IECEx OD 032

Edition 3.0 2018-10

# IECEx
# Operational Document

**IEC System for Certification to Standards relating to Equipment for use in Explosive Atmospheres (IECEx System)**

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**Guidelines and Information for IECEx Assessments**

IECEx OD 024:2018 (E)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

## Document History

| Date | |
|---|---|
| 2008 02 | Original Issue (Version 1) |
| 2009 01 | Edition 2.1<br>Issued to take into account editorial formatting changes only. No technical changes. |
| 2018 04 | Edition 2.2<br>Updates of the Secretariat contact details, references to ISO/IEC 1700 series and other editorial corrections |
| 2018 10 | Edition 3.0<br>Updated scope, title and references |

# Guidelines and Information for IECEx Assessments

CONTENTS

# 1 Scope

This document provides guidelines and information to IECEx Assessors doing assessments of bodies seeking to obtain or continue acceptance as an ExCB or ExTL in the IECEx Certified Equipment Scheme, ExCB in the IECEx Certified Service Facilities Scheme, ExCB in the IECEx Certified Conformity Mark Licensing System or ExCB in the IECEx Scheme for Certification of Personnel.

The information here summarises or augments the requirements in IECEx OD 003-2 Part 2. It is intended to provide assistance to assessors and help achieve consistency in the assessment process.

NOTE: Any suggestions for updates should be directed to the IECEx Secretariat.

# 2 References

a) IECEx 02 IECEx Scheme rules of procedure
b) IECEx OD 003-2 IECEx Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
c) ISO/IEC 80079-34 Quality System requirements for manufacturers
d) IECEx OD 009 Issuing of CoCs, ExTRs and QARs
e) IECEx Document OD 025 Management of assessment and surveillance programs for manufacturers
f) IECEx OD 203 IECEx Proficiency Testing Program
g) F-003 IECEx Assessment Report Form
h) F-004 Site assessment report form
i) ISO/IEC 17065 Requirements for Certification Bodies operating Product certification
j) IECEx OD 17 Drawing and documentation guidance
k) ISO/IEC 17025 Requirements for Testing Laboratories
l) IECEx Technical Capability Documents (TCDs)
m) ExTAG decision sheets (DSs)
n) ISO/IEC 17024 Conformity assessment — General requirements for bodies operating certification of persons

# 3 Preparing for Assessments

## 3.1 Defining the Assessment Team

The initial steps in the assessment process are essentially as shown below.

The process begins with:

- An initial application;
- An application for a scope change that will require an on-site visit; or
- Identification of the need for a surveillance visit or re-assessment.

For initial applications, the IECEx Secretary carries out a review of the application and may require further actions of the applicant.

At this stage, the applicant may agree to a pre-assessment visit with one assessor prior to an initial assessment by a team. The reports from the pre-assessment visit are treated as confidential between the assessor and the body, but the knowledge gained can be used by the body to help plan for the initial assessment.

When the application review has been successfully completed, the IECEx Secretary will identify a lead assessor and expert assessor(s). He may also consult with the Convenor of

IECEx Assessment Group. In some cases, a member of the team may be designated as an 'off-site' assessor.

Once the availability of the assessment team has been established, the IECEx Secretary will seek agreement from the body to be assessed.

### 3.2 Establishing Dates and Costs

The following actions are carried out prior to the assessment:

- Dates are agreed with the body to be assessed.
- The assessors investigate travel options and potential costs.
- The Lead Assessor puts together a consolidated cost estimate and where necessary consults with the Secretary in its preparation.
- The estimate is provided to both the body to be assessed and the IECEx Secretary for agreement. Although there may need to be some later change (for example in travel costs), a formal acceptance from the body to be assessed is required. A typical cost estimate is shown in Annex A.
- Travel arrangements are finalised.
- Travel plans should not be finalised until the Lead Assessor has received agreement from the body on the cost estimate.

