

## **Annex ST (normative)**

### **Procedure for the development and maintenance of standards in database format**

#### **ST.1 Introduction**

This Annex of the ISO supplement to the ISO/IEC Directives describes a procedure for the development, maintenance, review and withdrawal of any international standard consisting of “collections of items” managed in a database. Such items may include graphical symbols of all kinds, sets of definitions, sets of dimensions, dictionaries of data element types with associated classification schema and other standards in which collections of objects require maintenance (addition or amendment) on a continual basis. In compliance with the ISO/IEC Directives, the development of a new standard requires a new work item proposal (NP), whereas an NP is not needed for the maintenance of an existing standard.

Supplementary procedural information, requirements or criteria that apply to particular standards database(s) can be described in separate document(s) within the domain of the responsible technical committee or subcommittee. These supplementary documents shall not be in conflict with this generic procedure or with the ISO/IEC Directives.

This procedure supports different types of processes (see ST.2.1). The execution of the maintenance (see ST.2.1b)) and the withdrawal process (see ST.2.1c)) are typically the responsibility of a secretary of a TC or SC. It is, however, also possible that this responsibility is assigned to a maintenance agency in which case the term "TC/SC secretary" relates to the individual or group of individuals in the maintenance agency with a corresponding responsibility for the execution of the two processes. In this case the current procedure may be applied as a reference to organize similar functions by maintenance agencies.

This procedure is not directly applicable to Registration Authorities, however, relevant aspects of the procedure (e.g. ST.2.3) may be adapted for use in similar functions organized by Registration Authorities.

#### **ST.2 Procedure**

##### **ST.2.1 Overview**

The procedure described in this document assumes the use of a web-accessible database and electronic communication. As far as possible, automated database functions shall be applied to ensure that the content of the database is consistent. Due care shall be taken to ensure that the content is correct especially if it is used directly by computer applications.

The procedure supports four main processes:

- a) The process for the development of new standards, which starts with a new work item proposal (NP) and follows the normal stages of the standards development process as defined in the ISO/IEC Directives (including any options for the skipping of certain stages if there is agreement that the item(s) under development are mature enough to be progressed to later stages)
- b) The maintenance process initiated by a change request (CR), which consists of the preliminary activities, followed by either the normal database procedure or the extended database procedure
- c) The withdrawal process initiated by a change request (CR) which consists of the preliminary activities followed by the normal database procedure

d) The systematic review process, which follows the regular procedure for the systematic review.

Figure ST.1 (new development and maintenance process) and ST.2 (withdrawal and systematic review process) provide an overview of the four processes.

There exist maximum time frames for the various process stages (an overview is given in ST.3 for the normal database procedure and in Figure ST.4 for the extended database procedure). For the preliminary activities and for the normal database procedure, a committee may decide to apply time frames which are shorter than the maximum time frames defined in this procedure. However, each member of the Validation Team has the right to request an extension. Any extension up to the maximum time frame shall be granted. As a principle, the TC/SC secretary may close a ballot after votes have been received from all members of the Validation Team. As an exception, TCs/SCs may decide on extensions of the maximum time frames defined in this procedure on a case-by-case basis, depending on the number of items to be processed or their complexity.

### **ST.2.2 Preliminary activities**

This is the initial part of the maintenance or withdrawal process that shall be completed for every Change Request (CR) and consists of the following stages.

#### **ST.2.2.1 Initiation of Change Request**

A Change Request is submitted by a Proposer and then entered by the TC/SC secretary in a web-accessible database.

