Design Institute for Physical Properties®

Of

The American Institute of Chemical Engineers

Bylaws

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Article I: Name, Purpose, and Objectives

Article I.1. Name and Acronym

The name of this organization shall be the "Design Institute for Physical Properties of the American Institute of Chemical Engineers". Its official acronym shall be DIPPR® (hereinafter DIPPR), which is a registered trademark of the American Institute of Chemical Engineers (hereinafter AIChE).

Article I.2. Purpose and Objectives

DIPPR's purpose is to (a) satisfy industry needs for accurate and complete thermodynamic and transport physical properties, accurate environmental and process safety-related properties, and other validated data required for the development of sustainable processing, and (b) provide instructional and training tools for best practices in evaluating and using such data to practitioners in industry as well as those in academia involved in educating students in chemical engineering and related disciplines.

To meet this goal, DIPPR compiles and critically reviews all relevant available data for thermodynamic consistency, obtains new data through experimental research programs, and develops new estimation methodologies as needed. Results of these activities are disseminated to DIPPR Members and, at a later date, released to the public through various dissemination channels that provide DIPPR with funds for future work.

Article 1.3 Antitrust Rules for all DIPPR Member Activities

It is the policy of the Institute to comply with Federal and State antitrust and competition laws. Members will comply with all Federal and State antitrust rules for all DIPPR member activities.

Article II: Relationship to AIChE

Article II.1. Administration of DIPPR

DIPPR is considered an industry technology alliance ("ITA") of AIChE and will be supported by AIChE.

The overall administration, management, and supervision of DIPPR, in accordance with these Bylaws, shall be responsibility of the DIPPR Executive Director who shall be appointed by, and report to, the Executive Director of AIChE. The DIPPR Executive Director shall have the authority to engage AIChE staff, and/or consultants, as needed, for DIPPR operations and establish procedures for the conduct of DIPPR business in consultation with the DIPPR Managing Board (hereinafter Managing Board). These procedures will be documented in the DIPPR Operations Manual (see Article IV.2 Committee Responsibilities item XIV). The DIPPR Executive Director shall be a full-time member of AIChE staff.

Article II.2. Limitation on Actions

DIPPR does not have authority to act for or in the name of AlChE, or any DIPPR Member, except with the explicit authorization of the AlChE Board of Directors or said Member. DIPPR does not have authority to endorse non-AlChE products or events, or to incur any financial obligations in the name of AlChE.

All activities of DIPPR and its committees shall be within the limitations imposed by Section 204 of the New York Not-for-Profit Corporation Law and any other laws and regulations applicable to notfor-profit corporations.

Article II.3. AIChE Obligations and Rights

AIChE shall lend its name and tax exemption status to DIPPR and shall provide publicity through its publications, meetings, web site, and other appropriate media. AIChE will execute research contracts on behalf of DIPPR and will make payments to researchers in accordance with contract specifications. In addition, AIChE will, on behalf of DIPPR, enter into any dissemination, secrecy and non-disclosure agreements.

Any inventions and/or patents arising out of and issued with respect to these research contracts will be assigned to AIChE, except where such rights with respect to a specific research contract are explicitly waived by the Executive Director of AIChE or his/her designee (hereinafter Executive Director of AIChE) upon recommendation of the DIPPR Managing Board (hereafter Managing Board). AIChE, in turn, will grant royalty-free licenses for such patents to those companies that had sponsored the research leading to the patent(s), and will grant royalty-bearing licenses to others on reasonable and non-discriminatory terms and conditions.

AIChE shall have exclusive dissemination, publication and sales rights to results of DIPPR projects in either hard copy or electronic form, subject to specified time restrictions on release, except where such rights are explicitly waived by the Executive Director of AIChE. The total proceeds from such dissemination, publication, and sales, less any direct costs associated with such proceeds, shall be made available to DIPPR.

AIChE shall be responsible for administration of funds, arrangements for meetings, and printing and distribution of project results to be published by AIChE.