### 3.3 The Assessment Plan

Generally in parallel with the actions in 3.2 above an assessment plan is prepared by the Team Leader. This involves:

- Clarifying the scope of standards to be covered by the assessment as this may impact on the length of the on-site visit
- Consultation with fellow assessors to determine the allocation of duties
- Preparation of the plan to provide an indication of the actions to be taken each day and who will be responsible

A typical plan will include:

- The Lead Assessor's understanding of the scope and any proposed changes or extensions
- An opening meeting
- A brief tour of the facilities
- Allocation of work to the assessment team for the period
- A closing meeting where the findings of the assessment, including draft reports, will be presented
- A list of any tests that the team want to witness
- Clarification of any documentation to be completed by the body prior to the assessment as shown in 3.4

An example of a plan to be carried out by a team is shown at Annex B. An example of a plan that may be used for a surveillance visit is shown at Annex C.

### 3.4 Prior Reading

For the IECE02 Scheme the following documentation should be obtained from the body prior to major assessment visits (initial assessments or re-assessments):

- TCD including for all the relevant standards listed in scope, a list of the test equipment with photos;
- ISO/IEC 17065 and ISO/IEC 17025 checklists;
- Pre-fill the combined IECEx assessment report, F-003;
- Staff competence matrix;

- List of subcontractors for testing or auditing of manufacturers;
- ISO/IEC 17065 and ISO/IEC 17025 accreditations, when applicable;
- The quality manual; and
- The body's procedures that are specific to the IECEx Scheme.

Some familiarisation with the above may assist the on-site assessment and help assessors better prepare for the assessment.

For the other schemes the information sought will vary from that above, refer to OD 316-X and OD501.

### 3.5 Use of Video or tele-Conferencing

In noting that an assessment of an ExCB or ExTL encompasses both on-site assessment activities as well as off-site assessment of documentation etc, use of video or tele-conferencing facilities can be an effective tool during an assessment, especially when assessing documentation or conducting interviews of key personnel.

However, use of video or teleconferencing cannot be used to prevent at least 1 member of the assessment team from visiting the site of a new applicant ExCB or ExTL. The following sets some guidance when using video or teleconference facilities:

- Dates and timing of video or teleconferencing sessions should always be well planned and coordinated in similar manner to a face to face meeting
- Each event should result in the assessor providing a report of the event to the body and for the assessment records, identifying who participated and the conclusions of the session
- Video or teleconferencing can be most cost effective tool during document reviews and reviews of follow up actions and may help to reduce the level of email communications
- At all times and as part of their overall management of the assessment, it is the IECEx Lead Assessor that shall determine if and how video or teleconferencing shall be used during an IECEx assessment.

## 4 The On-Site Assessment

### 4.1 The Opening Meeting

At the opening meeting it is recommended that the following take place:

- Circulate an attendance form.
- A 'thank-you' to the body visited for their application (where appropriate) and for facilitating the assessment team's visit.
- Introductions of the assessment team and personnel present from the body to be assessed.
- Agreement on the scope to be addressed during the visit.
- Provision for the body to be assessed to describe its operation and any changes that may have taken place from a previous assessment.
- Agreement on the schedule for the period of the assessment. This should take into account availability of the body's staff over the period of the assessment.
- Identification of any information that might be needed during the assessment for the reports, such as accreditation certificates and scopes, and data on certificates and/or test reports issued.
- Clarification of the documentation that will be produced during the assessment. This should include an explanation of the reports that will be produced and whether they will be made public or retained by the Secretariat as supporting evidence. Where reports will be subject to voting, the body should be given a summary or how this will occur and possible time frames (eg the two-month time period for voting).

- It may be helpful to point out that the assessment is seeking objective evidence of compliance with the relevant standards and IECEx requirements, not looking for problems. Further, that it is only a sampling exercise and does not find everything that may need attention.

It is helpful to clarify that IECEx Scheme assessors are bound by confidentiality agreements. If requested you should also agree to sign a confidentiality agreement for the body concerned (at least it shows that they are serious about confidentiality).