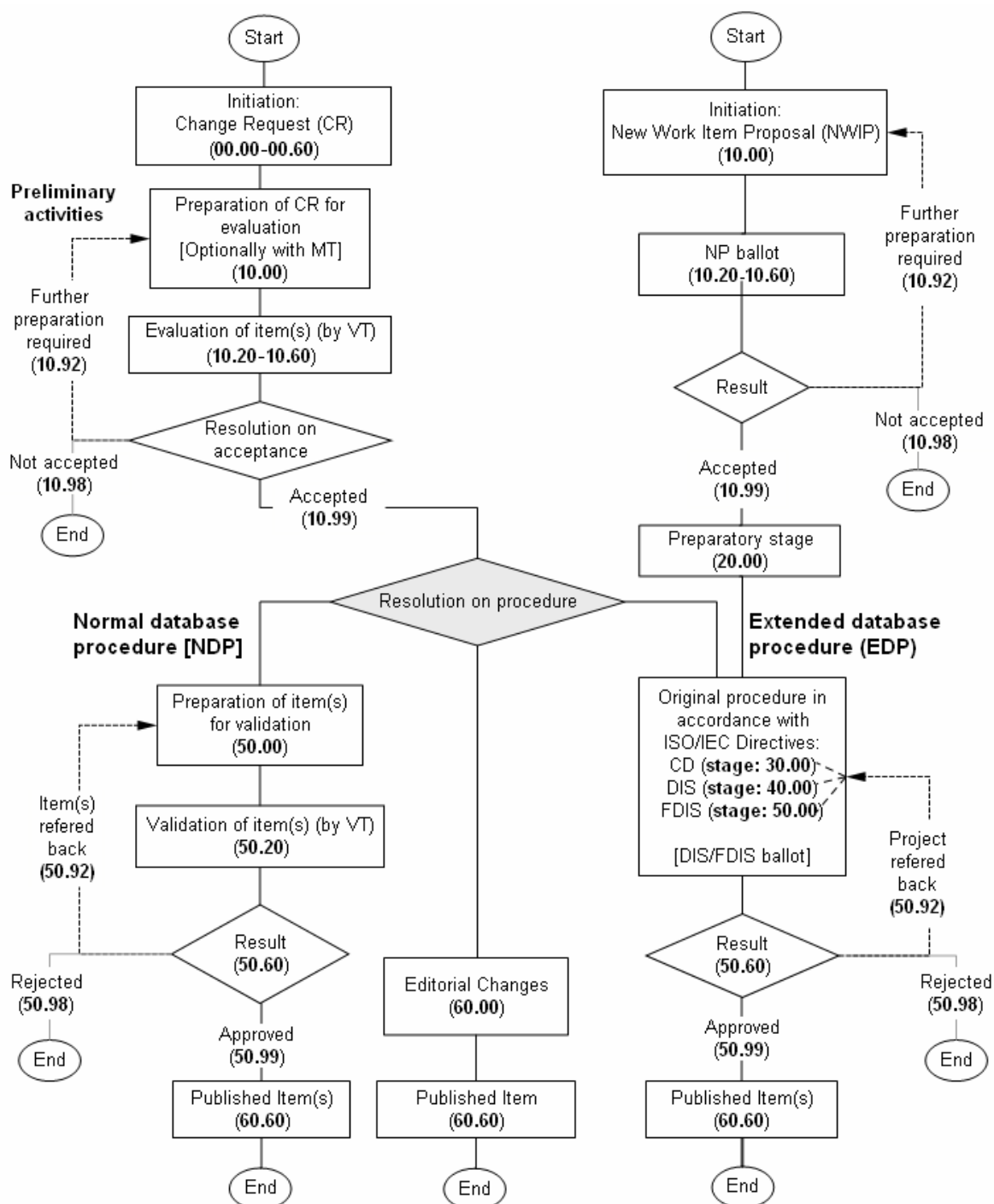
#### **ST.2.2.2 Preparation for evaluation**

Preparation by the secretary of the technical committee or subcommittee (TC/SC) to ensure that all mandatory entries of the Change Request (CR) are appropriately filled-in and that any necessary accompanying items are of a quality sufficient for evaluation.

For pragmatic or other reasons, e.g. close relationship between items or different level of maturity, the secretary may decide to combine items proposed under more than one CR into one work package or to separate items submitted under one CR into several work packages for processing as a unit.

NOTE 1 More detailed rules applicable to a specific standard can be provided by the TC/SC responsible for the standard.

If required, a Maintenance Team may be set up to assist the secretary in the preparation activities.