Article II.4. DIPPR Duration and Dissolution

DIPPR is approved by the AIChE Board of Directors without limit on duration. Termination will be preceded by notification by AIChE to DIPPR Members of such action, at least one year prior to the effective date of termination. Termination may be initiated by AIChE, with the required notification, if the total DIPPR funds are deemed insufficient to meet the administrative costs and expenses of a viable DIPPR research program. The Institute's sustainability will be monitored by DIPPR's Managing Board. The dissolution of DIPPR, at the recommendation of DIPPR's Managing Board, shall require two-thirds approval by AIChE's Board of Directors.

Upon termination of DIPPR, residual funds belonging to DIPPR shall be first used to liquidate DIPPR's remaining liabilities and the remainder shall be transferred to AIChE.

Article II.5. Indemnification

AIChE indemnifies employees, directors, officers, trustees, volunteers and members of any duly constituted committee of the Institute against claims of wrongful acts in which he or she may

become involved by reason of their service in such capacity including claims of error, misstatement, omission, neglect, breach of duty, mismanagement (including that of the Institute's funds), or wrongful employment practices, excepting those arising from deliberate acts of dishonesty, fraud, criminal or malicious intent.

Article III: Membership

Article III.1. Classes, Qualifications, and Procedures for Membership

DIPPR has two classes of Membership: DIPPR Member¹ and Emeritus Member

DIPPR Member: Any organization that has an interest in DIPPR's objectives may become a DIPPR Member through payment of annual dues to AIChE and execution of a DIPPR Membership Agreement.

Note 1: DIPPR had an Associate Member class prior to this version of the Bylaws. Associate Members in good standing as of the effective date of these Bylaws are now designated as Members (see Attachment A)

Emeritus Member: This membership grade may be granted by the Managing Board to those individuals, who as Member Representatives made considerable contributions to DIPPR over many years and have subsequently retired from the DIPPR member organization or otherwise at the discretion of DIPPR.

Article III.2. Rights of Members

DIPPR Member rights begin immediately upon receipt by AIChE of the fully executed DIPPR Membership Agreement and payment of the first year's annual dues, and extend through to the end of the calendar year for which such payment is received. To remain in good standing Members must pay dues for successive years in a timely fashion as established by the Managing Board.

DIPPR Members are entitled to designate a Representative to DIPPR's Membership Steering Committee (see Article IV.3) and any other standing or ad-hoc Committees established by the Managing Board. The Representative will be provided with access credentials for use of DIPPR's web-based resources and will be invited to attend all DIPPR meetings. Other employees from a Member company may attend, but only the named Representative, or designee, may vote.

The designated Representative will also be eligible to serve on the Managing Board in accordance with that Board's organizational structure and membership terms (see Article IV.2)

The appointment and term of the designated Representative shall be at the DIPPR Member's discretion.

DIPPR Members in good standing shall have access to all data from DIPPR Common Projects and any Elective Projects in which they participate (see Article V.1).

Project results may only be used internally by Members. Use of Project results by entities outside of the DIPPR Member organization is not permitted unless the Member has obtained a license or sub-license from AIChE or its authorized dissemination agent(s) that permits such use.

Emeritus Membership rights and obligations begin upon formal approval of a request to become Emeritus by the Managing Board. Such rights and obligations shall be established by the Managing Board (see Article IV.2). It shall be clear that Emeritus Members may partake in discussions about DIPPR matters, but shall not have voting rights. If at any time an Emeritus Member no longer satisfies the obligations, as established by the Managing Board, membership may be revoked. It shall also be clear that Emeritus Members do not represent previous employers.

Article III.3. Dues

DIPPR Membership annual dues are determined using a Base DIPPR Member dues rate (Base Dues) multiplied by a factor that reflects the Member's type of business or organization and scaled according to a measure of size (Weighting Factor). Base Dues and Weighting Factor definition shall be set by the Managing Board of DIPPR at the recommendation of the DIPPR Executive Director and may be amended in the best interest of sustaining the Institute. (See Article IV.2, Item IV)

The Base Dues and Weighting Factor used to establish the annual Membership dues are set forth in the DIPPR Operations Manual and shall be established by the Managing Board. AIChE staff shall be responsible for carrying out the quoting and invoicing of membership dues each year.

