



ISO/IEC JTC 1/SC 2/AHG 1 "Work Process Review for ISO/IEC 10646"

Convenorship: JISC

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DRAFT 10646-MA bicameral ToR

Document type	Related content	Document date	Expected action
General / Other		2025-08-06	COMMENT/REPLY by 2025-09-30

Description

This is a proposal for Terms of Reference for a Maintenance Agency, expressed as a change to those ToRs proposed in document N10.

Title:	Proposed draft <i>Terms of Reference</i> for ISO/IEC 10646/MA with bicameral representation
Source:	Robin Leroy and Joshua Tsai
Status:	Individual contribution
Action:	For consideration by ISO/IEC JTC 1/SC 2/AHG 1
Date:	2025-08-04

Status: This is a proposal for Terms of Reference for a Maintenance Agency, expressed as a change to those ToRs proposed in document N10.

In ISO and JTC 1 process, a decision to establish a Maintenance Agency (MA) is approved by the ISO/TMB or IEC/SMB, which also approves the rules of procedure for the MA. Procedurally, to establish a MA for maintenance of the UCS repertoire, JTC 1/SC 2 would need to approve a *Terms of Reference* (ToR) document, which would then be submitted to the ISO/TMB and IEC/SMB for approval.

NOTE: Once the ToR is approved by ISO/TMB and IEC/SMB, the MA begins operation and **operates as an ISO/IEC process** governed by general ISO policies (e.g., Code of Conduct), and by the approved ToR specifically.

This document is a proposed draft Terms of Reference (ToR) for an ISO/IEC 10646/MA and is submitted to AHG 1 for its consideration as proposed initial draft ToR. The structure of the proposed ToR was adapted from N10, the previous proposal received and prepared by Peter Constable.

This document proposes a composition for the MA that includes:

- An administrative secretariat. (Same as N10.)
- Two *Character Coding Agencies* (CCAs), which process and provide recommendations on, *but do not make decisions on*, change requests: the Unicode Consortium, and IRG. (Same as N10.)
- An *Implementation Agency* (IA), a role allocated to The Unicode Consortium. The IA is given responsibility for publishing documentation on the UCS repertoire, and is represented in the Voting Group. (Different from N10)
- A Voting Group that makes decisions on changes, with a Chairperson appointed by the Representatives from among that group.

In this proposed draft, the composition of the Voting Group is:

- From the IA:
 - A set of Representatives, which the IA can choose in such a way they are empowered to take decisions within the IA according to its internal processes
 - A Primary Representative, who is responsible for calculating and reporting the position of the IA
- From SC 2: one Representative from each P-Member.

The key difference of this proposal is the bicameral structure of how a Resolution is made: to enshrine the previously unofficial synchronicity of the two bodies, the requirement is both we need a two-thirds majority from votes cast by the Representatives appointed by P-Members, and a decision that is capable of representing Unicode as a body to proceed.

In addition, allowing every P-Member to appoint a voting Representative in this process gives P-Members the opportunity to represent their interests directly in voting on Resolutions rather than entrusting that to SC 2-elected representatives.

As in N10, the proposed process allows decisions to be made on a character-by-character / change-by-change basis, which allows greater and shorter times to get new characters added to the UCS than the existing 10646 development process.

As in N10, this draft also presents processes used by the CCAs to receive and review proposals prior to presenting recommendations to the Voting Group for a decision. That review process includes soliciting feedback from relevant experts. **It also explicitly requires opportunity for SC 2 member bodies to solicit feedback from national body experts**; normally this would be with at least four months' notice, but in exceptional cases involving urgently needed characters, that can be accelerated to six weeks.

In the text that follows, some explanatory comments will be added and formatted like the following example:

Drafter's note: This is an example comment.

These are provided for information to AHG 1 and are not part of the proposed ToR content.

[Proposed draft] Terms of Reference of the ISO/IEC 10646 Maintenance Agency (ISO/IEC 10646/MA)

1 Background and role of the ISO/IEC 10646/MA

1.1 Background

ISO/IEC 10646, *Information technology – Universal Coded Character Set (UCS)*, developed by ISO/IEC JTC 1/SC 2, specifies the encoded representation of characters used for writing the languages of the world as well as additional symbols. In addition to defining encoding forms that are used to represent sequences of characters in terms of sequences of octets, it also defines an underlying codespace and assigns individual characters to code points within that codespace. Characters that have been assigned to a code point are referred to as *coded characters*. The set of UCS code characters can be referred to as the *UCS character repertoire*.