CR: Change Request  
 VT: Validation Team  
 MT: Maintenance Team  
 NDP: Normal Database Procedure  
 EDP: Extended Database Procedure

NP: New Work Item Proposal  
 CD: Committee Draft  
 DIS: Draft International Standard  
 FDIS: Final Draft International Standard

**Figure ST.1 – Process for the development of new and the maintenance of existing standards**

NOTE 2 The term “Maintenance Team” (MT) refers to a group of experts set up by the TC/SC to carry out the maintenance of an already existing standard.

NOTE 3 The time required for this work should normally not exceed 1 month, but might exceptionally be longer if the original proposal is not mature enough. In such a case the preparation is comparable to “stage 0” work and the time has to be counted from final agreement with the proposer.

NOTE 4 It is expected that the MT will only be established when the preparation activities make up a substantial amount of the total work required. When the standard covers a wide range of technical domains the MT may rely on domain expertise from TCs/SCs for checking and revising the content of the item(s) associated with the Change Request(s).

### **ST.2.2.3 Evaluation of the CR**

Action by the Validation Team to determine whether the Change Request is within the scope of the database standard and valid for further work or should be rejected.

When the quality of the information provided at the preparation stage is satisfactory, the status identifier of the Change Request is changed to *for evaluation* and the Validation Team is informed (with copies to the proposer and possibly other relevant TCs/SCs) and asked by the secretary to make an evaluation and to comment. The evaluation of the Change Request should be completed within 2 months.