For multi-day assessments, it is sometimes useful to have a short opening meeting at the beginning of the subsequent days to look at logistics for that day.

### 4.2 The Facility Tour

This is particularly important where the assessment is of an ExTL. The idea is to give the assessment team an overview of the facilities. Since the assessment is only a sampling process, it may give the opportunity to see some facilities that may not be examined during the detailed auditing.

However, in-depth discussions or investigations should be avoided during this tour as the time taken will reduce the time available for the rest of the assessment. Some bodies are very proud of the range of their activities and will want to show testing other than that directly relevant to Ex. This may be accommodated provided it does not take up too much time, and it may provide insight into how good the organisation as a whole is that the Ex part reports to.

This tour is also an opportunity to take photographs, but permission must first be asked.

### 4.3 Getting Down to Work

#### 4.3.1 Interviewing Staff

After the facility tour, it is time for the team to separate (where there is more than one) to undertake their particular tasks. Generally, this will involve interviewing the relevant staff involved in the area that you are concerned with. Try to target a cross-section of staff, both experienced and newer staff, to get a feeling of the depth of experience, and the effectiveness of training and information dissemination programs.

#### 4.3.2 Focus of the Assessment

It is recommended that a focus of the assessment should be:

- Ensuring that scheme requirements contained in the Rules, operational documents (ODs) and ExTAG decision sheets are being met and are adequately covered by procedures.
- Examining technical aspects of Ex assessment and testing are met. Some accreditation bodies do not consider assessment part of the requirements to be met as an accreditation body and this is a critical area.
- Examining common Ex techniques such as Ex d and Ex i in detail, as these are universally applied and provide a good appreciation of the competence of a body in this field.
- Ensuring the body has the three elements of adequate facilities, appropriate procedures and competent staff. The last two will be the most appropriate for an ExCB.

#### 4.3.3 Some Assessment Techniques

Some useful assessment techniques are shown below.

##### 4.3.3.1 Put People at Ease

Try to find ways to put people at ease. You will learn a lot more that way. For example, if casual dress is normal for the body, then look for an opportunity to look less formal by removing a coat or taking off a tie. But don’t be disrespectful by turning up in casual dress to a body that encourages formal dress. Be aware that dress standards may vary throughout the year or even throughout the week. Depending on your personality, try to strike a lighter note when possible but be careful about any jokes that you may use.

#### 4.3.3.2 Seeking Objective Evidence

You should seek objective evidence of compliance with the ISO/IEC standards and IECEx System requirements. This may be found through questions, examining procedures and looking at actual practice (for example through review of files or examining records). All three should be consistent, and all procedures should be consistent with each other.

One effective approach is to use the ‘show me’ technique. First, ask how they do it, then ask to the see the procedure and finally ask to see an example of how it is done in practice. For example, when examining issues of how confidentiality is ensured, they might say that staff are required to sign confidentiality agreements. Ask to see this in their procedures and then ask them to show you an example of a signed agreement. It is also good to note this in the reports, so it is clear that you have followed the whole process.

#### 4.3.3.3 Following a Trail

Often you may need to follow a long paper trail to finally find the evidence you seek. But be persistent. If you have identified a potential area of non-compliance, you should follow it through until you find the evidence that establishes compliance or that identifies an issue. Sometimes you may need to give them time to seek the evidence and move on to something else. But don’t forget to come back to it. If you find the evidence of compliance, record it in the report or your notes.

#### 4.3.3.4 Types of Questions

Be careful about asking questions that can be answered with a simple ‘yes’ or ‘no’. These are commonly called ‘closed questions’ and will not provide much information. They may even just guess right. Try to use ‘open questions’ that will require them to provide a longer answer and reveal more about their knowledge. Avoid the urge to answer your own questions or to volunteer information about something you want to know their understanding on. Annex D includes some suggestions that have come from an Assessors’ Review Day on ways to go about questioning.

