Annex C

Developing New Engine Oil Performance Standards for API Certification Mark

C.1 General

One of the objectives of API's voluntary Engine Oil Licensing and Certification System (EOLCS) is to help consumers identify engine oils recommended by vehicle and engine manufacturers. To accomplish this objective, the International Lubricant Specification Advisory Committee (formerly International Lubricant Standardization and Approval Committee) (ILSAC) and API created in 1993 the API Certification Mark. The API Certification Mark, or "Starburst" for short, is a Registered Mark that clearly identifies passenger car engine oils meeting the latest engine oil performance standard adopted by ILSAC and API.

This annex outlines the primary process used to set specifications for certain passenger car engine oils and describes the procedures that API will use to determine whether these specifications become a standard against which engine oil marketers are licensed to use the API Certification Mark.

Vehicle and engine manufacturers, technical societies, trade associations, lubricant and additive marketers, independent testing laboratories, and consumers play essential roles in defining and developing new minimum performance standards for engine oils. In order to allow balanced input from all interested industry participants, API will give strong preference to accepting engine tests that are under the jurisdiction of ASTM subcommittee D02.B0, monitored by the ASTM test monitoring center and under the governance of an ASTM surveillance panel.

C.2 Auto/Oil Advisory Panel

The Auto/Oil Advisory Panel (AOAP) develops the specifications against which engine oil marketers are licensed to use the API Certification Mark. The AOAP guides and facilitates the development and introduction of AOAP performance specifications for passenger car engine oils.

C.2.1 Membership

AOAP shall consist of voting and liaison members who have a material interest in developing passenger car engine oil specifications. Material interest includes the following:

a. Any gasoline-fueled automotive engine manufacturer that recommends the standard, or
b. Manufacturers of a gasoline-fueled automotive engine that might use an oil meeting the standard, or
c. Manufacturers or marketers of an oil that meets the standard, or
d. Manufacturers of a component used to formulate oil that meets the standard.

Voting members shall represent companies that are members in good standing in API Lubricants Group, ACC Petroleum Additive Panel, ILMA, the Alliance of Automobile Manufacturers, or JAMA; and liaison member representatives of companies that are members in good standing in ASTM, SAE, or STLE. Representatives from the U.S. Army would also be included as liaison members.

A company that wishes to be a voting member of AOAP shall submit a written request to API that includes a brief explanation of the company's material interest in the specification and proof of membership in one of the organizations identified above. API will maintain the list of companies that have requested membership and met membership qualifications.

Companies with a material interest that participate in other trade organizations not listed in this Annex may request liaison membership by writing to API. The written request must explain the organization's interest in engine oil specifications. Representatives of companies who request membership shall be granted membership if a vote for their inclusion, taken by existing AOAP members, leads to a simple majority of affirmative votes. Such a vote can take place during either a meeting or a conference call. An organization's initial request for membership must be made at least 1 month before the initiation of a precision matrix supporting the specification.
Members must demonstrate active participation in the development of the standard by attending meetings and voting or commenting on issued ballots. Failure to attend at least one meeting per year or to vote on two consecutive letter ballots shall result in the removal of the representative from the panel roster.

API and the Alliance shall each designate a co-chair for the panel. The responsibility of the co-chairs is agreed upon by the AOAP. These typically include setting meeting agendas, reviewing actions, and calling for votes when required. API will provide administrative support such as making meeting arrangements and distributing meeting announcements and minutes.

A panel member may send a proxy to participate in the panel, and the proxy’s participation counts toward a member’s requirement to actively participate in the panel. If a member chooses to send a proxy, the member shall provide the name of the proxy to API in writing before the start of a scheduled AOAP meeting or conference call. Notification may be made by email or letter. Proxies are not necessary for representatives from the same company.

Changes to company voters shall be provided to API in writing.

C.2.2 Voting

The AOAP shall attempt to reach consensus on issues related to needs and the issuance and finalization of a draft specification. A quorum of two thirds of both industries (auto and oil) is required for AOAP to conduct official business. Consensus is established when substantial agreement has been reached by the panel. Substantial agreement means more than a simple majority but not necessarily unanimity. Consensus requires that all views and objections be considered and that an effort be made toward their resolution. For purposes of these procedures, consensus shall be defined as follows:

a. Voting is balanced or weighted to ensure ratios of 50 percent Auto and 50 percent Oil.
b. Two-thirds of Auto and two-thirds of Oil votes cast, less waives, are affirmative.
c. Fifty percent of all possible votes are affirmative on each side.

Consensus is defined as noted above and each negative vote shall be accompanied by the information below. A letter ballot (electronic ballot) should be used whenever negative votes are cast during AOAP meetings:

a. Specific paragraph, section, or part negative ballot pertains to.
b. Specific substantive reason(s) for negative vote.
c. Proposed wording or action to resolve negative vote.