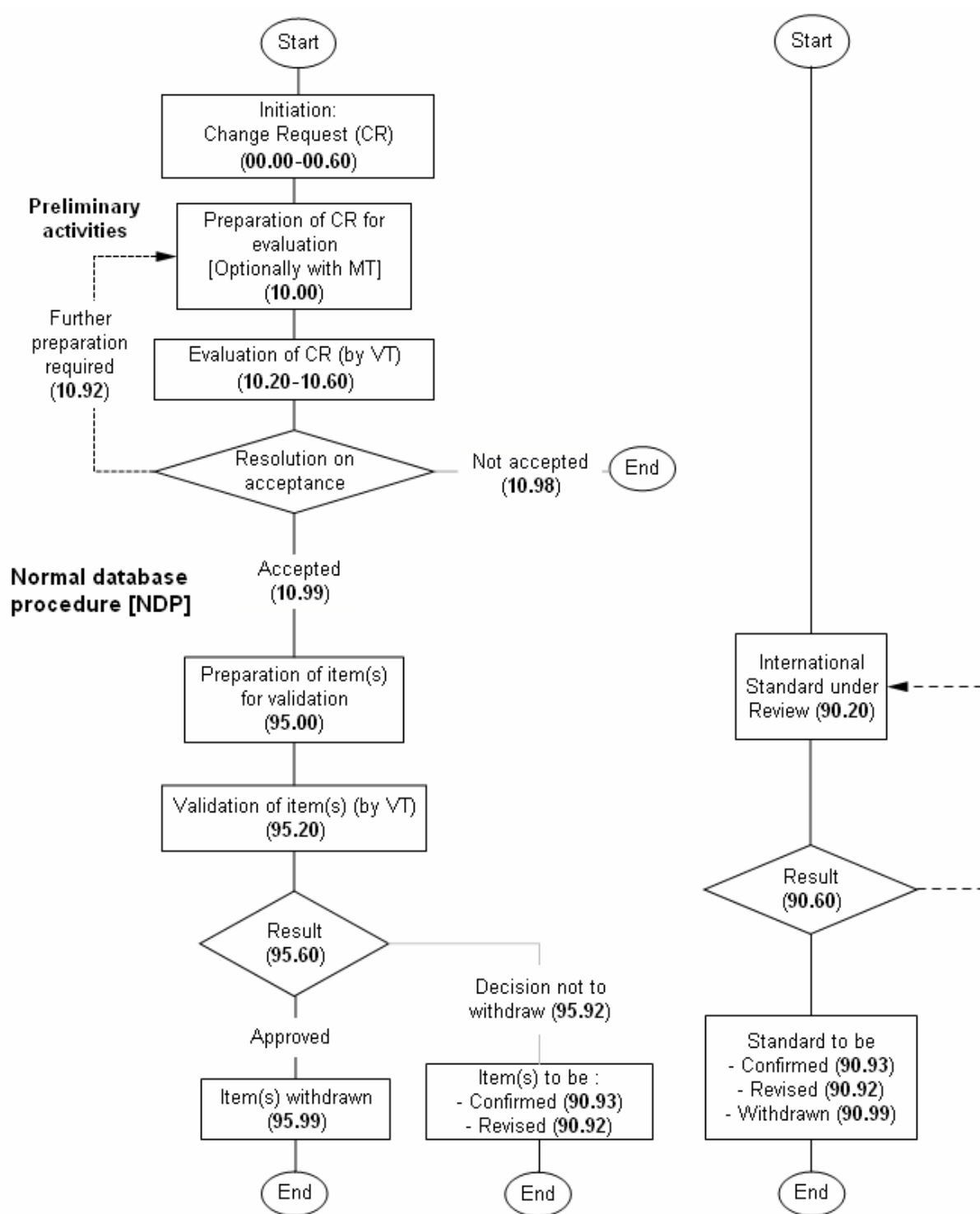
### **ST.2.2.4 Resolution**

Observation by the TC/SC secretary on the comments and general opinions of the members of the Validation Team followed by the conclusion whether the Change Request should be

- continued with the *normal database procedure*; or
- continued with the *extended database procedure*; or
- continued with the *procedure for editorial changes*; or
- improved and *re-evaluated*; or
- *rejected* altogether.

NOTE 1 The entry of a new item in the database is not to be seen as “new work”, but rather as part of the continuous maintenance of the existing collection. Therefore, to arrive at the conclusion, a simple majority of the submitted votes can be used at the evaluation stage, applying to the choice between continuation/rejection as well as to normal/extended database procedure.

NOTE 2 If the original Change Request references many items, and if some of these might be acceptable for continuation with the normal database procedure while others are not, the original CR might be divided into two or more new CRs and processed separately. Such new CRs start at the status level already achieved.



CR: Change request  
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 FDIS: Final draft international standard

**Figure ST.2 – Overview of the processes for the withdrawal and the systematic review of existing standards**

### ST.2.3 The normal database procedure

The normal database procedure is faster than the extended procedure as described in ST.2.4 and relies on the use of the Validation Team acting on behalf of the National Bodies for the final voting on proposals.

The normal database procedure is typically applicable for changes to or for the withdrawal of existing items or for new items within the scope of the database standard or in cases where there is an urgent need for standardization.

NOTE More detailed rules applicable to a specific standard can be provided by the TC/SC responsible for the standard.

