Certifiers will have made a number of declarations, in their application, demonstrating compliance with the criteria for membership of the scheme. The accuracy of these declarations will be checked by the audit.

Key Factors

An approved certifier must operate within the limits of his/her declared competence using the experience of others to undertake specific checks where necessary. He/she must approach certification in a methodical manner, operating within the guidance of the scheme and maintain records of how decisions are made. A certifier must be able to show that he/she understands the statutory responsibilities and obligations that arise from membership of the scheme and undertake Continued Professional Development CPD relevant to the role of certification.

Reference	Sub-Classifications and auditor action	Background and Evidence
AC1A	<p>Understanding of Scope of the Certification process</p> <p>Auditors should establish that the certifiers approach to certification work is consistent with the requirements of the legislation and of the scheme.</p>	<p>Structure is not a defined term within the regulations. Certification of the structural design covers a wide range of matters including, the design of the main structural elements, structural details (including those designed by specialist contractors), secondary structural components and the specification of materials and components. Certifiers must also take account of regulations controlling disproportionate collapse and conversions and be aware of the influence of other regulations, such as those dealing with structural fire resistance, on the design. Certifiers are responsible for identifying those aspects of the building that are covered by the certification process.</p> <p>Evidence should take the form of a written procedure incorporating a checklist or aid memoir used by the certifier to assist in the identification of building components covered to which the standards referred to in the design certificate apply.</p>
AC1B	<p>Operating within the limits of declared competence.</p> <p>Auditors should check that the range of projects being certified falls broadly within the limits of knowledge and experience declared in the application.</p>	<p>Certifiers are not permitted to certify work that is outwith the declared range of their knowledge or experience as described in their application for membership of the scheme.</p> <p>Evidence must be available which will show that the projects certified fall broadly within the scope of work declared in the application or that the certifier has acquired the necessary knowledge and experience since making the application for membership of the scheme.</p>

Scheme for the Certification of Design (Building Structures)

Audit Rules

Criteria for the Assessment of Projects

1 Procedures and Planning

Approved Certifiers are required, in accordance with SER guidance, to prepare a design audit plan and maintain records of decisions taken in relation to a project.

Key Factors

The design audit plan will assist the certifier to assemble all of the necessary information and conduct the design audit in an organised manner. It is essential for the certifier to properly identify the full scope of structural works covered by the design certificate. Certificates should only be signed once design has been completed to an appropriate level.

Reference	Sub-Classifications and auditor action	Background and Evidence
P1A	<p>Scope of Certification</p> <p>Auditor should seek evidence that the certifier has correctly identified all of the structural elements that will be covered by the design certificate(s)</p>	<p>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. The Approved Certifier may not limit the extent of certification by alteration or amendment of the design certificate. Certification of part of a structure is not permissible.</p> <p>Evidence of scoping the structural content of the project will be appropriate to the size and complexity of the project but for all but the most minor of projects this should take the form of a checklist retained within the project file. If the schedule to the design certificate has been used for this purpose it must record all additional items.</p>

Reference	Sub-Classifications and auditor action	Background and Evidence
P1B	<p>Certification Plan</p> <p>Auditors should satisfy themselves that the certifier has gone about the certification activities in an organized manner, has identified the full range of structural elements involved in the projects and has arranged to obtain the necessary information from the design team.</p>	<p>The certifier should be able to demonstrate an organised approach to managing the certification process which should take account of the following information:</p> <ul style="list-style-type: none"> • Who is the designer and what are his/her qualifications and experience to undertake this work. • Who is responsible for checking the design and are they sufficiently experienced to undertake the check. • What level of checking is being undertaken. • The certification option being utilized. Guidance on the correct use of options is provided in Guidance Note number 3. • List the information (drawings, calculations, reports, specifications etc) to be supplied to the certifier and identify who is responsible for supplying this information. • If the application to be staged, what is the programme for submitting the stages and will certification be able to accommodate that programme. <p>Evidence of planning will be appropriate to the size and complexity of the project.</p>
P1C	<p>Project Records</p> <p>Auditors should establish that certifiers are maintaining a proper record of the certificates they are issuing and an auditable record of how decisions concerning compliance with the regulations are arrived at.</p>	<p>The Building (Scotland) Procedure Regulations require the certifier to maintain a record of each certificate that an Approved certifier issues and details of how compliance with regulations was established. These requirements are incorporated into the Scheme Guide. Certifiers are expected to maintain a file for each project that contains information that will include check calculations, test results / component certification, reports and correspondence used to assist the certifier in arriving at his/her decisions.</p> <p>Evidence will be the project log completed in the standard SER format and for each project a file containing information regarding the certification of the project.</p>