The UCS codespace consists of integers from 0 to 10FFFF (hexadecimal). Each coded character is represented by an integer within the code space—a *code point*. Each coded character is given a unique name, and in some cases can be given a normative name alias. The codespace is organized into named *blocks*, and all coded characters are assigned to code points within a named block.

The association between coded characters and their assigned code points is documented in code charts that show, for each coded character, the code point, character name, and at least one representative glyph, along with other optional information.

Certain code points within the UCS codespace are reserved for certain purposes. One such purpose is for representation of *private use characters*—characters that may be defined by users or applications of the UCS, but which are not constrained in any way by the UCS.

The UCS includes various machine-readable data files that provide normative or informative data regarding coded characters or certain sequences of coded characters. These data files include normative source references for Han ideograph (CJK) characters and other ideographic characters. Data files for sequences pertain to the following types of coded character sequences:

- Variation selectors and variation sequences
- Emoji variation sequences
- Named UCS sequences

The UCS defines normative specifications for formation of character names, name aliases, names of blocks and collections, and identifiers for named UCS sequences. It also specifies ideograph source references, and use of variation selector characters and formation of variation sequences. It also designates certain characters as combining characters and defines specifications for combining character sequences.

The text of ISO/IEC 10646 specifies the coding structure and conformance requirements of the UCS, whereas the UCS character repertoire is maintained and documented by the ISO/IEC 10646/MA.

The UCS character repertoire has historically been maintained in synchronization with The Unicode® Standard, which is maintained by the Unicode Consortium. A priority for maintenance of the UCS character repertoire is to maintain on-going synchronization with versions of The Unicode Standard. Within the MA processes specified in this document, the Unicode Consortium will have a role that includes publishing documentation for each version of the UCS character repertoire.

1.2 Role of ISO/IEC 10646/MA

The primary role of the ISO/IEC 10646/MA is to maintain the coded character assignments and code tables for the UCS, along with other components that are subject to on-going change particularly when new coded characters are assigned. This role includes receiving, analysing, resolving and publishing requests for assignment of new coded characters or other changes. The ISO/IEC 10646/MA works on a continuous basis through procedures specified in this document, ensuring that the UCS is maintained in strict conformance with the normative specifications of ISO/IEC 10646.

In the past, the Unicode Consortium and the Ideographic Research Group (IRG) have functioned in essential roles in the analysis and evaluation of requests for changes. In the current maintenance framework, these entities are designated as Character Coding Agencies (CCAs), each taking primary responsibility for specific sets of coded characters, as specified in Clause 4 of this document.

2 Composition of the ISO/IEC 10646/MA

2.1 ISO/IEC 10646/MA Secretariat

An agency is designated as the ISO/IEC 10646/MA Secretariat (MAS) to coordinate and administer the maintenance activity. See Clause 3 for details.

2.2 Character Coding Agencies

Two entities are designated as Character Coding Agencies (CCAs):

- The Unicode Consortium
- ISO/IEC JTC 1/SC 2/AG 1, *Ideographic Research Group*

These CCAs process and evaluate proposed changes to the UCS repertoire and provide recommendations to a Voting ~~Members~~ Group. See Clause 4 for details.

2.3 Implementation Agency

The Implementation Agency (IA) handles the preparation and publication of all code charts and data files for the UCS repertoire. The Unicode Consortium is designated as the Implementation Agency.

Drafter's note: The introduction of this concept separates the IA (Unicode) which implements and gets one "house" in the decision-making process from the CCAs on the input, which are treated similarly. It avoids the distinction between one CCA that publishes and one that doesn't.

The IA shall be a Category A liaison with ISO/IEC JTC 1/SC 2.

Drafter's note: This implies, per the ISO directives, Part 1, subclause 1.17.6.1, that the IA must be "membership-based and open to members worldwide or over a broad region". It addresses concerns about the US-based nature of the Unicode Consortium; while it can be US-based, its membership must remain broadly open.

2.4 Voting ~~Group~~Members

The ISO/IEC 10646/MA has ~~Representatives~~Voting Members appointed as follows:

1. IA Representatives, whose number and appointment is determined according to the internal procedures of the IA. One IA representative shall be designated as a Primary Representative who reports collective IA positions.
2. P-member Representatives. Each P-member may appoint at most one representative.

The IA and the P-members inform the secretariat of their respective representatives. The set of Representatives is the *Voting Group*.

Drafter's note: On the ISO side, each P-member being able to appoint a representative allows each P-member's positions to be directly reflected in the decision-making. Obviously, a P-member may elect to not appoint someone.

The IA (the Unicode Consortium) can select a set of representatives to participate in Voting Group discussions, but who speak with one voice in the MA decision process. The IA could choose to appoint as Representatives people involved in making decisions on the Unicode side. This would increase the likelihood that the consensus that emerges in a Voting Group meeting concurs with future UTC decisions and the IA position.