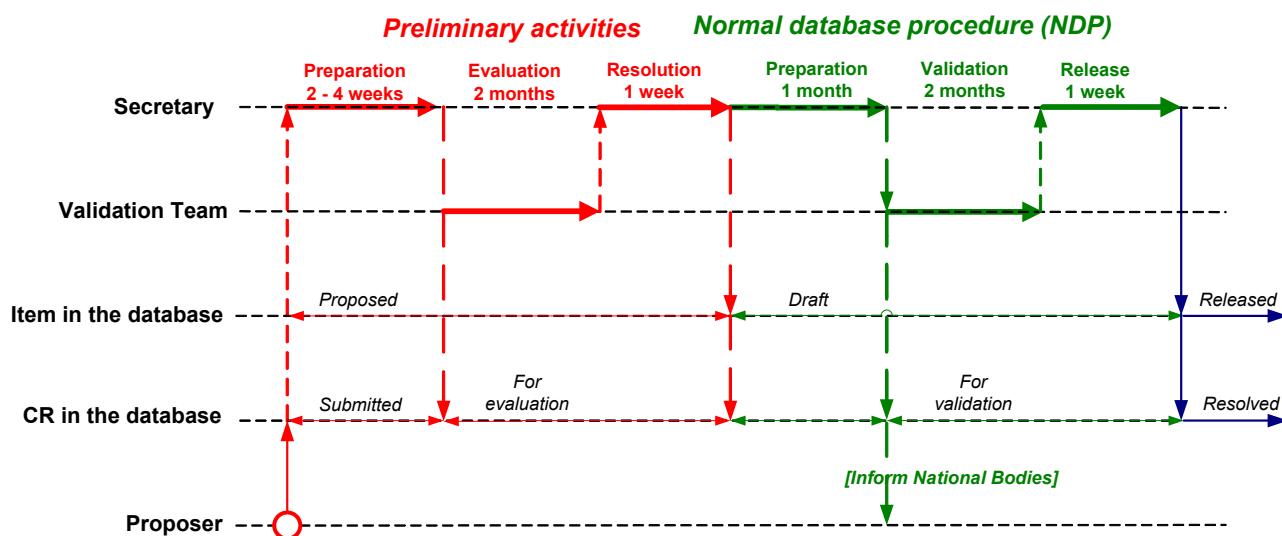


Figure ST.3 shows a process map of this procedure.

**Figure ST.3 – Process map of the normal database procedure including preliminary activities**

#### ST.2.3.1 Preparation for validation

The TC/SC secretary revises the proposal in line with the comments received during the evaluation stage and checks that the item(s) associated with the CR are, after possible changes, sufficiently and properly described, within the scope of the database standard and consistent with already existing items. If required, corrections are made. For this, the secretary might seek assistance from the Maintenance Team or from other internal or external experts. This preparation should be carried out within 1 month.

#### ST.2.3.2 Validation

When the quality of the information is satisfactory, the status identifier of the Change Request is changed to *for validation*, and the Validation Team called to vote by the secretary, with copies to the proposer, the P-members of the TC/SC and possibly other relevant TCs/SCs.

The members of the TC/SC within which the validation is conducted, should have visibility of the item(s) under validation as well as of the final vote result by the Validation Team.

Voting should be completed within 2 months.

If the proposed item(s) are accepted, the status identifier of the item(s) is changed to *released*. If they are not accepted, then the reason(s) are noted and the status identifier of the item(s) is set to *rejected*.

The criteria applied are the same as those for the voting on a normal FDIS. Abstention from voting means that the vote is not counted.

After setting the final status identifiers for the items and noting the reasons, the status identifier of the change request is set to *resolved*, and the procedure is finished (maximum 2 weeks).

With the normal database procedure it is possible for proposals to be approved within approximately 5 months.

#### **ST.2.3.3 Report to the technical committee/subcommittee**

A TC/SC decides on the reporting mechanism it wishes to apply to inform its members on changes resulting from the application of the normal database procedure.

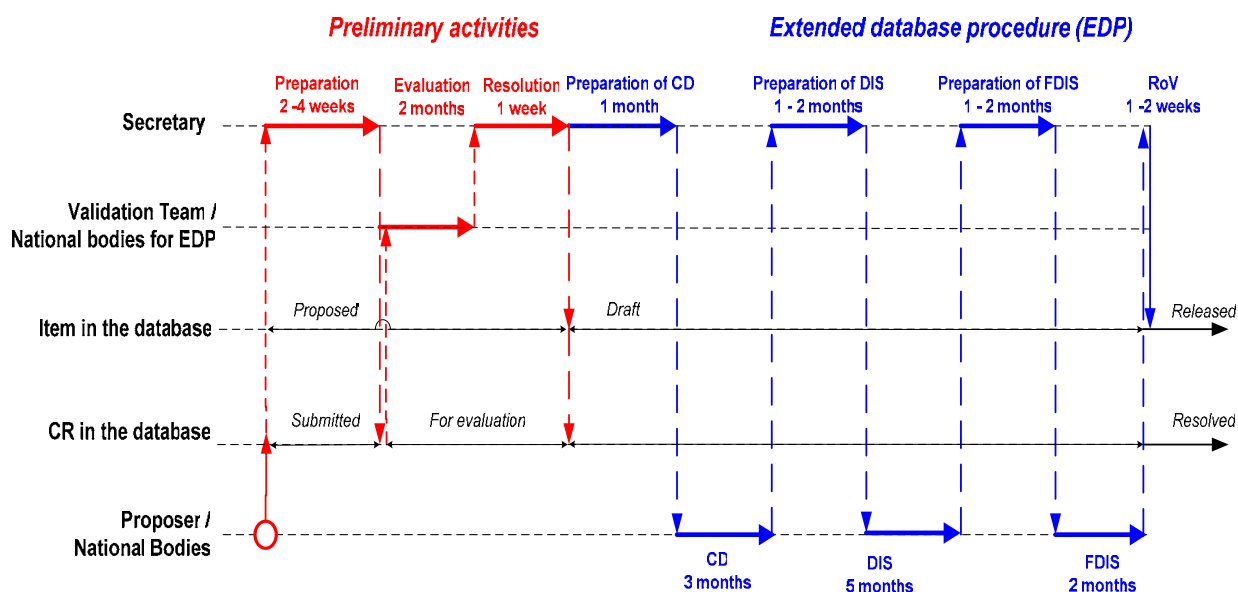
#### **ST.2.4 The extended database procedure**

