TC-39 Process

The ECMA TC-39 committee is responsible for evolving the ECMAScript programming language and authoring the specification. The committee operates by consensus and has discretion to alter the specification as it sees fit. However, the general process for making changes to the specification is as follows.

Development
Changes to the language are developed by way of a process which provides guidelines for evolving an addition from an idea to a fully specified feature, complete with acceptance tests and multiple implementations. There are four "maturity" stages. The TC-39 committee must approve acceptance for each stage.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Purpose</th>
<th>Criteria</th>
<th>Acceptance signifies</th>
<th>Spec quality</th>
<th>Post-acceptance changes expected</th>
<th>Implementation types expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Strawman</td>
<td>Allow input into the specification.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1 Proposal</td>
<td>Make the case for the addition</td>
<td>Identified &quot;champion&quot; who will advance the addition</td>
<td>The committee expects to devote time to examining the problem space, solutions and cross-cutting concerns</td>
<td>None</td>
<td>Major</td>
<td>Polyfills / demos</td>
</tr>
<tr>
<td>2 Draft</td>
<td>Precisely describe the syntax and semantics using formal spec language</td>
<td>Above</td>
<td>Draft: all major semantics, syntax and API are covered, but TODOs, placeholders and editorial issues are expected</td>
<td>Incremental</td>
<td>Experimental</td>
<td></td>
</tr>
<tr>
<td>3 Candidate</td>
<td>Indicate that further refinement will require feedback from implementations</td>
<td>Above</td>
<td>Complete: all semantics, syntax and API are completed described</td>
<td>Limited: only those deemed critical based on implementation experience</td>
<td>Spec compliant</td>
<td></td>
</tr>
<tr>
<td>4 Finished</td>
<td>Indicate that the addition is ready for inclusion in the formal ECMAScript standard</td>
<td>Above</td>
<td>Final: All changes as a result of implementation experience are integrated.</td>
<td>None</td>
<td>Shipping</td>
<td></td>
</tr>
</tbody>
</table>

Input into the process
Ideas for evolving the ECMAScript language are accepted in any form. Any discussion, idea or proposal for a change or addition which has not been submitted as a formal proposal is considered to be a "strawman" (stage 0) and has no acceptance requirements. Such submissions must either come from members of TC-39 or from non-members who have registered via ECMA International.

Spec revisions and scheduling
TC-39 may deliver to ECMA international a new revision of the ECMAScript language in March and September of every year. Additions which have been accepted by the committee as "finished" (stage 4) may be included in a new revision.

Status of in-process additions
TC-39 will maintain a list of in-process additions, along with the current maturity stage of each, on its website.

Spec Text
At stages "draft" (stage 2) and later, the semantics, API and syntax of an addition must be described as edits to the latest published ECMAScript standard, using the same language and conventions. The quality of the spec text expected at each stage is described...
above.

Calls for implementation and feedback
When an addition is accepted at the “candidate” (stage 3) maturity level, the committee is signifying that it believes design work is complete and further refinement will require implementation experience, significant usage and external feedback.

Reviewers
Anyone can be a reviewer and submit feedback on an in-process addition. The committee may identify designated reviewers for acceptance at the “candidate” maturity stage. Designated reviewers should not be authors of the spec text for the addition and should have expertise applicable to the subject matter.

Eliding the process
The committee may elide the process based on the scope of a change under consideration as it sees fit.

Role of the editor
In-process additions will likely have spec text which is authored by a champion or a committee member other than the editor although in some case the editor may also be a champion with responsibility for specific features. The editor is responsible for the overall structure and coherence of the ECMAScript specification. It is also the role of the editor to provide guidance and feedback to spec text authors so that as an addition matures, the quality and completeness of its specification improves. It is also the role of the editor to integrate additions which have been accepted as “finished” (stage 4) into the a new revision of the specification.