~~1. Four Voting Members are appointed by the CCAs in accordance with their internal procedures:~~

- ~~• two Voting Members are appointed by the Unicode Consortium, and~~
- ~~• two Voting Members are appointed by AG1, Ideographic Research Group.~~

If a CCA-appointed Voting Member is not available for regular participation in the maintenance activity, the CCA shall appoint a replacement.

2. ISO/IEC JTC 1/SC 2 may appoint three Voting Members for a three-year term, as follows:

- Every three years, the JTC 1/SC 2 Secretariat shall launch a call for candidates from P-members, liaison committees or category A or B liaison organizations. Candidacies shall be documented with a biography of the candidate demonstrating their knowledge and qualifications in relation to character coding.
- The SC 2 Secretariat shall conduct an election of the candidates. To be elected, candidates shall be approved by a two-thirds majority of the P-members voting. Should there be four or more approved candidates, the three candidates having the highest number of votes shall be retained as the appointed voting members; in the event of a tie, the Secretariat may cast a tie-breaking vote. Any remaining approved candidates shall constitute a pool of elected candidates that can replace the appointed Voting Member in the event of a vacancy.
- There is no limit to the number of terms that a Voting Member appointed by JTC 1/SC 2 can serve, provided he/she is re-elected following the above process.
- If insufficient nominations have been received or if fewer than three candidates receive a two-thirds majority of Committee votes, only those candidates receiving a two-thirds vote in favour are appointed, and remaining Voting Member seats shall remain vacant. At any time, a P-member may nominate a candidate to fill a vacancy for the remainder of a term, following the above process. If within three months of an election there are remaining vacant seats and there are also candidates that received less than a two-thirds vote during that election, the SC 2 Secretariat may conduct an election for vacant seats, following the above process.

No individual may be appointed to more than one of the Voting Member positions.

The CCAs as well as SC 2 may each also appoint an observer who can observe Voting Group Member processes but have no vote on decisions. Within SC 2, any nominated candidates who were not appointed as Voting Members should be given first consideration for observer status.

The Voting Group Members, at their-its discretion and by unanimous decision of representatives present at a given meeting, may also invite other observers to that meeting.

The MA is not required to publicly document the names of the Representatives Voting Members or observers.

Responsibilities: The Representatives Voting Members have an obligation duty to actively participate in all discussions and to cast a vote in all ballots to resolve a change request. In performing their function, they can consult further knowledgeable Experts on individual characters, writing systems or on character coding during the Registration (see 5.1), Commenting (see 5.2) and Resolution Decision (see 5.3) phases. If any Voting Member fails to respond to two or more consecutive ballots in a timely manner, steps may be taken to seek a replacement (see 2.3 for additional details).

Drafter's note: Since we have "one P-member, one representative", a P-member can require its representative to participate, and it is then that P-member's responsibility to replace them if they fail to participate; the MA procedures do not need to provide for that process.

The Voting Member gGroup operates under all policies applicable to ISO/IEC JTC 1 groups including the [ISO Code of Ethics and Conduct](#).

Because the Unicode Consortium needs to prepare new versions of the Unicode Standard and the UCS character repertoire on a predictable schedule, the Voting Group Members shall make every reasonable effort to complete evaluation and resolution of change requests in a timely manner.

The Voting Group Members may establish their-its own processes for conducting their-its work, including voting on changes, or may coordinate with the MA Secretariat on processes (see 3). While decisions on CRs made by the Voting Group Members will eventually be reflected publicly, their internal deliberations may remain private.

2.5 Chairperson

The Chairperson of the ISO/IEC 10646/MA Voting Group Members is a Representative Voting Member appointed as specified in 2.4 but elected to this role within the Voting Member gGroup by the

~~Representatives Voting Members~~, for a period of three years. Consecutive re-election as Chairperson is possible for five consecutive terms. The Chairperson is responsible for coordinating activities of the Voting ~~Group Members~~.

The Chairperson should communicate with the MAS regarding any concerns hindering successful functioning of the Voting ~~Member Group~~. If a ~~Representative Voting Member fails to respond to two or more consecutive Change Request ballots, or~~ is not participating constructively in MA procedures, the Chairperson may consult with the MAS regarding asking the body (IA CCA or P-member ~~SC-2~~) that appointed the ~~Representative Voting Member~~ to review the appointment or to consider appointing a replacement. Any such communication back to the appointing body should be done by the MAS.

Drafter's note: See preceding note on lack of participation.