The extended database procedure respects all stages of the procedure described in the ISO/IEC Directives for the approval of standards as printed documents, the *original procedure* and involves the National Bodies in the traditional way. However, as with the normal database procedure, the information in the database is considered as the original source of information.

The extended database procedure is applied for the development of new standards. It may also be applied for the maintenance of existing standards. However, it is expected that in the majority of maintenance cases, the normal database procedure will be followed and that the extended database procedure will only be required for cases in which the maintenance is complex and involves substantial modifications to a standard.

The extended database procedure is described below including all stages and associated throughput times. It is possible that there could be comments against an item, so that the CD or DIS stage might need to be repeated (as described in the ISO/IEC Directives).

Figure ST.4 shows a "process map" with the different roles indicated along the vertical axis. This diagram highlights the flow, and indicates clearly when the different roles have to be active.



**Figure ST.4 – Process map of the extended database procedure including preliminary activities**

A short description of each of the stages of the extended database procedure is given below:

#### **ST.2.4.1 Preparation of the CD**

In the Preparation (CD) stage, the TC/SC secretary checks that the item(s) are sufficiently and properly described, and that comments received during the evaluation stage have been adequately reflected. In case the extended database procedure is applied for the maintenance of an existing standard, it should be checked that the item(s) are within the scope of the database standard and consistent with items already existing in the database. If required, corrections are made. The secretary might in this work seek assistance from the Maintenance Team or from other internal or external experts. The preparation (CD) stage should be carried out within 1 month.

#### **ST.2.4.2 CD**

When the proposed item(s) are sufficiently well prepared, the secretary issues a formal CD-document to the National Bodies, informing them that the CD is available for commenting within the normal time frame for a CD. Comments are to be submitted in the normal way (3 months).

#### **ST.2.4.3 Preparation of the DIS**

The comments are compiled and made available as an ordinary compilation of comments (published on the web server). The item(s) and their associated information are prepared for the DIS stage, taking note of the comments (maximum 2 months).

#### **ST.2.4.4 DIS**

When sufficiently prepared, the office of the CEO issues a formal DIS to the National Bodies with the information that the item(s) are available for commenting and voting for acceptance as a DIS, within the normal time frame for a DIS (5 months).



#### **ST.2.4.5 Preparation of the FDIS**

The comments are compiled and the votes counted are made available as an ordinary compilation of comments and result of voting on a DIS. The item(s) and their associated information are prepared for the FDIS stage, taking note of possible purely editorial comments (maximum 2 months).

NOTE If the DIS is unanimously approved, the contained items may be published directly after the preparation and circulation of the Report of Voting on the DIS, without circulation of an FDIS, in accordance with the original procedure.

#### **ST.2.4.6 FDIS**

The office of the CEO issues a formal FDIS document to the National Bodies, that the item(s) are available for voting for approval as an IS, within the normal time frame for a FDIS (2 months).

NOTE In accordance with the present ISO rules the FDIS stage may be omitted if the DIS is unanimously approved.

#### **ST.2.4.7 Report of Voting (RoV)**

A Report of Voting is prepared and published. If proposed item(s) are accepted, the status identifier of the item(s) is changed to *released*. If they are not accepted, then the reason(s) are noted and the status identifier of the item(s) is set to *rejected*.