Additionally, each abstention shall be explained in writing.

Ballots shall be qualified and negatives and comments considered and resolved in accordance with the latest edition of API’s Procedures for Standards Development.

If AOAP cannot achieve consensus on the draft specification, then ILSAC may issue a draft for industry comment pursuant to C.3.2.4. If AOAP cannot achieve consensus on the final specification, then ILSAC may issue a specification pursuant to C.3.3.2. If AOAP cannot achieve consensus on needs, the Administrative Guidance Panel will convene pursuant to C.4.3.

C.2.3 Procedures

The AOAP shall provide an adequate level of due process by ensuring that:

a. All meetings of the AOAP where the proposed specifications are discussed, decisions made or votes taken are open to all interested parties.
b. Interested parties are given a meaningful opportunity to comment on draft specifications. Comments received by the AOAP shall be reviewed and evaluated pursuant to the consensus criteria specified in C.2.2. The AOAP shall document responses to comments received on the draft specifications.
c. Any party having a material interest in the process has the right to bring a timely appeal of an AOAP action or decision. Appeals must be submitted in writing to the Co-Chairs of the AOAP. If the objections cannot be resolved by the Co-Chairs, the appeal will be transmitted to an API appeals board for resolution. Appeals
shall be addressed following the process defined in the latest edition of API's Procedures for Standards Development.

C.3 AOAP Development Process

The AOAP specification development process is designed to accomplish the following:

a. Validate the need for a new specification.
b. Achieve stakeholder consensus early in the process.
c. Optimize the process for developing and approving new specifications.

A new specification is developed in steps, some of which are conducted in parallel and provide input to subsequent steps, as summarized in Figure C-1 Process of Developing New Engine Oil Performance Standards for the API Certification Mark.

C.3.1 Determination of Need

C.3.1.1 Request for a New Specification

Any individual, company or association may request a new definition of oil performance that may eventually result in a new specification. To invoke the evaluation process, the new specification request must be submitted to the Co-Chairs of the AOAP and to the Chair of the API Lubricants Group.

The request for a new specification must include adequate data and justification for the proposed specification. The request must demonstrate a need for significant oil performance changes to meet requirements not met by existing categories. Justification should include, but is not limited to, one or more of the following:

a. Impending government regulations.
b. Consumer-driven needs.
c. New hardware design or service requirements.
d. Field problems encountered with current oils.

Following the receipt of the new specification request, the Co-Chairs will notify ILSAC and the API Lubricants Group of the proposed specification and request that the associations confirm that AOAP should evaluate the need for the specification.

C.3.1.2 Evaluation Criteria

The AOAP will work to reach a consensus position on the need and timing for the new specification by considering the following questions:

a. What is the proposed change and why is it required?
b. Does data presented support the request?
c. When is it needed in the marketplace?
d. What are the potential impacts on engines?
e. What are the potential impacts on consumers?
f. What are the potential impacts on the environment?
g. How could the change affect existing API categories? Could an existing API category satisfy the need expressed?
h. What performance and field tests are needed to properly evaluate the performance needs requested?
i. Are the tests available now? If not, in what timeframe can the performance and field tests be developed?

The AOAP may solicit additional industry input and data at any time to assist it in reaching a decision. Other industry groups [for example, SAE, API Detroit Advisory Panel (DAP), and EMA] may be asked to provide supplemental information.
Figure C-1—Process for Developing New Engine Oil Performance Standards for API Certification Mark
C.3.1.3 Decision on Need

The AOAP shall evaluate the request pursuant to the consensus process outlined in C.2.2 and make one of the decisions below:

   a. Support the request for the new AOAP specification and proceed with development. This recommendation shall document the basis for determining that there is a need for the new specification.
   b. Deny the request.
   c. Determine that it cannot reach consensus.

The sponsor has the option of resubmitting the request with additional information if the AOAP denies the request or is unable to reach consensus. If the AOAP cannot achieve consensus on needs after reviewing the additional information, the Administrative Guidance Panel will convene pursuant to C.4.3.

C.3.2 Specification Development

When the AOAP approves the request for the development of a new specification, the AOAP will proceed with development. Parties such as ACC, ASTM, SAE, ILMA, and independent test laboratories may be requested to provide assistance in the development process. Other national, regional or international bodies—for example, Japanese Automobile Standards Organization (JASO) and Conseil Europeen de Coordination pour les Dévelopments des Essais de Performance des Lubrifiants et des Combustibles pour Moteurs (Coordinating European Council) (CEC)—may also be asked for input during this process.