#### 4.3.3.5 Cultural Issues

Try to be sensitive to cultural issues. For example, if you are doing an assessment in a country where the use of surnames is the norm then be careful about using first names. On the other hand, if you think that you will put people at ease by inviting them to use your first name then certainly do it.

#### 4.3.3.6 Examining Records

It is always a good idea to examine records both in the ExCB and ExTL. These will often provide the best evidence of how the body is really operating. For existing bodies in the Scheme, look at examples of CoCs, ExTRs and QARs. For new bodies, try to find examples of similar work.

### 4.4 Witnessing Tests

When assessing ExTLs include witnessing some testing. It is recommended that the following approach be taken.

- The tests to be witnessed should be advised in the assessment plan
- The test artefacts with satisfactory results proved by participating in IECEx proficiency testing programs in last five years may be excluded as witness test artefacts at the discretion of the assessor
- Where possible try to get tests conducted using normal procedures, such as using the usual methods of recording results
- Try to put the operators at ease, as it is a bit scary having an international assessor peering over your shoulder
- This can be a good opportunity to record and check the calibration of the instruments used

### 4.5 Finding Issues

Any issues found during the assessment process must have a basis in Scheme rules, ISO/IEC 17065, 17025 or 17024, or have a technical justification.

If you find issues (non-conformities) that you believe will need addressing, be upfront about it. There should be no surprises at the closing meeting. It is also possible, if they are clear that you are unhappy about something, that they will be able to provide some additional information that will clarify matters immediately.

You should discuss issues you have found as early as possible with your fellow assessors, particularly the lead assessor.

In the unlikely event that major issues have been raised that may prevent the continuation of the assessment, the Lead Assessor must seek an interview with the Senior Management representative of the ExTL or ExCB, under assessment, and may require any one of the following:

- Termination of the assessment
- Convert the Assessment to a “pre-assessment”
- Seek additional information in order to proceed
- For such an event, the IECEx Secretariat should be immediately informed

### 4.6 The Closing Meeting

Over a multi-day assessment, it sometimes helps to have a short closing meeting at the end of the earlier days just to give people an idea of how the assessment is going and how significant any issues are that are being found. This meeting can be quite informal.

On the final day, a formal closing meeting is held. This will be conducted by the Lead assessor and should cover:

- Circulate attendance list (may be same form as used for the opening meeting)
- A thank for ‘enduring’ the assessment and any hospitality provided, such as lunches. It is also a good time to make some positive remarks about the operation.
- An indication of what the recommendation will be from the assessment. Don’t keep them hanging on until the end because this is what they are really waiting to hear.
- A review of the reports and a reminder of what will be open and what confidential. If this review is done using the projector, it is possible to correct any mistakes or take account of feedback during the closing meeting. Make it clear that there will be further opportunities to comment after the closing meeting.
- Detailed advice on the issues found. This should seek acceptance of the issues and can include discussions on how they might be resolved.
- Any observations or comments about the operation. This is an opportunity to leave them with some ideas of how to improve but in circumstances where action is not necessary to provide a recommendation on acceptance.
- For re-assessments or surveillance visits, a commitment to when actions will be taken should be obtained.
- Advice on what comes next and an indication of possible time frames (remember that the voting period once everything is right is two months).
- An opportunity for the other assessors to add their comments.
- Provision of the reports in draft form.
- A final thank you, including one to the rest of the assessment team.

## 5 The Reports

### 5.1 Reports for Voting or Endorsement

The report shown in form F-003 is used to produce reports on the ExCB and ExTL. This form addresses reports for four schemes:

- ExCB for IECEx Certified Equipment Scheme
- ExTL for IECEx Certified Equipment Scheme
- ExCB for IECEx Certified Service Facilities Scheme
- ExCB for IECEx Conformity Mark Licensing System
- Schemes that are not relevant for an assessment can be deleted and the contents updated to reflect the revised content.