Failure to pay dues in a timely manner may result in restricted access to DIPPR resources and the ability to access updated data. Any such restrictions shall be specified by the Managing Board and included in the Membership Agreement.

Membership dues are renewable annually and are non-refundable. All membership agreements will be negotiated by AIChE in the best interests of DIPPR.

Emeritus Member annual dues, if any, are established by the Managing Board (see Article IV.2, Item V) in conjunction with obligations undertaken.

Article III.4. Change in Ownership or Control of Members; Divestitures; Acquisitions, etc.

If a DIPPR Member changes in ownership or control, or if a Member acquires another entity, that Member must (a) disclose the pending changes to the Managing Board and (b) request a reclassification of annual membership dues.

If a Member divests a portion of its business and the divested business wishes to continue to use results from DIPPR projects, the divested business must apply for DIPPR membership in its own right.

The Managing Board has the responsibility for establishing DIPPR's policies regarding Change of Ownership, Acquisitions, Mergers and Divestitures (see Article IV.2 Item VIII).

Emeritus Member changes in status must be reported to the Managing Board annually.

Article III.5 Rejection or Termination of Membership by AIChE

AIChE has the sole right and discretion to reject an application for membership or to terminate the membership of any Member if AIChE believes that such potential Member or Member has (a) misused AIChE copyright or intellectual property, (b) violated DIPPR's guidelines for abiding by

anti-trust statutes, or (c) not fulfilled any agreements it has made with AIChE.

Article III.6. DIPPR Member Vesting

DIPPR Members become fully vested in all Common Project results after a vesting period determined by the Managing Board (see Article IV.2, Item IX). If Membership is discontinued prior to the vesting period, the ex-Member must represent in writing to the Managing Board that all data, in any format, obtained during the period of Membership have been physically destroyed or permanently erased from all electronic devices and are no longer available for use by the ex-Member's employees or sub-contractors.

If Membership is discontinued after the vesting period, the ex- Member shall thereafter continue to have access to data that was generated by Common Projects (see Article V.1) at any time up until the date the membership terminated. The Managing Board may establish other benefits for fully vested ex- Members as deemed appropriate.

DIPPR Members obtain all the results generated during those years that they supported an Elective Project (See Article V.1). However, if these results have been commingled with data from prior years and the Member discontinues membership, the rights to use the data after Membership is discontinued are as described above for Common Projects.

Article IV: Organization

Article IV.1. General

DIPPR's programmatic activities shall be guided by a standing committee, the DIPPR Membership Steering Committee (see Article IV.3), and financial commitments associated with such programmatic activity shall be approved by the Managing Board (see Article IV.2), in accordance with these Bylaws.

The Managing Board may establish ad-hoc or additional committees as needed.

Meetings of all the entities of DIPPR shall be arranged by AIChE and Members notified a minimum of fifteen (15) days prior to the time, place and method of each meeting. The Managing Board Chair shall preside at such meetings, which may be held by electronic methods. Transaction of regular business at any DIPPR meeting may be approved by a majority of Member Representatives present at the meeting. For the avoidance of doubt, Member Representative refers to the one person so appointed by each Member entity, or their designee who must be made known to the Chair at the beginning of the meeting, and does not include Emeritus Members or other employees of Member entities in attendance

All business decisions requiring a vote need a majority of votes to pass. For decisions considered to be outside of regular business, the Managing Board shall vote and notify the Members of the decision made, as well as the vote tally.

Article IV.2. Managing Board

Managing Board Structure: The Managing Board shall consist of nine (9) members that shall include the Executive Director of AIChE, the DIPPR Executive Director, and Representatives of seven (7) Members comprised as follows: four (4) representatives from companies with a Weighting Factor of three (3) or above and three (3) representatives from a Member with a Weighting Factor of two or one who all serve a three-year term unless they are subsequently

elected to serve as an Officer. Any exceptions to this description require approval by AIChE's Chemical Technology Operating Council.