Reference	Sub-Classifications and auditor action	Background and Evidence
P1D	<p>Programming of Work</p> <p>Auditor should check that certifier is only signing the design certificate once the design has been completed to an appropriate standard.</p>	<p>It is a requirement of the Act that a certificate issued by an approved Certifier of design must certify that the design of the building complies with the building regulations. This requirement has been reflected in the wording of the design certificate. This implies that certificates cannot be signed until the design has been completed. Certificates cannot be issued as a promise of future action.</p> <p>Work should be programmed and building warrant applications staged in a way that will accommodate the design process and ensure that there is sufficient time for adequate checks of the design to be undertaken before work commences on site.</p> <p>Evidence required of design programming to take account of the checking requirements and dates on the design certificates consistent with the receipt of information from the design team.</p>
P1E	<p>Use of Contractor Designed Details Option</p> <p>Auditors should check that where the certifier has used this option the correct procedure has been followed and adequate performance specifications have been included with the warrant plans.</p>	<p>The procedure has been introduced to aid the certification of some aspects of the structural design where details cannot be finalized at the time that the warrant application is made. The use of the option must be restricted to that described in the Guidance issued by SER Ltd and warrant applications must be accompanied with a sufficiently detailed performance specification. The option should not be used for the certification of complete timber frame kits.</p> <p>Evidence will comprise a copy of the schedule accompanying the design certificate and the performance specification accompanying the warrant application.</p>

2. General Design Overview and Parameters

Certification and checking are separate activities. Certification cannot be delegated to a third party while design checks can only be undertaken by an individual with the necessary experience in the particular aspect of the check.

Key Factors Generally sub-classifications listed in this section cannot be delegated and the Certifier must present evidence that they have reviewed and approved the fundamental design decisions involved.

	Sub-Classifications and auditor action	Background and Evidence
P2A	<p>Loading Assessment</p> <p>Auditors must seek evidence that the correct loading parameters have been used for the design and that the certifier has undertaken adequate checking of the loading calculations.</p>	<p>The certifier will require to confirm that the design has accommodated appropriate live and imposed loading and that loads applied to different parts of the structure by different designers are consistent throughout. Appropriate methods for calculating design load are given in the guidance document accompanying the Regulations by reference to British Standards. These should however be regarded as minimum loads and certifiers should satisfy themselves that there are no circumstances, such as dynamic loading for example, where these thresholds are likely to be exceeded.</p> <p>The certifier must be able to present evidence in the form of a design input statement that appropriate live and imposed loads have been applied to the design. Loads calculated in accordance with guidance provided by the Technical Handbook would suffice. Where more than one designer is involved evidence must be presented to demonstrate how consistency of design loading has been achieved.</p> <p>Check calculations should also be available in the project file.</p>

P2B	<p>Overall Stability</p> <p>Auditors must seek evidence that the Certifier has checked that the designer of the building has considered the need to ensure stability.</p>	<p>The certifier should take particular responsibility for checking the stability of the building. The general concepts necessary to ensure stability are described in the Institution of Structural Engineers Publication Stability Of Buildings December 1988. Particular attention needs to be paid to alterations to existing buildings to ensure that the removal or alteration of a structural element has not reduced the stability of the building to an unacceptable degree.</p> <p>Evidence of a stability check will be appropriate to the size and complexity of the structure. On medium to large projects the certifier should present evidence that load paths transmitting lateral loading to the foundations were available.</p>
P2C	<p>Disproportionate Collapse</p> <p>Auditor should seek evidence that an approach to satisfying the requirements of standard 1.2 has been agreed by the certifier.</p>	<p>The May 1 2007 revision to Standard 1.2 Disproportionate Collapse should be incorporated into the design of all buildings so that any collapse arising from damage is not disproportionate to the cause.</p> <p>The certifier must be able to present evidence that the matter has been considered, how the final design approach was arrived at and that the certifier agreed the design approach. For all but the most minor of projects this evidence should be documented in the project file.</p>
P2D	<p>Conversions</p> <p>In projects involving Conversions the Auditor must check that an appropriate assessment of the need for strengthening the building has been made.</p>	<p>Conversions are defined as being changes in the occupation or use of the building as specified in Schedule 2 to Regulation 4. Regulation 12 requires that, in the case of standards contained in Section1:Structure, buildings subject to conversion must be "improved to as close to the full requirement of Schedule 5 as is <i>reasonably practicable</i>, and in no case be worse than before the <i>conversion</i>:" "Reasonably practicable" is defined as having regard to all the circumstances including the expense involved in carrying out the building work.</p> <p>In practical terms this means that Certifiers will have to take a view on whether an existing building, which fails to meet the standards set by current codes of practice for structural design, and which is subject to conversion as defined above, can still be regarded as meeting the requirements of the Regulations or should be strengthened. This will involve a degree of subjectivity on what constitutes reasonably practicable for a particular building.</p> <p>The certifier must be able to present evidence that the matter has been considered, how the final design approach was arrived at and that the certifier approved the design approach. For all but the most minor of projects this evidence should be documented in the project file.</p>
P2E	<p>Structural Movement Joints</p> <p>Auditors should check that the certifier has reviewed the provision of structural movement joints</p>	<p>The provision of structural movement joints in large building structures is important to avoid local damage to internal finishes and cladding. Certifiers should check that, where necessary, these have been provided in accordance with an accepted design methodology.</p> <p>Evidence will be the detailing of structural movement joints on the building warrant plans.</p>

- 3 **Reports and Investigations** Are frequently required in order to provide the designer with sufficient information to safely design the structure. The Certifier must review whether sufficient information has been gathered to support assumptions made by the design team and whether this information has been obtained from a reliable source.