It is important that these reports be completed in their entirety for initial assessments and re-assessments. For scope extensions, only the relevant parts will need to be completed. It is recommended that where feasible these be completed in front of those you are interviewing using a projector or 'beamer'. This allows them to comment on whether you are getting the information right and contributes to the openness of the process.

When compiling these reports keep in mind that you are trying to convey to the ExMC members what you have found. Try to include sufficient information not only to demonstrate compliance but also to paint a picture of what the operation is like.

At the assessment, these reports will be prepared in draft form and may be subject to a number of changes before being issued. The final reports must be at a stage where all issues have been resolved, and both the assessment team and the body under assessment have agreed to the content. Where issues have been found, there should be enough information to indicate what these were, particularly for re-assessments as an indication of how well the body has been operating. There should also be a clear indication that the issues have been resolved but the detail may be shown in the confidential reports.

Once the reports are finalised, they are sent to the IECEx Secretary for final review before being sent out for voting (initial assessment or scope change) or endorsement (re-assessment without major scope change).

### 5.2 Site Assessment Reports and other Confidential Information

Typically the following information may also be completed as part of an assessment process:

- A site assessment report (F-004 - formerly IECEx OD 006), which includes records of issues found and how they have been resolved
- Technical Capability Documents (TCDs)
- Checklist for ISO/IEC 17065 (IECEx OD 107)
- Checklist for ISO/IEC 17025 (IECEx OD 018)
- Checklist for ISO/IEC 17024 (IECEx OD 507)
- Documented records of tests witnessed
- Photos of the facility and tests witnessed when not included in the TCD
- Assessors' notes

Generally the above will form part of the confidential supporting information.

For a surveillance visit, only the site assessment report with the supporting information is required, provided no scope extension has been sought. The final report is retained by the IECEx Secretariat.

#### 5.2.1 Site Assessment Report

Only one site assessment report is required even if both an ExCB and ExTL is being assessed. This document can provide a convenient way to index all the supporting documentation. The site assessment report contains references to theTCDs and also has provision to include annexes that be used to include all the other documentation. It is suggested that as a minimum the site assessment report and the Annexes A (ExCB Issues and Subsequent Responses/Actions) and B (ExTL Issues and Subsequent Responses/Actions) be completed by the end of the assessment. Other annexes may be added later.

#### 5.2.2 Technical Capability Documents

It is difficult to find time to complete the TCDs at the on-site assessment, and so it helps to get the body under assessment to complete as much as possible beforehand. Then any assessor's notes can be added while on site. The format of the TCD for the equipment scheme is in three parts. The first examines the knowledge and competency of the staff. The second contains provision to list any relevant procedures or work instructions. The third identifies the relevant tests and the equipment that is held by the ExTL being assessed. Both the last two parts can be completed beforehand.

#### 5.2.3 Mid-term assessments

For a mid-term assessment, the following forms should be used, and the site assessment report will not be necessary:

- OD 204 - Mid-term Assessment Report Form according to Section 3 of IECEx Operational Document OD 003-2
- OD 205 - IECEx Checklist for the Review of IECEx CoCs, ExTRs, QARs

#### 5.2.4 Records of Issues Found

Annex A for the ExCB be used to record the issues found as shown in F-004. It is preferable that these be recorded at the assessment and discussed at the closing meeting. The second and third columns are generally completed after the assessment. The second and third columns may have more than one entry against an issue if it takes more than one attempt by the body to resolve it.

A similar approach to the above will be used for Annex B for the ExTL.

#### 5.2.5 Checklist for ISO/IEC 17065

It helps to have the second column of the checklist for ISO/IEC 17065 completed beforehand by the body under assessment. This then gives a quick lead into the relevant manuals or procedures to establish compliance with the standard. A significant number of the requirements of 17065 will already have been addressed if the ExCB report has been completed beforehand. If a body holds accreditation as a certifying body, not all clauses need to be addressed. However, in some cases, the clauses should be related to the IECEx Scheme where there are requirements in the Rules.