3 ISO/IEC 10646/MA Secretariat (MAS)

The ISO/IEC 10646/MA Secretariat (MAS) is assigned to JISC, the ISO member body for Japan and Secretariat of JTC 1/SC 2. It assists in administrative tasks of the maintenance procedures (see Clause 5) through an appointed Secretary supported by a Secretariat Support Team (SST). Except as noted below, it delegates to the CCAs the entire execution of the Registration phase (see 5.1), as well as the maintenance and publication of code tables and other data components of the UCS.

Responsibilities: the MAS is responsible for the following administrative tasks:

- Receiving proposals for changes from submitters and forwarding those to the relevant CCA for registration. (Proposals may also be submitted directly to the CCAs—see 4.1.)
- Assisting in circulation of documents required for the 10646/MA deliberation and voting.
- Assisting in scheduling of 10646/MA meetings and ballots.
- Assisting in communication of final 10646/MA decisions.
- Maintaining the list of ~~Representatives Voting Members~~ and observers.
- ~~Maintaining the list of organizations to nominate Voting Members.~~
- Circulating a regular newsletter of 10646/MA activities and decisions; this could include maintaining a mailing list for this purpose.
- Producing a ISO/IEC 10646/MA Annual Report and circulating it to JTC 1/SC 2 members and liaisons.

Secretariat Support Team (SST): The SST assists the Secretary in all administrative tasks for which the MAS has responsibility. For the purposes of coordination, each CCA and the Voting ~~Member Group~~ nominates a person to the SST.

4 Character Coding Agencies (CCAs)

4.1 General overview

The Unicode Consortium and AG 1 (IRG) function as CCAs responsible for analysing and evaluating proposed changes to the coded character repertoire of the UCS. Primary responsibility for different categories of characters is divided between the CCAs as follows:

- IRG is primarily responsible for CJK ideographs.
- The Unicode Consortium is primarily responsible for characters from scripts other than CJK ideographs as well as for other symbols and for non-graphic characters.

The two CCAs may collaborate on any topics regardless of the categories listed above and shall assist one another in evaluation of proposed changes whenever necessary. The CCAs develop recommendations based on their evaluation of proposed changes using criteria and precedents consistent with normative requirements of ISO/IEC 10646 and with principles of character coding and past practice in the maintenance of ISO/IEC 10646 and the Unicode Standard. Recommendations from the CCAs are reviewed by the 10646/MA Voting ~~Group Members~~ on a regular basis for formal decisions.

Common responsibilities: Each CCA is responsible for:

- Providing instructions with guidance on acceptable types of changes (new encoding, glyph changes, etc.), and on how to submit proposals for changes.
- Receiving proposals for changes, and (barring any highly sensitive user community information) making proposal documents publicly available.
- Vetting proposed changes against the provisions of ISO/IEC 10646 and the Unicode Standard, and evaluating well-formed proposals based on their technical merits.
- Preparing recommendations for formal approval by the 10646/MA Voting Members.

Each CCA shall maintain its own public registry of proposal documents, with each document given a unique sequence number. All MA documentation may reference documents in any of the CCA document registries.

Each CCA may also maintain documents in the same registry for other purposes than proposals for changes to the UCS character repertoire; it is not necessary to maintain separate registries for UCS proposals versus other CCA purposes.

For purposes of coordination, each CCA nominates an expert to the SST.

4.2 CCA for characters from CJK ideographs: AG 1 (IRG)

JTC 1/SC 2/AG 1 is formed for the purpose of evaluating proposals related to CJK ideographs. CJK ideographs present special challenges in the identification and unification of characters, making a CCA with deep expertise in these characters essential for maintenance of the UCS.

NOTE: AG 1 is established by SC 2, and a Convenor is appointed by SC 2. ~~It's~~ Its participants are ~~comprised of~~ experts nominated by participating P and O members of SC 2, by Category C liaisons to AG 1, and by other Category A liaisons SC 2. Other experts can also be invited to participate at the discretion of the Convenor.

Specific responsibilities:

- Developing new CJK ideograph repertoires with submissions from member and liaison organizations.
- Receiving and processing proposals for changes pertaining to CJK ideographs and maintaining a public document registry of registered proposals.
- Maintaining principles and procedures that govern the processes used in evaluation of proposals for CJK ideographs.
- Maintain documentation on source references for Han ideographs and assisting in preparation of corresponding data file components of the UCS.
- Provide fonts for use by The Unicode Consortium in development and publication of multi-column code charts for CJK ideographs.

IRG information and documents can be found at the IRG website: <https://www.unicode.org/irg/>.