Key Issues Those employed to undertake investigations must be experienced and competent to do so. The scope of any investigations commissioned must be based on a rational assessment of the information required. Any testing must be carried out by a testing organization accredited for the purpose and employing industry standard methodologies.

	Sub-Classifications and auditor action	Background and Evidence
P3A	<p>Ground Investigation Reports</p> <p>Where foundation works are involved the Auditor must check that an adequate ground investigation report has been obtained and that the contents of the report have been checked in accordance with adopted checking strategy.</p> <p>A ground investigation report should be carried out for all projects with the exception of small domestic extensions or in special circumstances where certifiers may use their discretion. In these situations the auditor must check that the warrant plans include a suitably worded note stating the likely soil type expected to be encountered. Designers are also expected, in these situations, to include a note in the calculations giving the reasons why a ground investigation report was not considered necessary.</p> <p>Auditors should satisfy themselves that the sampling and testing programme was appropriate to the project, sufficient to obtain a reasonable understanding of the site conditions and that the recommendations for design were consistent with the factual data.</p>	<p>The certifier need only certify the investigation in relation to the requirements for the design of the foundations however the investigation must also have taken account of the need to investigate the presence of harmful or dangerous substances or, in the case of domestic property, the presence of radon gas.</p> <p>Ground investigation evidence should comprise:</p> <ul style="list-style-type: none"> a) desk study to identify scope and extent of ground investigation including the need for any mineral investigation. b) factual report recording sampling and testing undertaken c) An interpretive report containing recommendations for foundation design. <p>The certifier must be able to show that the competence and experience of the organization employed to undertake sampling and testing has been assessed.</p> <p>The certifier must be able to present evidence that the scope and recommendations have been independently checked, either by the certifier, or by a suitably qualified and experienced person not involved with the design of the investigation.</p>
P3B	<p>Existing Building Condition Assessment</p> <p>Where the warrant application involves alterations or a change of use to an existing building the auditor must check that a condition survey of the existing structure has been carried out and the effects of the proposed works assessed.</p>	<p>The certifier need not have visited the property personally provided he is satisfied that an assessment has been made by a suitably qualified and experienced engineer following an industry standard methodology. The certifier should establish that the existing building has been assessed to a level appropriate to the project and its intended use.</p> <p>Suitable evidence would be a structural report on the condition of the property (guidance is provided in the IStructE report Appraisal of Existing Structures) and a file note to the effect that the certifier had reviewed and approved the contents of the report.</p>

- 4 Design (Principal Structure)** Design embraces a wide range of activities however the certifier should focus on the analysis of the final scheme. Detailing must be seen as an integral and important part of the design process. Acceptable design methodologies include the codes and standards listed in the Technical Handbooks accompanying the regulations.

Key Factors The Certifier is responsible for ensuring the integrity of the process used to prepare and check the final scheme design. Certification and checking are separate activities. Certification cannot be delegated to a third party while design checks may only be undertaken by an individual with the necessary experience in the particular aspect of the check.

	Sub-Classifications and auditor action	Background and Evidence
P4A	<p>Mineral Consolidation</p> <p>When the ground investigation has revealed the presence of shallow mine workings, the collapse of which could result in surface movements that will cause settlement of the foundations the auditor must check that this has been taken account of in the design.</p>	<p>Standard 1.1 requires that the building must not be subject to deformations which would make the building unfit for its intended use, unsafe, or cause damage to other parts of the building or to fittings or installed equipment. Where ground movements are predicted that will cause such deformations then measures must be taken that will limit these movements. Normally these will take the form of a mineral consolidation scheme.</p> <p>The certifier must supply evidence that the stability of the building arising from abandoned mineral workings risk has been assessed and, where necessary, suitable consolidation measures have been introduced.</p>
P4B	<p>Sub-Structure (Excluding Piling)</p> <p>The auditor must check that the design of the foundations has taken account of the loading calculations and the findings of the ground investigation report.</p> <p>This sub-section should be taken to include pile caps.</p>	<p>Standard 1.1 (as amended) requires that, taking into account the nature of the ground, the building must not collapse nor be subject to deformations which would make the building unfit for its intended use, unsafe, or cause damage to other parts of the building or to fittings or installed equipment. In addition Standard 1.1 (as amended) requires that the building must be designed such that, taking into account the nature of the ground, there will be no impairment of the stability of any part of another building. Foundations must be designed to ensure that this standard will be met</p> <p>The certifier must supply evidence that, for the design of the foundations, calculations have been prepared in accordance with an accepted methodology, have been checked by a suitably experienced person and that the design output has been properly reflected in the warrant application drawings.</p>