#### 5.2.6 Checklist for ISO/IEC 17025

For the checklist for ISO/IEC 17025, a similar approach can be taken as for the checklist for ISO/IEC 17065.

#### 5.2.7 Checklist for ISO/IEC 17024

For the checklist for ISO/IEC 17024, a similar approach can be taken as for the checklist for ISO/IEC 17065.

#### 5.2.8 Records of Tests Witnessed

There is provision in F-003 to include a list for all the tests that have been witnessed. It recommended that additional information, including photos, be included in the TCD.

#### 5.2.9 Photos of the facility and tests witnessed

For new ExTL applications, it is recommended that photos of the test facilities be recorded. In all cases, it is useful to take photographs of any tests witnessed to provide a record of what has been seen. These photos will normally be included in the TCD. Always seek permission at the start of the assessment visit to take photos and comply with any conditions provided.

#### 5.2.10 Assessors’ notes

It is recommended that any other assessors’ notes be attached as annexes to site assessment report.

# 6 After the On-site Visit

## 6.1 Resolving Issues

Generally, issues can be resolved by correspondence. However, occasionally if a significant range of issues is found, a follow-up visit may be necessary either by the team or a member of the team. In such a case the follow-up on-site visit will take a similar approach to the first visit.

When resolving issues by correspondence, the first step will normally be receipt of information on actions taken by the body together with any supporting information. It can be useful to get them to complete the second column of Annexes A and B of the site report when submitting actions. These actions should reference the supporting information, including where relevant the particular parts of documents.

Generally, the lead assessor will review the actions. This can be done using column three of the annexes. This review should then be agreed with the rest of the assessment team. It can then be sent back to the body for comment. The reports may also go through revision at this time.

Depending on how well the actions are done, there may be a need to do this process more than once.

## 6.2 Finalising Reports

Once all issues have been resolved, it should be possible to finalise the reports. Again it is recommended that the final reports be agreed with the team before sending to the body for their agreement.

When agreement has been received from the body, the reports can be sent to the IECEx Secretariat for review. This may involve some changes to the reports that depending on their nature may require further agreement from the assessment team and the body under assessment.

When the review is complete, the reports will be subject to the next part of the process that may be voting or endorsement by the ExMC members.

At this stage, the involvement of the team members is generally complete, unless there is a need to answer any questions that coming up during the voting or endorsement process.

# Annex A
# Example of a Cost Estimate

| | | | | | | |
|---|---|---|---|---|---|---|
| Cost Estimates for Assessment of <body> | | | | | | |
| | | | | | | |
| Costs | Lead Assessor | | Assessor 1 | | Assessor 2 | |
| Rate in CHF | | 1500 | | 1250 | | 1250 |
| Assessment preparation, co-ordination, reporting, post assessment activities (days) | 3 | 4500 | 2 | 2500 | 2 | 2500 |
| Travel time (days) | 1 | 1500 | 1 | 1250 | 1 | 1250 |
| On-site assessment (days) | 3 | 4500 | 3 | 3750 | 3 | 3750 |
| Travel costs (airfare, and ground costs) | | 1850 | | 650 | | 600 |
| Totals | | 12,350 | | 8150 | | 8100 |
| Total Cost Estimate, CHF | 28,600 | | | | | |
| | | | | | | |
| Notes: | | | | | | |
| 1. Accommodation, meals and other living away from home costs are to be covered by the body under assessment and are not covered in above figure. | | | | | | |
| 2. Estimates of time are based on a successful assessment with a small number of issues requiring resolution. Where a significant number of issues are found, it may be necessary to charge for the additional time taken by the assessors to resolve those issues. | | | | | | |
| 3. More accurate travel costs are available at the time of booking. Flights are economy and subject to strict change rules. | | | | | | |
| 4. Payment for the assessment will be made to the assessor(s) by the IECEx Scheme which will in turn invoice the body being assessed. This is expected to occur at the end of the assessment visit. | | | | | | |