4.3 CCA for other characters: the Unicode Consortium

The Unicode Consortium is the CCA with primary responsibility for maintenance of coded characters other than CJK ideographs. The Unicode Consortium provides comprehensive specifications for processing of multi-lingual text, along with data files and software implementations that are widely used in information and communication technologies. Because of the many technical challenges in processing multilingual text from many scripts throughout the world and the span of human history, the technical expertise provided by the Unicode Consortium is essential for maintenance of the UCS.

Specific responsibilities:

- Receiving and registering proposals for changes pertaining to any characters other than CJK ideographs and maintaining a public document registry of registered proposals.

~~The MAS delegates the preparation and publication of all code charts and data files for the UCS repertoire to the Unicode Consortium. See clause 5.5 for additional details.~~

Unicode Consortium information and documents can be found at the Unicode Consortium website: <https://www.unicode.org/main.html>.

5 Procedures for the maintenance of the UCS character repertoire

5.1 Overview

In order to request a new script or character for encoding or a modification to an existing coded character (as permitted by ISO/IEC 10646), it is necessary to submit a change request proposal (CR) to the ISO/IEC 10646 MA or its designated CCAs. Each CR is maintained in a CCA document registry with an assigned sequence number. The MA then processes the CRs following a procedure that comprises four phases: *registration*, *commenting*, *resolution-decision*, and *implementation*. These are described in detail in 5.2 to 5.5.

In rare cases, the MA could determine that special input is required from SC 2. Procedures for such exceptional cases are described in 5.6.

Some details related to the UCS character repertoire are informative, and change requests related to such details do not require explicit decisions by the MA Voting *Group-Members*. Such CRs may bypass the *resolution-decision* phase but should usually still progress through other phases. Changes that require an explicit decision of Voting Members include:

- Encoding of new characters
- Creation of decomposition mappings at the point of initial encoding
- Changes to representative glyphs
- Allocation of blocks
- Changes to standardized variation sequences or to named UCS sequence identifiers
- Changes to normative source references (e.g., for CJK ideographs)
- Creation of new data files (e.g., for documenting source references for a new ideographic script)

NOTE 1: The Unicode Standard includes additional technical details beyond the scope of ISO/IEC 10646, and proposals for some changes not listed above could require formal decisions governed exclusively by Unicode Consortium processes.

NOTE 2: Changes to the UCS architecture or coding structure, such as defining a new encoding form or allocation of additional private use code points, are outside the scope of changes permitted by the MA process described in this document, and would require revision to the core text of ISO/IEC 10646.

5.2 Registration phase

Objective: Receive a Submitter's CR, verify it falls within the scope of what is acceptable by the provisions of ISO/IEC 10646 and has sufficient information to be actionable, and prepare it for public comment (see 5.2).

Oversight: The CCA responsible for the affected characters based on the type of characters (see 4.1), which consults with the other CCAs as needed.

Input: A CR is received by the MAS or by one of the CCAs.

1. Submitters are recommended to submit a CR to the relevant CCA. If the Submitter is unclear about the relevant CCA, the CR can be submitted to the MAS, which shall forward it to the relevant CCA.
2. The CCA with responsibility for the concerned characters uses a CCA-internal review process to determine whether the Submitter's request falls within the scope of acceptable changes as permitted by ISO/IEC 10646. If necessary, the CCA may ask the Submitter for further information or clarifications until the CCA deems the request is ready for consideration by the ISO/IEC 10646/MA.
 - a) The CCA may publish criteria for exclusion of certain classes of characters, such as certain types of emoji (e.g., flags), or recently invented scripts that do not meet certain criteria. Such exclusion criteria shall be reviewed and approved by the MA. If a CR is submitted that out of scope based on such exclusion criteria, it may be rejected without further notification to the MA.

- b) If a CR is not excluded by approved exclusion criteria yet the CCA, nonetheless, deems that the CR falls outside the scope of acceptable changes or is not actionable, the CCA informs the Voting **Group-Members** that the case should be rejected. Such notifications may be given on a regular cadence but should be provided to the Voting **Group-Members** within four months.
- i) If any **Representative Voting-Member** objects to the rejection, the CR is registered for further processing. Reasons for the objection to the rejection ~~shall~~ **should** be provided.
 - ii) In the absence of an objection from any **Representative Voting-Member** after a period of two weeks, the CR is rejected. The CCA may but is not required to enter the CR into its document registry. The CCA informs the Submitter of the rejection, including reasons for the rejection.
- The Submitter may submit a revised CR that addresses the reasons for the rejection, but if a CR is resubmitted without substantive revisions to address the reasons for the rejection, the re-submitted CR can be rejected without further process. If the Submitter disagrees with a decision regarding their CR, they can appeal to the MAS, which shall coordinate with the Voting **Group-Members** and CCAs to determine a resolution.