	Sub-Classifications and auditor action	Background and Evidence
P4C	<p>Piling</p> <p>The auditor must check that the design of the piling has taken account of the loading calculations and the findings of the ground investigation report.</p>	<p>The piling design is often undertaken by a specialist piling contractor who will frequently use a proprietary system where the design methodology is unique to the chosen system. Guidance on the role of the building designer and on the creation of the performance specification is provided in the publication: Specification for Piling and Embedded Retaining Walls; Institution of Civil Engineers (1996). In these circumstances it is unlikely that the certifier will be competent to undertake the design check and must therefore rely on the experience of others. The certifier should however undertake sufficient enquiry to assure him/herself that the contractor has taken account of the predicted ground conditions and the loading calculations produced by the designer(s) of the superstructure and that the contractor has applied internal design checks by suitable qualified persons.</p> <p>Where the design of the piling is dependent on site performance and testing the certifier must make sure that this is brought to the attention of the appropriate person who will be responsible for signing the completion certificate.</p> <p>Suitable evidence will be drawings and specifications relating to the pile design, a file record of the enquiry into the design made by the certifier and responses received from the specialist pile designer.</p> <p>Where performance specifications are involved a record of correspondence with the client should be available.</p>
P4D	<p>Earth Retaining Structures</p> <p>The auditor must check that appropriate design parameters, particularly for the selection of earth pressure coefficients have been used and that both local and global failure mechanisms have been investigated.</p>	<p>Retaining structures may occur within the footprint of the building but also may be required to retain slopes generally within the boundaries of the development comprising the warrant application. Certification will embrace the performance of the retaining structure and also the overall stability of any slope against which the structure is located. Loading parameters must reflect the support conditions (propped or cantilevered) and any surcharges.</p> <p>The certifier must supply evidence that calculations have been prepared in accordance with an accepted methodology, have been checked by a suitably experienced person and that the design output has been properly reflected in the warrant application drawings.</p>

	Sub-Classifications and auditor action	Background and Evidence
P4E	<p>Ground Improvement</p> <p>Where ground improvement techniques are being used The auditor must check that the design has taken account of the loading calculations and the findings of the ground investigation report.</p>	<p>The ground improvement design is normally undertaken by a specialist contractor and frequently employs a proprietary system where the design methodology is unique to the chosen system. In these circumstances it is unlikely that the certifier will be competent to undertake the design check and must therefore rely on the experience of others. The certifier should however undertake sufficient enquiry to assure him/herself that the system being proposed is suitable to the building. The certifier should check that the contractor has taken account of the predicted ground conditions and the loading calculations produced by the designer(s) of the superstructure and that internal design checks by suitable qualified persons have been undertaken.</p> <p>Where the design is dependent on a site performance specification (e.g. load test) the certifier must make sure that this is brought to the attention of the appropriate person who will be responsible for signing the completion certificate.</p> <p>Suitable evidence will be drawings and specifications relating to the design, a file record of the enquiry into the design made by the certifier and responses received from the specialist contractor.</p> <p>Where performance specifications are involved a record of correspondence with the client should be available.</p>
P4F	<p>Superstructure</p> <p>Auditors must seek evidence that the design of all load-bearing structural elements including structural frames, walls, floors, roofs, stairs and stair enclosures have been carried out in accordance with an acceptable methodology and that calculation have been checked by a person with the necessary knowledge and experience.</p>	<p>Calculations which have been carried out in accordance with the Codes and Standards listed in the Technical Handbooks accompanying the Regulations will be regarded as meeting the requirements of the regulations. Where design methodologies have been used which are not based on these then the Certifier must be satisfied that the alternative approach still meets the standard required by the regulations. The level of checking undertaken will depend on a wide range of factors which include the complexity of the design and the risk associated with structural failure. The output from structural calculations must be properly reflected in the drawings submitted to the local authority in support of the warrant application.</p> <p>Frequently detailed elements of the design will be undertaken by specialist contractors after the main general arrangement has been completed. These details can be crucial to the performance of the structure and should be subject to the same checking regime as the main structural members.</p> <p>Certifiers must present evidence comprising structural calculations, drawings and checking by suitably experienced engineers.</p>

5. **Design (Building Envelope)** The building envelope is required to fulfill a wide range of building regulation requirements. While the envelope will frequently not contribute to the strength and stability of the building structure it will require to support its own weight, transfer wind loads into the structure and remain attached to the building under the effects of wind load.

Key Factors The Standing Committee on Structural Safety (SCOSS) has highlighted a number of potential problems arising from deficiencies in design. The strength and durability of the cladding material, support structure and crucially the fixing systems must be sufficient to withstand climatic conditions.