Officers of the Managing Board shall be Chair, Vice-Chair, and Past Chair. The Chair, Vice Chair, and Past Chair shall each serve a one (1) year term. After completion of the one (1) year term the Past Chair will vacate the role, Chair will become Past Chair, and Vice Chair will become Chair.

The DIPPR Executive Director has the responsibility for nominating the Member representatives for approval by vote of the Membership Steering Committee, and the immediate Past Chair has the responsibility for nominating a candidate for the Vice Chair position from those members who serve or have served on the managing board, with preference shown for candidates from representatives with a weighting factor of three or above, and elected by a simple majority vote of the Managing Board during its meeting in the fall, typically associated with the AIChE Annual Meeting.

No Member may have more than one vote on the Managing Board. The AIChE Executive Director shall be a voting member and DIPPR Executive Director shall be a non-voting member. A quorum for transaction of business at any meeting shall consist of a simple majority of the listed members of the Managing Board.

The Chair of the Managing Board cannot act on behalf of the Managing Board. The Chair shall preside over the Managing Board meetings. In the Chair's absence, the Vice Chair shall preside over the Managing Board meetings. The Past Chair shall act in an advisory capacity to Chair and Vice Chair.

The Managing Board shall have a minimum of two (2) in-person meetings per year, and two (2) teleconferences. Special meetings of the Managing Board may be called at any time. At least one in-person meeting is to be scheduled during AIChE's Annual Meeting. In the event that circumstances beyond the control of the Managing Board preclude in-person meetings, meetings may be held using electronic methods

In the event that no candidate for the position of Chair has been identified by the start of a year, the DIPPR Executive Director shall act as Chair pro-tem until the position is filled.

Managing Board Responsibilities:

- I. Be responsible to the AIChE Board of Directors and to the Members for the overall operation of DIPPR.
- II. Propose adoption of these Bylaws and any amendments thereto, subject to final approval by the AIChE Board of Directors, according to the procedures in Article VII.
- III. Advise on operational staff as needed, for appointment by the DIPPR Executive Director. The Managing Board shall periodically advise The DIPPR Executive Director on the performance of operational and/or support staff, and shall work with the DIPPR Executive Director to establish appropriate budgets for his/her/their annual compensation and expenses.
- IV. Approve annual Member Base Dues and Weighting Factor guidelines.
- V. Establish Emeritus Membership dues and obligations and review these periodically.
- VI. Establish policies for the use of the Member version of all Common Projects by third parties, either

- working internally with the Member's organization, or externally because the Member requires a third party to undertake project/research work that requires such use.
- VII. Establish the basis for and administer the procedure for selection and funding of Elective Projects (see Article V.1 and V.3).
- VIII. Establish policies regarding on-going Membership rights in the event a Member is involved in any mergers or divestitures and adjust, as appropriate, rights and dues for Emeritus Members who have notified the Managing Board of a change in status (see Article III.4).
- IX. Establish a vesting period for members.
- X. Solicit and obtain funding from sources other than DIPPR dues to support DIPPR research and education/training initiatives.
- XI. Approve scope and time-frame of projects undertaken and metrics used to evaluate project success. Ensure projects are in line with these bylaws and DIPPR's interests.
- XII. Recommend annual budgets, project budgets and project contracts for approval by the AIChE Board of Directors, as appropriate.
- XIII. Monitor financial records and funding commitments.
- XIV. Establish operational procedures as deemed necessary for achieving DIPPR's purpose and objectives as established by these Bylaws.
- XV. Establish a "hold-back" between the time a deliverable is made available to DIPPR Members and the time the deliverable can be released for sale or license by AIChE.
- XVI. Maintain, and update as needed, the DIPPR Operations Manual

Article IV.3. DIPPR Membership Steering Committee

The DIPPR Membership Steering Committee shall consist of one Representative from each DIPPR Member in good standing (See Article III.3).

The DIPPR Executive Director shall serve as the head of the Membership Steering Committee. No Member may have more than one vote on this Committee. Emeritus Members may attend and participate in this Committee's meetings, but do not have voting rights.

Meetings of the DIPPR Membership Steering Committee are scheduled in conjunction with the Managing Board meetings.