After completing setting the final status identifiers for the items and the reasons are noted, the status identifier of the change request is set to *resolved*, and the procedure is finished (maximum 2 weeks). With the extended database procedure it is possible for proposals to be approved within 12 months up to a maximum of 18 months.

#### **ST.2.5 Editorial changes to an existing item**

Proposed changes to an item that affect neither its use nor semantics (i.e. editorial changes) only require going through the preliminary activities (see ST.2.2). It is not required to continue with either the normal or the extended database procedure. At the end of the preliminary activities the change is either accepted or rejected without further validation.

More specific criteria on which changes may be classified as editorial changes can differ dependent on the standard and are described in separate document(s) within the scope of the responsible TC/SC.

After a positive resolution, the TC/SC secretary will make the changes to the existing item(s). The status identifier of the Change Request is set to *resolved* and the work is finished.

If not accepted, then the reason(s) are noted in the comments, the status identifier of the Change Request is set to *resolved* and the work is finished.

#### **ST.2.6 Regular maintenance of the entire standard**

In addition to the continuous maintenance of the standard described above, a comprehensive review of a database standard at regular intervals may be necessary which is organized in accordance with the rules in the ISO/IEC Directives and the ISO Supplement for the systematic review process.

Note For such reviews the maintenance cycle concept is applied in the IEC.

The results are to be entered formally into the database.

## ST.2.7 Appeals

If, at any time after acceptance of an item as *released*, a National Body is dissatisfied with the result of the validation process on item(s), it may bring forward a change request with a proposal for an amendment to the item(s) which will re-open consideration under the procedures described above.

## ST.3 Terms for general use

### ST.3.1

#### original procedure

traditional standardization procedure for standard publications as described in the ISO/IEC Directives and the ISO supplement relying on the circulation of documents with standardized content to the National Bodies

### ST.3.2

#### normal database procedure

##### NDP

standardization procedure making use of a *Validation Team* and a **workflow around a database** for information sharing (as specified in this document)

NOTE The normal database procedure is used for validation of new items and of item combinations that are within the boundary of existing rules.

### ST.3.3

#### extended database procedure

##### EDP

standardization procedure with stages and time frames as specified in the *original procedure*, but implemented as a **workflow around a database** for information sharing (as specified in this document)

### ST.3.4

#### maintenance team

##### MT

group of experts that may be set up by a parent committee following the rules in the ISO/IEC Directives for the establishment of Working Groups

NOTE A MT may be called upon by the TC/SC secretary to provide expertise in the preparation of change requests or items for evaluation or validation.

### ST.3.5

#### validation team

##### VT

permanent, “executive”, group of individuals appointed by and acting as delegates on behalf of their National Bodies, A-liaison organizations and committee-internal liaisons to validate proposed items and vote for their release as part of a database standard

NOTE 1 All P-members, A-liaison organizations and committee-internal liaisons have the right to appoint one member to the team. A validation team comprises a minimum of 5 P-members. Representatives of P-members have the right to vote, representatives of A-liaisons and committee-internal liaisons do not have the right to vote, but may submit comments.

NOTE 2 The described procedure asks for very short response times from the validation team members. Therefore, the National Bodies should appoint one or more deputies that can take over the task when the official member is unavailable (due to travel, business, etc.).

NOTE 3 The appointing bodies decide on the duration of an appointment. They should also organize any supporting network of experts at national level.

NOTE 4 The TC/SC secretariat manages the validation team.

### **ST.3.6**

#### **proposer**

person (or body) submitting a change request

### **ST.3.7**

#### **database standard**

standard in database format for which a valid form of publication is a publicly accessible database, containing the standardized *items*

NOTE The term *Standards as database* may be used as a synonym.

### **ST.3.8**

#### **item (of a database standard)**

separately identified and managed structured object in a database

NOTE Typical examples of items are: symbol (graphical or letter), term, data element type, data sheet, code.