	Sub-Classifications and auditor action	Background and Evidence
P5A	<p>Cladding System (Including glazing)</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the ability of the cladding system to satisfy the requirements of the regulations.</p>	<p>Lightweight cladding systems will frequently be designed by specialist contractors. The design must be substantiated by engineering calculations or appropriate testing.</p> <p>Evidence will comprise structural calculations, drawings and checking by suitably experienced engineers.</p>
P5B	<p>Fixings and Supports</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the strength and durability of the building envelope fixing system and that fixings have been used in accordance with the conditions of use described within the test certification.</p>	<p>The fixings system may comprise a chain of components which must provide adequate anchorage of the cladding system to the main structure. Failure of one link in the chain can cause failure of the entire system. Components must also be durable and their ability to resist the effects of corrosion must be established. (A definition of durability is provided in the Technical handbook accompanying the Building Standards). SCOSS has highlighted the need for regular inspection of fixings and Regulation 8 requires that materials should be reasonably accessible for maintenance. Where performance depends on site testing this must be drawn to the attention of the person responsible for submitting the completion certificate.</p> <p>Evidence will comprise structural calculations and/or test certification which meets the criteria described within subsection 0.8.4 of the Technical Handbook accompanying the Scottish Building Standards.</p>
P5C	<p>Movement joints</p> <p>Auditors should check that the certifier has reviewed the provision of movement joints in the building envelope.</p>	<p>Absence of movement joints can cause localised failure of a facade. Certifiers should check that these have been provided in accordance with an accepted design methodology.</p> <p>Evidence will be the detailing of joints on the building warrant plans.</p>

6. Design (Secondary Structure)

	Sub-Classifications and auditor action	Background and Evidence
P6A	<p>Ties and Connections</p> <p>Auditors should check that these have been detailed on the warrant plans in accordance with the design assumptions implicit within the structural calculations</p>	<p>The performance of individual structural members is frequently dependent upon adequate tying to and support from other parts of the structure. The location and frequency of ties may result from calculations but are frequently specified in British Standards. (Gable ties for masonry wall panels for example)</p> <p>Evidence will comprise tie and/or connection details specified or shown within the structural plans submitted to the local authority verifier.</p>
P6B	<p>Internal (non-loadbearing) Partitions</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the ability of the partitions to satisfy the requirements of the regulations.</p>	<p>Lightweight partitions, though not required to support loads transmitted through the structure of the building, will require to be sufficiently robust and adequately fixed to support accidental loads from building users. Some partitions will require to withstand the effects of wind loading arising from dominant openings.</p> <p>Evidence will comprise structural calculations and/or test certification carried out in accordance with an appropriate national or European technical standard.</p>
P6C	<p>Protective Barriers</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the ability of any pedestrian or vehicle barriers within the building to withstand design loads.</p>	<p>Standards 4.4 and 4.12 require the provision of protection for pedestrians and vehicles respectively to changes in level within the building. Protection may take various forms including walls, partitions, fixed glazing handrails or parapets. The Guidance contained within the Technical Handbooks accompanying the Building Standards recommends that these should be designed to withstand loads calculated in accordance with BS 6399: Part 1.</p> <p>Evidence will comprise structural calculations and/or test certification carried out in accordance with an appropriate national or European technical standard.</p>

7. **Specification.** Section 11 of the Act deals with the certification of design. Sub-section (2) states "Design" includes the specification of the material to be used. Regulation 8 sets the standard against which an adequate specification of material performance may be judged.

Key Factors Materials fittings and components that are important to the structural performance of the building must be manufactured and have their performance tested in accordance with acceptable national or European standards. Testing must be carried out by suitably accredited testing organisations. Components and materials must be durable under the exposure conditions that they will encounter and when their performance depends on regular maintenance, inspection or replacement they must be sufficiently accessible for this work to be carried out.