3. Well-elaborated CRs that are within scope are registered for further processing. These shall be posted in the relevant CCA's document registry and progress to the Commenting phase (see 5.2).

Output: The submitted CR is either rejected as out of scope or is registered and progresses to the Commenting phase (5.2).

5.3 Commenting phase

Objective: Gather comments from the Voting **Group-Members**, from consulted Experts as well as from the public, and collate comments for consideration in the **Resolution-Decision** phase (5.3).

Oversight: The CCA responsible for the affected characters based on the type of characters (see 4.1), which consults with the other CCAs as needed.

Input: The CCA announces a registered CR and makes a public call for comments.

1. Each CCA may establish its own processes for conducting commenting periods. This may include a provisional assignment of code points to characters that are candidates for encoding and preparation of draft code charts or data files. It may also include a preliminary recommendation of the CCA and requests from the CCA for comments on specific details.
 - a) Each CCA may schedule meetings of experts to discuss CRs. These meetings may include experts nominated by SC 2 members or liaisons, or any other experts as considered appropriate to the CCA. Such meetings, conducted as part of these MA procedures, shall be conducted under ISO/IEC JTC 1 policies, such as the [ISO Code of Ethics and Conduct](#).
 - b) Each CCA may conduct more than one commenting period for a given CR until it feels that sufficient input has been received to make a recommendation.
 - c) Since responsibility for final preparation and publishing of code charts and other documentation of the UCS repertoire is delegated to the Unicode Consortium, preliminary recommendations from other CCAs should be incorporated into one or more public commenting periods conducted by the Unicode Consortium.
 - d) The CCA with oversight for the affected characters should actively seek out relevant experts regarding a CR and encourage experts to notify other relevant experts within their professional networks. This is especially important in the case of CRs proposing encoding of new scripts or characters.
 - e) In the case of proposals for new scripts or characters, the CCA in coordination with the MAS shall notify all SC 2 members to solicit input from national body Experts. This shall normally be done at least four months prior to when the CCA submits a recommendation to the Voting **Group-Members** for a decision. In exceptional cases involving urgently needed characters, this may be reduced to six weeks, provided that the accelerated commenting period is clearly communicated. National body experts are expected to respond within the specified

commenting period. If needed, national bodies may request one 40-day extension to submit comments.

2. The CCA shall conduct at least one public commenting period that remains open for at least 40 days. During a public commenting period, anyone who reads the CR or provisional recommendations of the CCA, including **Representatives Voting Members** or national body Experts, may submit comments on the proposed CR. Such comments shall be publicly documented by the CCA.
3. During the commenting phase, **Representatives Voting Members** shall read the CR and any preliminary recommendations of the CCA. The **Representatives Voting Members** may prepare written comments that are circulated within the MA but are not made public.
4. During the commenting phase, SC 2 member bodies may submit comments to the MAS requesting that they be circulated within the MA but not made public.
5. During the commenting phase, the CCA may also prepare comments from its own Experts for circulation within the MA but not made public.
6. After the CCA has conducted at least one public commenting period and has received enough information to form a final recommendation, it shall prepare the CR for the **Resolution-Decision** phase (5.4). In doing so, the CCA may revise the proposed change from the original CR based on additional information from the Submitter or comments from Experts. The CCA prepares a summary of the comments, reflecting all significant differences of opinion, and submits these along with its recommendations to the Voting **Group Members**.
7. In the case of CRs that propose changes that do not require a formal decision (see 5.1), the CCA recommendation is circulated within the MA for informational purposes, and the CR progresses directly to the Implementation phase (5.5).

Output: The CR is ready for deliberation and decision by the Voting **Group Members (see 5.4). CRs not requiring a decision by the Voting **Group Members** progress directly to Implementation (5.5).**

5.4 **Resolution Decision** phase

5.4.1 Decision process

During the Resolution phase, the Voting Group shall seek consensus before taking Decisions, but always takes Decisions by a vote according to the following process:

1. At the Chairperson's discretion or at the request of any Representative, the Chairperson shall issue a ballot; the Voting Period for the ballot shall be seven days unless otherwise provided in these procedures.
2. Representatives each cast a vote in favour or against the ballot, or abstain. Failure to vote within the Voting Period is counted as an abstention.
3. At the end of the Voting Period, the Primary Representative of the IA shall communicate to the Voting Group the position of the IA based on the votes of the IA representatives.
4. The Decision is taken if and only if both of the following conditions are met at the end of the Voting Period; otherwise, the Decision is rejected:
 - a. The Primary Representative of the IA communicates that the position of the IA is in favour of the Decision.
 - b. Two-thirds of the votes from P-member Representatives, excluding abstentions, are in favour of the Decision.