### **ST.3.9**

#### **change request**

#### **CR**

task description for addition, withdrawal or change of one or more items in a database standard, submitted by an authorized person or body, which will be reviewed and updated by the TC/SC secretary, possibly with the support of a maintenance team, for evaluation by the validation team

NOTE It is possible that changes to the database standard resulting from several change requests are combined, or that a single change request is subdivided, at any stage in the process.

### **ST.3.10**

#### **work package**

set of one or more items associated with a change request

## **ST.4 Terms for the status identification of change requests**

### **ST.4.1**

#### **submitted**

status identifier of the change request from the moment of its registration and identification in the database, until the TC/SC secretary has finished the preparation for the evaluation stage

### **ST.4.2**

#### **for evaluation**

status identifier of the change request in the evaluation stage until a resolution has been reached on how to proceed following the preliminary activities

NOTE The transition to *For evaluation* is from *Submitted*.

### **ST.4.3**

#### **for validation**

status identifier of the change request in the validation stage as part of the *normal database procedure* until the validation is completed

NOTE The transition to *For validation* is from *For evaluation*.

### **ST.4.4**

#### **resolved**

status identifier of the change request after completion of the *normal* or the *extended database procedure*, or after rejection

## ST.5 Terms for the status identification of items

In ISO the status of item(s) is expressed through the harmonized stage code system which consists of a code for each (sub-)stage and associated explanatory text. In order to ensure correspondence with the status identifiers used in the IEC, a concordance between the stage codes and the status identifiers is given below. Since the stage code system is more detailed than the status identifiers, the stages listed below do not express all possible options for the status of item(s).

The status of each item is identified with an own stage code even if several items are part of one work package and are processed as one unit.

### ST.5.1

#### **proposed [corresponding stage codes: 00.00 - 10.99]**

status identifier of a new *item* from its registration and identification in the database, until it has been accepted for work and a resolution has been reached on how to proceed following the preliminary activities

### ST.5.2

#### **draft [corresponding stage codes: 20.00 - 50.99]**

status identifier of a new *item* that has been accepted for work following the preliminary activities with either the *normal* or *extended database procedure*, until the moment a decision has been taken on whether or not it is to be part of the standard

NOTE The transition to *Draft* is from *Proposed*.

### ST.5.3

#### **released [corresponding stage code: 60.60]**

status identifier of an *item* that has been released for use as part of the standard

NOTE 1 The transition to *Released* is from *Draft*.

NOTE 2 Valid items of a standard can have the status *Released*, *Under revision* (see ST.5.4) or *Confirmed* (see ST.5.5).

### ST.5.4

#### **to be revised [corresponding stage code: 90.92]**

status identifier of an *item* that is undergoing revision either following the application of the systematic review or withdrawal process, or as a result of the acceptance of a change request aiming at a revision of the item

NOTE 1 The transition to *Under revision* is either from *Released* or from *Confirmed*.

NOTE 2 Valid items of a standard can have the status *Released* (see ST.5.3), *Under revision* or *Confirmed* (see ST.5.5).

### ST.5.5

#### **confirmed [corresponding stage code: 90.93]**

status identifier of an *item* that has been confirmed either following the application of the systematic review or of the withdrawal process

NOTE 1 The transition to *Confirmed* is either from *Released* or from *Confirmed* (in case the item has already been confirmed previously).

NOTE 2 Valid items of a standard can have the status *Released* (see ST.5.3), *Under revision* (see ST.5.4) or *Confirmed*.

### ST.5.6

#### **withdrawn [corresponding stage code: 95.99]**

status identifier of an *item* that is no longer part of the standard, irrespective of reason

NOTE 1 The transition to *Withdrawn* is either from *Released* or from *Confirmed*. A note or a reference to replacing item(s) may further indicate the reason for the withdrawal.

NOTE 2 A withdrawn item remains in the database with the status identifier *Withdrawn* and is not physically deleted.

**ST.5.7**

**rejected [corresponding stage codes: 00.98, 10.98, 20.98, 30.98, 40.98, 50.98]**

status identifier of an *item* that has been entered into the database as part of a Change Request, but has not been approved to be part of the standard

NOTE The transition to *Rejected* is either from *Proposed* or from *Draft*.