	Sub-Classifications and auditor action	Background and Evidence
P7A	<p>Structural Materials</p> <p>Auditors must satisfy themselves that the certifier has examined the drawings and specification to ensure that properties specified for structural materials are sufficient to deliver the performance assumed within the structural calculations.</p>	<p>Subsection 11(2) of the 2003 Act makes clear that the certification of design covers the specification of the materials to be used. This may take the form of notes on the warrant application drawings but on larger projects may be a separate document which may not be included with the application. The certifiers must satisfy themselves that design assumptions concerning the strength and durability of structural materials have been properly recorded within the specification for the project. (A definition of durability is provided in the Technical handbook accompanying the Building Standards)</p> <p>Evidence will be material specification notes on the warrant application drawings or, if these are insufficient, a separate specification document retained within the project file and confirmation that this has been reviewed by the certifier.</p>
P7B	<p>Structural Components</p> <p>Auditors must satisfy themselves that manufactured structural components have been selected on the basis of appropriate national or European performance standards.</p>	<p>The performance of a structure will frequently be dependant on the performance of a wide range of manufactured components and assemblies. These can range from small individual components to major assemblies. The selection of these items will often be on the basis of test information presented by the manufacturer. It is important for certifiers to assure themselves that these tests have been carried out in accordance with standards which address the matters covered by the appropriate building regulations, that the manufacture and fitting of the items is to a controlled standard and the testing has been undertaken by an accredited test facility.</p> <p>Evidence will comprise structural calculations and/or test certification which meets the criteria described within subsection 0.8.4 of the Technical Handbook accompanying the Scottish Building Standards.</p>
P7C	<p>Structural Fixings</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the strength and durability of the fixing system and that fixings have been specified in accordance with the limitations on the test certification. This criterion excludes fixings for the building envelope, for these fixings see P5B.</p>	<p>Fixings must provide adequate anchorage and be durable. (A definition of durability is provided in the Technical handbook accompanying the Building Standards) Regulation 8 requires that such components should be reasonably accessible for maintenance or inspection. Where there performance depends on site testing this must be drawn to the attention of the person responsible for submitting the completion certificate.</p> <p>Evidence will comprise structural calculations and/or test certification which meets the criteria described within subsection 0.8.4 of the Technical Handbook accompanying the Scottish Building Standards.</p>

8. Structural Fire Protection Standard 2.3 sets out the standard required by the Regulations for the structural performance of the building in a fire. This is outwith the scope of the SER certification scheme. The guidance in relation to standard 1.1 given within the Technical Handbook accompanying the Scottish Building Standards states however that *“Consideration should be given to guidance in other sections that can influence the structural design of a building ; section 2, Fire is of particular importance*

Key Factors Required level of fire resistance and how this is achieved. Whether an “engineered” approach to design has been adopted. Requirements for non-combustibility. Special requirements for portal framed buildings in boundary condition.

	Sub-Classifications and auditor action	Background and Evidence
P8A	<p>Elements Of Structure (As defined by Regulation 2)</p> <p>Auditors should check that the certifiers has made adequate enquiry regarding the provisions, including fire protection, specified to ensure adequate performance of the structure in a fire.</p>	<p>Though the structural designer is best placed to understand how the structure will behave in a fire the structural engineer is frequently not involved in calculating the required level of fire resistance or specifying the fire protection to be provided. Certifiers though not required to certify that the design of the structure complies with the structural fire standard 2.3 should satisfy him/herself that there has been sufficient communication between members of the design team to deliver an adequate level and scope of fire protection to the structure.</p> <p>Evidence of communication between the structural designer and the specifier of the structural fire protection system regarding the fire resistance and protection of the structure.</p>
P8B	<p>Single Storey Steel Portal Framed Buildings</p> <p>Auditors should check that the certifier has made adequate enquiry regarding the ability of the structure to support the external wall and provide the fire separation required by the regulations.</p>	<p>Single storey buildings do not generally require fire protection however an important exception to this is the case of an external wall which must retain its stability to prevent the spread of fire to an adjacent building (referred to as a boundary condition). It is generally accepted that, in this case, rafters may be left unprotected provided the stanchion base has been designed to resist overturning moments arising from the collapse of unprotected parts of the building.</p> <p>Evidence will comprise design calculations and detailing in accordance with the Steel Construction Institute Publication; Single Storey Steel Framed Buildings in Fire Boundary Conditions</p>

Scheme for the Certification of Design (Building Structures)

Audit Rules

Appendix D has now been withdrawn.

APPENDIX E

MAJOR NON-CONFORMANCES

SER has classified the following non-conformances as Major Non-Conformances (For definitions of these terms refer to section 8.1 of the audit procedures)

1.0 Projects Audit

Ref.	Sub-Classification Description	Major Non Conformance
P1A	Scope of Certification	Omission of a significant structural component from the certification process.
P1D	Programming of Work	Design certificates signed before design has been completed.
P1E	Contractor Designed Details	Absence of performance specification on the warrant plans.
P2A	Loading assessment	a. Incorrect loading parameters used or, b. Insufficient check of loading calculations has been undertaken or, c. Serious inconsistencies in loading between different designers.
P2B	Overall Stability	a. No evidence of a Stability Check having been undertaken (Includes Stability check on existing structure to be altered) or, b. Inadequate bracing.
P2C	Disproportionate Collapse	Failure to undertake a risk appraisal concerning the need to take account of this aspect of the design.
P2D	Conversions	Failure to consider the requirements of regulation 12.
P2E	Structural Movement Joints	Failure to consider the need to provide adequate structural movement joints.
P3A	Ground Investigation Report	a. No site investigation undertaken or b. Insufficient check of findings / recommendations.
P3B	Existing Building Condition assessment	No condition assessment undertaken.
P4A	Mineral Consolidation	a. Failure to adequately investigate the risks to the structure from mineral workings or b. Failure to introduce mineral consolidation measures to a site where a significant settlement risk to the building has been identified.
P4B	Sub-structure excluding piling	Absence of suitably checked structural calculations which correctly apply design loads and permissible ground bearing pressures.
P4C	Piling	Certifier has relied on inadequate certification from a specialist piling contractor without making appropriate enquiries regarding the piling design.
P4D	Earth retaining structures	Absence of suitably checked structural calculations.
P4F	Superstructure	Absence of suitably checked structural calculations.
P5A	Cladding System	Absence of suitably checked structural calculations or test certification.