Committee Responsibilities:

- I. Vote to approve members of the DIPPR Managing Board.
- II. Provide oversight for DIPPR's programmatic activities.
- III. Propose new projects and project investigators that align with DIPPR's mission.

- IV. Recommend project scope, deliverables, budget, and contractual term to the Managing Board.
- V. Monitor project deliverables for timeliness and quality, and oversee reporting of project results, including dissemination to DIPPR Members and for Database licensing activities.
- VI. Establish policies for use of DIPPR data in publications.

Article V: Projects

Article V.1. Project Classification

Projects funded from Member dues shall be classified as Common projects. Projects of limited interest may be defined and supported by one or more Members, and be funded by the procedures established by the Managing Board. These limited interest projects shall be classified as Elective projects. The Managing Board establishes the rights for use of any results stemming from an Elective Project.

Article V.2. Project Budgets and Re-Forecasts

Based on the recommended projects from the Membership Steering Committee, inclusive of project scope and funds available for DIPPR's use, preliminary budgets for the following year should be proposed to the Managing Board by July 1. The Managing Board shall approve the final budget based on availability of funds and submit it to AIChE's Board of Directors for approval at their Annual Board Meeting.

Article V.3. Project Contracts

Project contractors shall be selected by a competitive bidding, or other review process, established by the Managing Board in accordance with AIChE policies. In the event that only one suitable contractor is found, the Managing Board shall use reasonable measures to ensure that the contractor offers service at a competitive price. The Managing Board shall establish a contractor selection committee to develop objective selection criteria and recommend contractors for approval. Each project contract executed by AIChE on behalf of DIPPR shall contain an appropriate clause requiring the contractor to indemnify and hold harmless AIChE and all Members from and against all liability, loss, cost, expense, damage, claims, or demands on account of injuries (including death) to contractor's employees or third parties, and loss of or damage to contractor's property or that of its employees or third parties, arising out of or resulting in any manner from or occurring in connection with the DIPPR work.

All AIChE and DIPPR contracts shall be governed by the laws of the state of New York. In addition, they shall meet any Legal and Regulatory Requirements so as to protect DIPPR proprietary information and permit the conduct of interstate and inter-country commerce, such as United States Import/Export rules and European Union's General Data Protection Regulation (GDPR).

Final authority for the execution of contracts shall reside with the Executive Director of AIChE, who may delegate this authority from time to time, and who shall have authority to approve any deviation from the requirements delineated in this Article.

Article VI.1. Publication

All DIPPR project results will be made available to the public through AIChE or other dissemination with permission from AIChE. The Managing Board shall approve the results and timing for publication in order to provide lead-time for Members of Common and Elective Projects usage of project results within their own organizations as detailed in Article III.2.

Article VI.2. Distribution of Dissemination Income

Net income derived from dissemination of DIPPR project results, as specified in Article II.3, shall be allocated by the Managing Board to DIPPR Common Projects only.

Article VII: Amendments

Proposals for amendments to DIPPR Bylaws from AlChE's Board of Directors, DIPPR's Managing Board, Membership Steering Committee, members, or DIPPR staff shall be made in writing, along with the appropriate rationale, and sent to DIPPR's Executive Director. No later than three months after receipt, the DIPPR Executive Director shall submit the proposed amendments to the Managing Board with recommendations. Proposals to the AlChE Board of Directors for adoption or amendment of these Bylaws shall require a simple majority of the votes cast by the Managing Board Representatives. A copy of each amendment shall be provided to each Member at least thirty days in advance of the deadline date for voting.

These Bylaws and all amendments thereto are subject to approval by the AIChE Board of Directors.

Article VIII: General Provisions

Article VIII.1. Bylaw Interpretation

The Managing Board is empowered to rule on any question concerning the interpretation of these Bylaws and make any amendments thereto, subject to the final jurisdiction of the AIChE Board of Directors.

Article VIII.2. Matters Not Covered

In all respects not specifically covered in these Bylaws, the general rules and procedures of AIChE shall apply with equal force as if they had been included in these Bylaws.

Attachment A

Associate Member in Good Standing as of the date of adoption of these bylaws: American Petroleum Institute (API)