## Annex B
## Example of an Assessment Plan

**IECEx Scheme, Application for ExCB and EXTL**
**Draft Assessment Plan for On-Site visit of <Body> - <date>**

**Composition of Assessment Team:**

| | |
|---|---|
| Team Leader **Lead Assessor (LA)** | **On-Site** |
| Expert Assessor **Expert Assessor 1 (EA1)** | **On-Site** |
| Expert Assessor **Expert Assessor 2 (EA2)** | **On-Site** |

| **Day:** | **Activity:** | **LA** | **EA1** | **EA2** |
|---|---|---|---|---|
| **1 <Day 1 – date>** | Introduction meeting with management | **X** | **X** | **X** |
| | Facility tour (mainly laboratories) | **X** | **X** | **X** |
| | Confirmation of scope of standards of ExCB and ExTL and review of accreditations | **X** | **X** | **X** |
| | Review of ExCB compliance with ISO/IEC 17065 and IECEx 02(following ExCB assessment report form) | | **X** | |
| | Procedures for issuing certificates, ExTRs and QARs (OD 009/V1) | | **X** | |
| | Review of ExTL compliance with ISO/IEC 17025 and IECEx 02 (following ExTL assessment report form) | **X** | | |
| | Review of ExTL compliance according to scope of standards (work instructions incl. TCDs & Decision Sheets (DS), equipment and calibration, competence of Ex testing): | | | |
| | a) Protection techniques (General Requirements and Ex d) | | | **X** |
| | b) Protection techniques (Ex e, n) | **X** | | |
| | Assessment team internal meeting day 1 | **X** | **X** | **X** |
| | Day 1 wrap-up meeting with management (if required) | **X** | **X** | **X** |

| | | | | |
|---|---|---|---|---|
| **2 <Day 2 – date>** | Kick-off meeting 2nd day | **X** | **X** | **X** |
| | Continuation of review of ExCB compliance with ISO/IEC 17065 and IECEx 02(following assessment report form) | | **X** | |
| | Manufacturing assessments covering IECEx OD 025 and IECEx OD 005 Edition 2 | | **X** | |
| | Review of ISO/IEC 17065 Checklist | | **X** | |
| | Continuation of review of ExTL compliance with ISO/IEC 17025 and IECEx 02 (following ExTL assessment report form) | **X** | **X** | |
| | Continuation of review of ExTL compliance according to scope of standards (work instructions incl. TCDs & DS, equipment and calibration, competence of Ex testing): | | | |
| | a) Protection techniques (Ex i and related, p) | | | **X** |

| | | | | |
|---|---|---|---|---|
| | b) Protection techniques (Ex m, q, o and trace heating) | X | | |
| | Review of ISO/IEC 17025 Checklist | X | | |
| | Assessment team internal meeting day 2 | X | X | X |
| | Day 2 wrap-up meeting with management (if required) | X | X | X |

| | | | | |
|---|---|---|---|---|
| **3 <Day 3 – date>** | Kick-off meeting 3rd day | X | X | X |
| | Continuation of review of compliance with ISO/IEC 17025 and IECEx 02 (following ExTL assessment report form) | X | X | |
| | Continuation of review of ExTL compliance according to scope of standards (work instructions incl. TCDs & DS, equipment and calibration, competence of Ex testing): | | X | X |
| | a) Protection techniques (Ex t and other dust techniques) | | | X |
| | b) Protection techniques (Optical radiation) | X | | |
| | Review of ISO/IEC 17025 Checklist | X | X | |
| | Finalization of ISO 17065 review and draft ExCB assessment report | X | X | X |
| | Finalization of ISO/IEC 17025 review and draft ExTL assessment report | X | X | X |
| | Assessment team internal meeting day 3 | X | X | X |
| | Closing meeting with management | X | X | X |