Drafter's note: The structure of the IA vote allows for it to mirror a UTC decision. Since the process by which the Primary Representative derives the IA position is determined by the (external) UTC procedures, it cannot be specified in the MA ToRs. Note that a two-thirds majority of the P-member votes cast is required in an ISO DIS or FDIS ballot (ISO Directives, Part 1, subclauses 2.6.3 and 2.7.3); the same ratio is retained in these terms. The conjunction of the two decisions from the IA Representatives and P-member Representatives formalizes the long-standing synchronization of decisions affecting The Unicode Standard and ISO/IEC 10646.

NOTE 1 During meetings of the Voting Group, procedural matters, but not CR resolutions, can be decided by consensus of the Representatives present (see items 3 and 4 in subclause 5.4.2). At

the request of any Representative, such a matter is instead ruled on as formal Decision with a vote as described in this subclause.

NOTE 2 Consensus is defined by ISO/IEC Guide 2:2004, entry 1.7, and the ISO Directives, part 1, subclause 2.5.6.

5.4.2 Resolution procedure

Objective: Deliberation ~~within among~~ the Voting ~~Group-Members~~ based upon results of a call for comments and CCA recommendations, followed by formal voting to approve or reject the CR.

Oversight: Chairperson.

Input: The Voting ~~Group-Members~~ receives the CR, comments and recommendations from the CCAs.

1. The results of the Commenting phase (5.3) for a CR are circulated ~~within among~~ the Voting ~~Group-Members~~ for consideration, and discussion of the CR and CCA recommendations begins.
2. At the discretion of the Chairperson or by request of a ~~Representative Voting Member~~, a meeting may be scheduled for discussion of the CR ~~within among~~ the Voting ~~Group-Members~~. Such meetings may be conducted online with at least 14 days prior notice. A meeting to discuss a CR shall not take place later than seven days prior to the end of the deliberation period of that CR.

NOTE As meetings are scheduled at least seven days prior to the end of the deliberation period, it is possible to initiate a Decision to extend the deliberation period at these meetings.

3. Within 40 days, the Chairperson will query the Voting ~~Group-Members~~ to assess readiness to proceed to a vote. If any ~~Representative Voting Member~~ requests additional time for deliberation, 20 additional days shall be added for further deliberation. In exceptional cases involving urgently needed characters, the Chairperson ~~may-can~~ overrule this request, in which case an extension of the deliberation period shall be required only if requested by ~~a majority of the Voting Members~~ consensus of the Representatives other than the Chairperson present at a meeting, or by a Decision of the Voting Group taken prior to the end of the deliberation period. After the first extension, further 20-day extensions shall be required only if requested by ~~a majority of the Voting Members~~ consensus of the Representatives present at a meeting or by a Decision of the Voting Group taken prior to the end of the deliberation period.

~~[item 4. in N10, removed] If a national body wants additional time for review and commenting by national experts, it may submit to the MAS or the Chairperson a request for a 20-day pause in the decision phase. This request shall include a written explanation of issues in the CR that require additional review. In exceptional cases involving urgently needed characters, the Chairperson can deny this request, in which case a pause in the decision phase shall be required only if the Chairperson is overruled by a majority of the Voting Members. After the first such pause, further 20-day pauses shall be required only if agreed to by a majority of the Voting Members.~~

Drafter's note: Since any P-member can appoint a Representative who can request a delay, there is no need for a separate mechanism for a P-member to request a delay.

4. If a ~~majority of the Voting Members~~ it is determined by consensus of Representatives present at a meeting, or by a Decision of the Voting Group taken prior to the end of the deliberation period, ~~determine~~ that the CR has not been sufficiently reviewed, that additional Expert input is required, or that some aspect of the CR requires revision, then ~~the~~ Voting ~~Group-Members~~ shall provide written instructions to the relevant CCA regarding what additional input or changes to the CR are required, and the CR is reset back to the Commenting phase.
5. When there is consensus that the CR is ready for a ~~formal decision Resolution~~, the Chairperson shall initiate a ~~Decision/vote among the Voting Members~~. The ballot shall clearly communicate the proposed changes to be decided. The Voting Period shall normally be 20 days; if more time is requested, the Chairperson ~~may-can~~ extend the Voting Period up to 40 days total; in exceptional cases involving urgently needed characters, this ~~may-can~~ be accelerated to 7 days. ~~All Voting Members are expected to respond within the specified time. If a Voting Member does not respond within the specified time, this shall be counted as an abstention.~~
6. A vote opposing the proposed change ~~shall must~~ be accompanied by written reasons for opposing the change.