Ref.	Sub-Classification Description	Major Non Conformance
P5B	Fixings	<ul style="list-style-type: none"> a. Fixings specified on the basis of inadequate or inappropriate test certification or b. Fixings specified for a situation inappropriate to the conditions of the test.
P6A	Ties and Connections	Inadequate detailing of ties and /or connections on the warrant plans.
P6C	Protective Barriers	Absence of suitably checked structural calculations or test certification.
P7A	Structural Materials	Omission of a check of the specification from the certification process.
P7B	Structural Components	<ul style="list-style-type: none"> a. Components specified on the basis of inadequate or inappropriate test certification or b. Components specified for a situation inappropriate to the conditions of the test.
P7C	Structural fixings	<ul style="list-style-type: none"> a. Fixings specified on the basis of inadequate or inappropriate test certification or b. Fixings specified for a situation inappropriate to the conditions of the test.

2.0 Approved Body Audit

Ref.	Sub-Classification Description	Major Non Conformance
AB1B	Checking Procedures	<ul style="list-style-type: none"> a. Absence of a structured approach to checking designs or b. Failure to implement checking procedures described in application for membership of the scheme or c. Absence of certification to substantiate formal QA system described in application for membership of the scheme.
AB1C	Access to Information	No readily available access to technical information necessary to undertake the scope of work being certified.
AB1D	Training	Complete absence of a recognised Training Programme.
AB1E	Insurance	No evidence of PI insurance available at audit.
AB1F	Employment	Absence of evidence that an Approved Certifier, when certifying projects, was employed by the Approved Body.
AB2B	Management of Risk	No evidence that AB is actively managing contractual risks.

3.0 Approved Certifier Audit

Ref.	Sub-Classification Description	Major Non Conformance
AC1A	Scope Of Certification	Failure of Certifier to understand the full scope of certification responsibilities.
AC1B	Operating within limits of declared competence	Project certified well outwith the scope of competence declared in the application.

APPENDIX F IMPROVEMENT ISSUES

SER has classified the following non-conformances as Improvement Issues (For definitions of these terms refer to section 8.1 of the audit manual)

1.0 Projects Audit

Ref.	Sub-Classification Description	Improvement Issue
P1A	Scope of Certification	No organised approach to identifying scope of structural work appropriate to the scale of the project.
P1B	Certification Plan	Absence of certification plan or plan inadequate in relation to scale of the project.
P1C	Project Records	<ul style="list-style-type: none"> a. Insufficient or poorly presented records or b. Incorrect use of options for certification.
P1E	Contractor Designed Details	Performance specification is insufficient to fully describe the requirements for the detail.
P2A	Loading assessment	Misinterpretation of loading code requirements.
P2C	Disproportionate Collapse	Failure to correctly apply the risk assessment methodology used to the project.
P2D	Conversions	Superficial or inadequate consideration of the need to apply the requirements of regulation 12 to the project.
P3A	Ground Investigation Report	<ul style="list-style-type: none"> a. Deficiencies in the scope of the ground investigation in relation to the design of the foundation. b. Deficiencies in the application of the SI report recommendations to some aspect of the foundation design solution.
P3B	Existing Building Condition assessment	<ul style="list-style-type: none"> a. Deficiencies in the scope of the report or the methodology used b. Deficiencies in the application of the report recommendations to the design of the alteration works.
P4B	Sub-structure excluding piling	Deficiencies in the building warrant plans / plans do not properly reflect the calculations.
P4C	Piling	<ul style="list-style-type: none"> a. Certifier has failed to make adequate enquiry regarding the design of the piling system and/or the experience of the engineers undertaking the design. b. Client not advised on the requirement for site testing. c. Where contractor designed detail option has been used there are deficiencies in the performance specification.
P4D	Earth retaining structures	Deficiencies in the building warrant plans / plans do not properly reflect the calculations.