C.3.2.1 Timing

The AOAP will draft a timeline for the development of a new specification to enable the issuance of the AOAP specification and licensing of products with the API Starburst at the earliest practicable date. That timeline will indicate the dates at which specific development milestones should be reached and the date first allowable licensing of the Starburst should occur for the new specification. The resulting timeline shall be reviewed periodically. In all timeline reviews, the date proposed for first licensing shall allow oil marketers a reasonable opportunity to perform the testing required for licensing prior to the first-license date.

Prior to the start of any precision matrixes, the elements of the timeline should be formally agreed upon by AOAP voting members, recognizing that circumstances could change the timeline and the subsequent changes shall be agreed upon by AOAP voting members before the timeline is considered in agreement by AOAP.

C.3.2.2 Identification of Test Development Needs and Alternatives

If an appropriate test method is not available, a new test method must be developed. Test procedures may be developed or modified by ASTM, CEC, JASO, or other technical societies or trade associations, an OEM, or a third party contractor. AOAP decides the appropriateness of the tests in the proposed specification per C.2.2.

The AOAP will monitor the specification development process to ensure adherence to the approved timeline. The AOAP will also develop alternative methods of satisfying the specification needs in the specified timeline to ensure that unanticipated problems or situations will not have the potential to unduly delay specification development. If a test or a performance measurement is not ready by the scheduled time, a replacement shall be developed or the requirement dropped.

Any change in the timeline and/or change in the specification shall require AOAP approval as described in C.2.2.

C.3.2.3 Development of ILSAC Draft

C.3.2.3.1 Review of Proposed ILSAC Draft Specifications

After agreement has been reached on the need, tests and alternatives have been identified, and timing has been established, the AOAP is charged with developing a draft specification. Performance-based rather than composition-based standards should be used to the maximum extent feasible. The AOAP may consider proposed requirements submitted by any stakeholder in the engine oil specification development process (ILSAC, API, ACC, a company, an individual, or another association). After considering these inputs, the AOAP may send its proposed
draft to the ASTM Passenger Car Engine Oil Classification Panel (PCEOCP) for review within a specified timeframe. If appropriate, the AOAP may also send the proposed draft to JASO and/or CEC.

As necessary, the ASTM PCEOCP, JASO and/or CEC will be asked to review the proposed draft, and within a specified timeframe, prepare an informal report for the AOAP to consider. The following inputs will be requested from the ASTM PCEOCP, and if necessary JASO and CEC, during this review:

a. The groups will evaluate the proposed draft specification and limits and provide comments on whether the proposed test methods will evaluate the needs defined by the AOAP.
b. Each group will be requested to issue a report to the AOAP that contains a summary of comments and data received during the group’s proceedings.

While the AOAP may seek input from ASTM, PCEOCP, JASO, and CEC, the AOAP can proceed with specification development if the results of these reviews are not delivered within a specified timeframe. Pursuant to the consensus process specified in C.2.2, the AOAP will issue a draft AOAP specification for review and comment by all interested parties (see C.3.2.4).

C.3.2.3.2 Formalization of Tests

Once a new test becomes available (e.g., shows satisfactory discrimination of oil performance) pursuant to C.3.2.2, the appropriate industry group, for example ASTM, CEC, JASO or other, will determine test precision.

For example, if an engine test is being developed by ASTM, the AOAP will provide a specified timeframe to ASTM. It is ASTM’s responsibility to have a functioning task force or surveillance panel in place to coordinate activities and analyze test data including determining when a test is ready for matrix testing. For bench tests, ASTM must provide a method for referencing and/or calibrating each bench test that does not have an assigned surveillance panel. Based on the AOAP’s agreed upon timeline, ASTM will also develop a timetable that contains, among other things, planned dates for reference oil selection, bench and engine test selection, and test method completion. The objective is to formalize the tests and establish criteria to demonstrate that the tests are precise, are reproducible, and have the ability to discriminate. All applicable engine and bench tests shall be monitored by the TMC (or equivalent) prior to incorporation into the final specification (see C.3.3).

If ASTM fails to discharge these responsibilities in a timely manner, the AOAP shall take appropriate actions to ensure that the timing identified in C.3.2.1 for implementing the specification will be met. This may include developing an AOAP specification containing alternative test methods.

C.3.2.3.3 Specification Development Funding

The testing necessary for determining precision as described in C.3.2.3.2 often requires funding. At times, funding might also be required for engine testing to establish base oil interchange (BOI) and viscosity grade read across (VGRA) guidelines, studies, and consumer education. For previous ILSAC specifications, the Alliance for Automobile Manufacturers, JAMA, API, and ACC have provided this funding. When precision and BOI/VGRA testing or other funding is required, the Lubricants Group shall form a task force to evaluate the need and develop a plan for raising the funding. This funding task force will be composed of volunteers from the Lubricants Group, the Alliance, ACC, ILMA, ASTM, and JAMA. For new performance standards, the funding group shall fulfill its role by at least addressing the following points:

a. Calculate the amount of funding necessary for precision and BOI/VGRA matrix testing as recommended by the matrix design task force.
b. Solicit funding for proposed precision and BOI/VGRA matrix testing.
c. If necessary, modify the matrix testing design to match the funding available.
d. Develop a Memorandum of Agreement (MOA) for precision and BOI/VGRA matrix testing.
e. Ensure all companies and organizations that agree to fund the matrix sign MOA.