7. After the Voting Period has concluded, the following are possible outcomes:
 - a) If no more than one third of Voting Members (2 of 7) has voted against the proposed changes, the Decision is taken, then the proposed changes are approved, and the CR progresses to the Implementation phase (5.5).
 - b) If at least one third of Voting Members (3 or more) has voted against the proposed changes the Decision is rejected, then:
 - i. By consensus within among the Voting Group Members, the CR may can be reset to the Commenting phase, with written instructions to the CCA for further information or revisions to the CR; or
 - ii. The CR is rejected, and the case is resolved.
8. Decisions to resolve a CR with either approval or rejection of changes shall be publicly documented, and the Submitter shall be notified. Notification of a rejection should include a statement explaining the grounds for rejection.

Output: A formal CR vote has been carried out, usually resulting in its acceptance or rejection. On Acceptance, a CR progresses to the Implementation phase.

5.5 Implementation

Objective: Update documentation of the UCS character repertoire when a CR is approved.

Oversight: The IAUncode Consortium.

Input: CRs that have successfully progressed through the Registration, Commenting and (as applicable) Resolution Decision phases.

Preparation and publication of all documentation for the UCS character repertoire is delegated to the IAUncode Consortium (see 24.3). The IAUncode Consortium shall implement all accepted modifications in the published code charts and data files that document the UCS repertoire.

Updates to the UCS character repertoire shall be combined into batches and published on a generally regular cadence, with different sets of updates identified using a sequential versioning scheme. The Unicode Consortium may synchronize published updates to the UCS repertoire with its planned releases of the Unicode Standard. For each version, code charts, data files and other companion documentation shall be published on the Unicode Consortium website and may also be published on the ISO website.

Output: The CR is resolved and the UCS repertoire is updated.

5.6 Exceptional procedures when SC 2 input is deemed necessary

In some rare cases, the CCA responsible for the affected character could consider some aspect of a CR to require special consideration within SC 2 before it can progress through the normal MA procedures. In such a case, the CCA shall communicate this at the earliest opportunity to the Voting Members. A request for SC 2 input on some aspect of a particular CR may also be initiated based on a concern raised within among the Voting Group Members.

An example of a request for SC 2 input can be a request for clarification on criteria for deciding to encode proposed characters, input from national bodies regarding risks from a proposed disunification of existing characters, etc. In an extreme case, the Voting Group Members may could request that the decision on a proposed change be made by SC 2 resolution.

If a CCA raises such a concern but there is no consensus within among the Voting Group Members that the concern requires special input from SC 2, the CCA may advise the Voting Group Members that it intends to publicly document the concern and the MA decision regarding that concern. (The CCA could consider this necessary, for instance, to avoid reputational harm.) If still there is no consensus within among the Voting Group Members to engage SC 2 on the concern, progression of the CR under normal MA procedures shall resume.

Determination that special input is required from SC 2 on a specific aspect of a CR may be made by consensus within among the Voting Group Members during any phase of the CR procedures prior to a Resolution formal decision of Voting Members taken during the Resolution Decision phase (5.4). On such a determination, progression of the CR through the normal procedures is put on hold until the

issue is resolved. The concern shall be communicated to the MAS, which shall then engage with the SC 2 Secretariat to determine the best course of action.

6 Facilities used by the ISO/IEC 10646/MA

6.1 Facilities specific to MA-internal operations

The ISO/IEC 10646/MA may use applications of the ISO platform for its internal operations, such as ISO Documents, ISO Ballots (for voting), ISO Meetings, etc.

The MA may also use facilities provided by the Unicode Consortium or its members provided that all records related to the MA operations remain perpetually available to the designated MAS.

The MA may also use other external facilities, such as third-party document and issue-tracking repositories, provided that all such content remains under the control of the designated MAS.

6.2 Publication of information

The ISO Maintenance Portal, at <https://standards.iso.org/iso-iec/10646>, will allow public access to the following:

- The ISO/IEC 10646/MA ToR (this document);
- Information regarding the CCAs and the MAS, including pointers to the Web sites for each;
- Links to documentation of the UCS repertoire published by the Unicode Consortium.

The CCA Web sites will provide the following public information and communication:

- Instructions on how to submit a CR.
- Public document registries that include all CRs as well as records of all comments on CRs received during public commenting periods.
- In the case of the Unicode Consortium, all documentation for the approved UCS repertoire.

The MAS Web site will provide public access to the following information and communication:

- A regular newsletter summarizing status and outcomes of CRs.
- The ISO/IEC 10646/MA Annual Report