| | | | |
|---|---|---|---|
| **<u>Notes:</u>** | | | |
| 1) Draft Assessment Plan may change during the assessment | | | |
| 2) The following tests shall be demonstrated during the assessment: | | | |
| • Flameproof pressure determination (for any Group) | X | | X |
| • Flame transmission using hydrogen | | | X |
| • Temperature rise, preferably of a luminaire | X | | X |
| • IP54 test to IEC 600529 | X | | X |
| • Use of spark test apparatus, preferably on a power supply | | | X |
| • Tests for temperature rise/determination of the maximum short circuit current on a high capacity battery according to 10.5.3 of IEC 60079-11:Ed5 | | | X |
| • From IEC 60079-28 Optical Radiation: o Measurement of optical power and irradiance o Ignition testing | X | | |

**Proposed Scope**

| Number | Title |
|---|---|
| IEC 60079-0<br>Edition 6.0 | Explosive atmospheres - Part 0: Equipment - General requirements |
| IEC 60079-1<br>Edition 7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures “d” |
| IEC 60079-2<br>Edition 6.0 | Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure «p» |
| IEC 60079-5<br>Edition 4.0 | Explosive atmospheres - Part 5: Equipment protection by powder filling «q» |
| IEC 60079-6<br>Edition 4.0 | Explosive atmospheres - Part 6: Equipment protection by oil immersion «o» |
| IEC 60079-7<br>Edition 5.0 | Explosive atmospheres - Part 7: Equipment protection by increased safety "e" |
| IEC 60079-11<br>Edition 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” |
| IEC 60079-15<br>Edition 4.0 | Explosive atmospheres – Part 15: Equipment protection by type of protection "n" |
| IEC 60079-18<br>Edition 4.0 | Explosive atmospheres – Part 18: Equipment protection by encapsulation “m” |
| IEC 60079-25<br>Edition 2.0 | Explosive atmospheres – Part 25: Intrinsically safe electrical systems |
| IEC 60079-26<br>Edition 3.0 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga |
| IEC 60079-28<br>Edition 2.0 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation |
| IEC/IEEE 60079-30-1<br>Edition 1.0 | Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements |
| IEC 60079-31<br>Edition 2.0 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t" |

## Annex C
## Example of a Surveillance Plan

### ExCB Assessment Plan – <date>

Based on the existing scope, the following will be the assessment plan for the day (based mainly on <body's> operation as an ExCB):

| Action | Assessor Notes (to be completed at assessment) |
|---|---|
| Opening meeting | |
| Review of actions from the last surveillance visit | |
| Review of issued or draft certificates, and associated ExTRs and QARS. | |
| Your adoption of IECEx Guidance Documents<br>Discuss any changes in procedures since last visit.<br>IECEx OD 025 – Assessment and surveillance of manufacturers' quality system | |
| Assessment of selected requirements from ISO/IEC 17065 including:<br>4.3 Operations<br>4.9 Records<br>4.10 Confidentiality<br>9 Preparation for evaluation<br>13 Surveillance<br>15 Complaints to suppliers | |
| Closing meeting | |

<name>
Lead Assessor

# Annex D
# Questioning Techniques

The following are some suggestions that have come from an Assessors' Review Day on ways to go about questioning:

- Introduce yourself first before asking someone questions.
- Personalise questions, for example ask 'what is your procedure'.
- Ask a person what they do – let them tell their story.
- When questioning, avoid creating emotional situations. Keep your own emotions in check – be calm. Try starting with introducing positive comments.
- Try to put people at ease but always be firm.
- Ask a person to carry out a task and look how it is prepared and done. This also gives a chance to look at how test facilities are used.
- Try setting a scenario. For example, ask 'how would you do ……'.
- Ask for explanations about a person's responsibilities. Then lead into procedures and then verify how this occurs.
- A good test of depth of knowledge could be to ask someone how they would go about selecting appropriate items from a range for assessment and test.