C.3.2.4 Industry Review of ILSAC Draft Specification

The draft AOAP specification developed in C.3.2.3 will be circulated to all interested parties for comment. The AOAP will solicit comments in writing and will hold public forums as deemed appropriate. The AOAP will review the comments and data from the industry received in C.3.2.3 before determining the requirements and limits for the
final specification. If there are significant changes in the requirements between the draft and the final specification, the AOAP will conduct another comment period on the revised specification. All comment periods will be for a period of at least 30 days. A longer review period may be allowed for comments on an initial draft. If AOAP cannot achieve consensus on the draft specification, then ILSAC may issue a draft for industry comment as indicated in C.2.2 above.

In parallel with industry review of the draft AOAP specification, API will solicit data on specification demonstration oils (see item b of C.3.3.1) in such a manner as to maintain confidentiality of individual company data.

C.3.3 Specification Finalization

C.3.3.1 Review of Development Process

At or near the end of the development of the new specification (e.g., prior to C.3.3.2), the AOAP shall confirm that the following items have been addressed:

a. (1) The tests developed satisfy the needs agreed to by the AOAP, (2) the performance descriptions contained in the proposed consumer language are met by the tests proposed for the specification, (3) the timetable is acceptable, (4) and the test methods chosen to define the new standard represent the best means of establishing the new performance level.

b. Available data on demonstration oils have been reviewed. A demonstration oil shows the technical and commercial viability of the proposed new engine oil specification. This is an oil formulated with base stock and additive components expected to be commercially available when licensing of the new specification begins. Ideally the oils shall have been tested in and passed, at the proposed limits, all engine, chemical, physical and bench tests required in the draft specification, according to the ACC Code of Practice\(^1\) in effect at the time the tests are run (for engine tests). Registration is not needed, but stand calibration is required.

c. If sufficient information on a demonstration oil is not available, AOAP will re-evaluate the draft specification for technical and commercial viability. While information on a demonstration oil is useful as input to the limit-setting process and may help achieve consensus, the demonstration oil is not required prior to achieving the AOAP consensus pursuant to item a of C.3.3.2.

d. All industry comments on the proposed specification have been reviewed to ensure that they have been considered and addressed by the AOAP in sufficient detail.

C.3.3.2 Approval of the Final AOAP specification

When AOAP agrees that the original goals and objectives of the specification appear to have been met, AOAP will promptly convene to vote on acceptance of the final AOAP specification. If AOAP approves the final specification in accordance with the procedures in C.2.2, the specification will be forwarded to the API Lubricants Group for consideration for adoption into API 1509.

If the AOAP is unable to reach a consensus position on the final specification, then ILSAC may, after providing notice to all interested parties, unilaterally issue the specification. ILSAC shall document the rationale for unilaterally issuing the specification.

C.4 API Lubricants Group Adoption of AOAP Specification

C.4.1 A meeting of the API Lubricants Group will be scheduled as soon as possible after API has received the final AOAP specification or the specification has been issued unilaterally by ILSAC. The Lubricants Group will vote whether to accept the AOAP specification or the specification issued unilaterally by ILSAC as the basis for licensing of the API Starburst via letter ballot pursuant to API standardization policies.

The Chair of the Lubricants Group will resolve negative ballots and comments in accordance with the latest edition of API’s Procedures for Standards Development.

C.4.2 When submitting an AOAP specification that has been approved pursuant to C.3.3.2, AOAP must provide documentation that the following criteria have been satisfied:

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\(^1\)Provided the AOAP has accepted the Code of Practice as a basis for engine testing.
a. Complied with due process requirements.

b. Provided justification for overriding any technical objections raised during the AOAP process.

c. Submitted data on at least one demonstration oil meeting all of the requirements defined in item b of C.3.3.1 at the time the specification is delivered, provided such data has been made available.

d. Showed that the AOAP specification oil will be reasonably achievable and will likely be widely available to consumers within the specified timeframe (e.g., recommended additional time for compliance).

e. Based on data from items c and d above, showed that the AOAP specification provides significantly more needed benefits to consumers (as identified in C.3.1) than any other specification proposal the AOAP considered.

C.4.3 If the API Lubricants Group does not adopt the AOAP specification or the specification issued by ILSAC, or if the AOAP cannot achieve consensus on needs, the Administrative Guidance Panel will either withdraw the request for a new specification or convene to consider dissolution of the Certification system.