Ref.	Sub-Classification Description	Improvement Issue
P4E	Ground Improvement	<ul style="list-style-type: none"> a. Certifier has failed to make adequate enquiry regarding the design of the ground improvement system and/or the experience of the engineers undertaking the design. b. Certifier has failed to advise the client on the requirement for site testing. c. Where contractor designed detail option has been used there are deficiencies in the performance specification.
P4F	Superstructure	<ul style="list-style-type: none"> a. Deficiencies in the building warrant plans and/or plans do not properly reflect the calculations. b. Absence of design calculations or test certification to justify the design of a minor element or detail.
P5A	Cladding System	<p>Deficiencies in the building warrant plans and/or plans do not adequately detail how the structure cladding system will be constructed.</p> <p>If the structural cladding system is included on a Schedule 1 then the warrant plans must specify the appropriate wind loading for the cladding design.</p>
P5B	Fixings	<ul style="list-style-type: none"> a. Certifier has failed to make adequate enquiry regarding the durability of the fixings. b. Certifier has failed to advise the client on the requirement for site testing. c. Where contractor designed detail option has been used there are deficiencies in the performance specification.
P5C	Movement joints	Absence of detailing of movement joints on the warrant plans.
P6B	Internal (non-loadbearing)Partitions	Certifier has failed to make adequate enquiry regarding the ability of non-load bearing partitions to support accidental loading from building users or internal wind loading.
P6C	Protective Barriers	Deficiencies in the building warrant plans / plans do not adequately detail how the barrier system is to be constructed.
P7A	Structural Materials	Materials and/or components have not been adequately specified in the documents submitted with the building warrant application.
P7B	Structural Components	Structural component is incorrectly or inadequately described in the warrant plans.
P7C	Structural fixings	Structural component is incorrectly or inadequately described in the warrant plans.
P8A	Elements of structure	Certifier has failed to make adequate enquiry regarding the measures proposed to satisfy the structural fire resistance requirements of the regulations.
P8B	Single Storey Portal Framed Buildings	Certifier has failed to make adequate enquiry regarding the stability of the portal frame in a boundary condition.

2.0 Approved Body Audit

Ref.	Sub-Classification Description	Improvement Issue
AB1A	Appointment of Certification Co-ordinator	Deficiencies in the Certification Coordinators ability to monitor and report the implementation of the scheme requirements.
AB1B	Checking Procedures	Deficiencies in documented checking procedures in relation to the nature of the work being certified.
ABID	Training	Deficiencies of investment in training at the level declared by the Body in its application.
AB2A	Protection of Certifiers from financial loss	Absence of evidence that the Approved Body is adopting a responsible approach to protecting their employed certifiers against personal claims arising out of the certification of projects.
AB2B	Management of Risk	Absence of evidence that the Approved Body is taking a responsible approach to managing risk.

3.0 Approved Certifier Audit

No improvement issues have been designated.

QUICK CHECK LIST OF NON-CONFORMANCE CLASSIFICATIONS
(To be read in conjunction with Appendices E and F)

SER Scotland Audits-Quick check list of non conformance classifications.							
<u>Certifier</u>				<u>Body</u>			
<u>Audits</u>				<u>Audits</u>			
<u>Non-Conf.</u>	<u>Description</u>	<u>Major N/C</u>	<u>Imp/Issue</u>	<u>Non-Conf.</u>	<u>Description</u>	<u>Major N/C</u>	<u>Imp/Issue</u>
AC1A	Understanding	✓	✘	AB1A	Cert. co-ord.	✘	✓
AC1B	Competence	✓	✘	AB1B	Quality/check	✓	✓
P1A	Scope	✓	✓	AB1C	Access/info.	✓	✘
P1B	Cert. Plan	✘	✓	AB1D	Training	✓	✓
P1C	Project records	✘	✓	AB1E	Insurance	✓	✘
P1D	Programming	✓	✘	AB1F	Employment	✓	✘
P1E	Contractor des.	✓	✓	AB2A	Prot from loss	✘	✓
P2A	Loading Ass.	✓	✓	AB2B	Manage risk	✓	✓
P2B	Stability	✓	✘				
P2C	Dis.collapse	✓	✓				
P2D	Conversions	✓	✓				
P2E	Structural Movement Joints	✓	✘				
P3A	Grd investigation	✓	✓				
P3B	Extg. Blg. Ass.	✓	✓				
P4A	Min. consol.	✓	✘				
P4B	Sub-struct.	✓	✓				
P4C	Piling	✓	✓				
P4D	Earth ret.	✓	✓				
P4E	Grd improve.	✘	✓				
P4F	Superstructure	✓	✓				
P5A	Cladding sys.	✓	✓				
P5B	Fixing/support	✓	✓				
P5C	Move. Joints	✘	✓				
P6A	Ties/conns.	✓	✘				
P6B	Int. partitions	✘	✓				
P6C	Prot. Barriers	✓	✓				
P7A	Spec matl's	✓	✓				
P7B	Spec. comp's	✓	✓				
P7C	Spec. fixings	✓	✓				
P8A	Fire-elements	✘	✓				
P8B	Fire portal frame	✘	✓				

APPENDIX H

AUDIT FORMS

The following forms should be used to record the findings of the audit and can be downloaded from the SER website:

- 1. Project Audit Checklist (to be completed for each project audited)**
- 2. Approved Body Audit Checklist (to be completed for each body audited)**
- 3. Approved Certifier Audit Checklist (to be completed for each certifier audited)**
- 4. Approved Body Audit Report**
- 5. Approved Certifier Audit Report**